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Summary of	Vitocal x5x-A z4	Reg. No.	011-1W0465	
Certificate Holder				
Name	Viessmann Wärmepumpen (Viessmann Wärmepumpen GmbH		
Address	Viessmannstr. 1	Zip	35107	
City	Allendorf/Eder	Country	Germany	
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH			
Subtype title	Vitocal x5x-A z4			
Heat Pump Type	Outdoor Air/Water			
Refrigerant	R290			
Mass of Refrigerant	2 kg			
Certification Date	15.12.2021			
Testing basis	HP KEYMARK certification scheme rules rev. 9			



Model: Vitocal 250-A AWO-E-AC 251.A10

Configure model		
Model name	Vitocal 250-A AWO-E-AC 251.A10	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW	
El input	1.38 kW	2.27 kW	
СОР	5.31	2.97	

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 indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



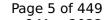


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

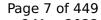




This information was general	, -	
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
COP Tj = +7°C	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 250-A AWO-E-AC 251.A13

Configure model		
Model name	Vitocal 250-A AWO-E-AC 251.A13	
Application	Heating (medium temp)	
Units	Indoor + 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	7.56 kW	
El input	1.56 kW	2.23 kW	
СОР	5.21	3.40	

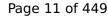
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



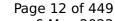


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

Colder Climate

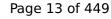
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW

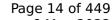




COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh



Model: Vitocal 250-A AWO-E-AC-AF 251.A10

Configure model	
Model name Vitocal 250-A AWO-E-AC-AF 251.A10	
Application	Heating (medium temp)
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

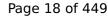
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



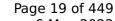


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

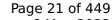




COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
COP Tj = +7°C	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 250-A AWO-E-AC-AF 251.A13

Configure model		
Model name	Vitocal 250-A AWO-E-AC-AF 251.A13	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

COP

5.21

EN 14511-2			
Low temperature Medium temperature			
Heat output	8.13 kW	7.56 kW	
El input	1.56 kW	2.23 kW	

3.40

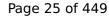
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80





Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW





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COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh

Model: Vitocal 252-A AWOT-E-AC 251.A10

Configure model		
Model name	Vitocal 252-A AWOT-E-AC 251.A10	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW	
El input	1.38 kW	2.27 kW	
СОР	5.31	2.97	

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



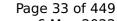


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

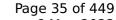




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COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.80 kW	5.60 kW
$COP Tj = +7^{\circ}C$	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 252-A AWOT-E-AC 251.A13

Configure model		
Model name	Vitocal 252-A AWOT-E-AC 251.A13	
Application	Heating (medium temp)	
Units	Indoor + 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	7.56 kW	
El input	1.56 kW	2.23 kW	
СОР	5.21	3.40	

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



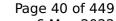


Cdh Tj = +12 °C 1.000 1.000 Pdh Tj = Tbiv 6.70 kW 6.60 kW COP Tj = Tbiv 4.00 2.90 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 6.70 kW 6.60 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 4.00 2.90 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 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 1478 kWh 1942 kWh			
COP Tj = Tbiv 4.00 2.90 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
WTOL 70 °C 70 °C 70 °C 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 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	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	Poff	o w	0 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	РТО	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 0.00 kW 0.00 kW	PCK	o w	o w
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 1478 kWh 1942 kWh	Supplementary Heater: PSUP	0.00 kW	0.00 kW
	Annual energy consumption Qhe	1478 kWh	1942 kWh

Colder Climate

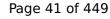
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW

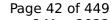




COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh

Model: Vitocal 252-A AWO-E-AC-AF 251.A10

Configure model		
Model name	Vitocal 252-A AWO-E-AC-AF 251.A10	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



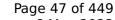


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

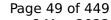




This information was general	, -	
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
COP Tj = +7°C	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh

Model: Vitocal 252-A AWO-E-AC-AF 251.A13

Configure model		
Model name	Vitocal 252-A AWO-E-AC-AF 251.A13	
Application	Heating (medium temp)	
Units	Indoor + 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	7.56 kW	
El input	1.56 kW	2.23 kW	
СОР	5.21	3.40	

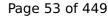
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



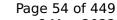


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

Colder Climate

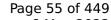
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW

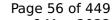




COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh



Model: Vitocal 250-A AWO-E-AC 251.A10 2C

Configure model		
Model name Vitocal 250-A AWO-E-AC 251.A10 2C		
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



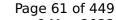


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

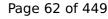
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

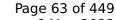




	<u> </u>	<u> </u>
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
COP Tj = +7°C	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 250-A AWO-E-AC 251.A13 2C

Configure model		
Model name	Vitocal 250-A AWO-E-AC 251.A13 2C	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	n/a	

General Data		
Power supply 3x400V 50Hz		

Heating

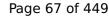
EN 14511-2			
Low temperature Medium temperature			
Heat output	8.13 kW	7.56 kW	
El input	1.56 kW	2.23 kW	
СОР	5.21	3.40	

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



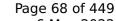


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

Colder Climate

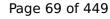
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW

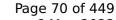




COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh

Model: Vitocal 250-A AWO-E-AC-AF 251.A10 2C

Configure model		
Model name	Vitocal 250-A AWO-E-AC-AF 251.A10 2C	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



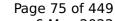


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1145 kWh	1419 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

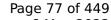




	<u> </u>	
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
COP Tj = +7°C	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50



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This information was generated by the HP KEYMARK database on 6 May 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh

Model: Vitocal 250-A AWO-E-AC-AF 251.A13 2C

Configure model		
Model name	Vitocal 250-A AWO-E-AC-AF 251.A13 2C	
Application	Heating (medium temp)	
Units	Indoor + 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	7.56 kW	
El input	1.56 kW	2.23 kW	
СОР	5.21	3.40	

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

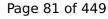
Warmer Climate



CEN heat pump KEYMARK

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



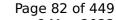


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1478 kWh	1942 kWh

Colder Climate

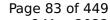
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW

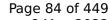




This intermediation was general	, -	
COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL<-20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
$COPTj = +7^{\circ}C$	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh



Model: Vitocal 252-A AWO-E-AC 251.A10 2C

Configure model		
Model name	Vitocal 252-A AWO-E-AC 251.A10 2C	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



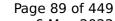


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

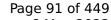




This information was general	, -	
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
COP Tj = +7°C	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50



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This information was generated by the HP KEYMARK database on 6 May 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh

Model: Vitocal 252-A AWO-E-AC 251.A13 2C

Configure model		
Model name Vitocal 252-A AWO-E-AC 251.A13 2C		
Application	Heating (medium temp)	
Units	Indoor + 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	7.56 kW	
El input	1.56 kW	2.23 kW	
СОР	5.21	3.40	

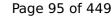
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80





	· · · · · · · · · · · · · · · · · · ·	
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

Colder Climate

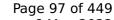
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW





COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
$COP Tj = +7^{\circ}C$	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh

Model: Vitocal 252-A AWO-E-AC-AF 251.A10 2C

Configure model		
Model name	Vitocal 252-A AWO-E-AC-AF 251.A10 2C	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

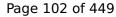
EN 14511-2			
	Low temperature	Medium temperature	
Heat output	7.31 kW	6.75 kW	
El input	1.38 kW	2.27 kW	
СОР	5.31	2.97	

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



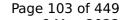


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

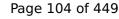
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

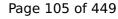




	<u> </u>	
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
COP Tj = +7°C	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh

Model: Vitocal 252-A AWO-E-AC-AF 251.A13 2C

Configure model		
Model name	Vitocal 252-A AWO-E-AC-AF 251.A13 2C	
Application	Heating (medium temp)	
Units	Indoor + 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	7.56 kW
El input	1.56 kW	2.23 kW
СОР	5.21	3.40

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



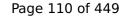


	<u> </u>	<u> </u>
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

Colder Climate

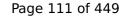
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW

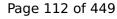




	<u> </u>	<u> </u>
COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL<-20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
$COP Tj = +7^{\circ}C$	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh



Model: Vitocal 150-A AWO-E-AC 151.A10

Configure model		
Model name Vitocal 150-A AWO-E-AC 151.A10		
Application	Heating (medium temp)	
Units	Indoor + 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	7.30 kW	6.75 kW	
El input	1.46 kW	2.53 kW	
СОР	5.00	2.67	

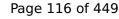
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	239 %	168 %
Prated	5.27 kW	4.65 kW
SCOP	6.04	4.27
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.20	2.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.30	3.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.20	5.40



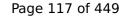


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1165 kWh	1454 kWh

Colder Climate

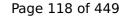
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	160 %	127 %
Prated	8.48 kW	7.98 kW
SCOP	4.08	3.25
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.20	2.60
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.00	4.00
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

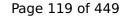




	<u> </u>	
COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	5126 kWh	6050 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	190 %	145 %
Prated	9.80 kW	9.37 kW
SCOP	4.83	3.70
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.10	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.20 kW
COP Tj = +2°C	4.80	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.70 kW
COP Tj = +7°C	6.00	4.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.30	6.00
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.10	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.90	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4129 kWh	5229 kWh



Model: Vitocal 150-A AWO-E-AC 151.A13

Configure model		
Model name	Vitocal 150-A AWO-E-AC 151.A13	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	n/a	

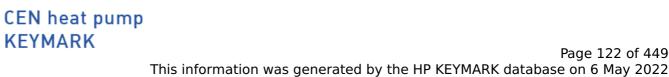
General Data		
Power supply	3x400V 50Hz	

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	8.10 kW	7.56 kW
El input	1.65 kW	2.47 kW
СОР	4.90	3.06

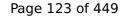
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	239 %	173 %
Prated	6.68 kW	6.62 kW
SCOP	6.05	4.41
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.40	3.70
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	6.90	5.50
	<u>'</u>	- 1





Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1518 kWh	2007 kWh

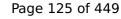
Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825



	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	144 %	118 %
Prated	10.80 kW	10.35 kW
SCOP	3.67	3.03
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.20	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW

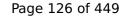




COP Tj = Tbiv	2.50	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7252 kWh	8407 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	178 %	141 %
Prated	12.42 kW	12.10 kW
SCOP	4.53	3.54
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
$COPTj = +7^{\circ}C$	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	2.90	2.30



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.30 kW	2.30 kW
Annual energy consumption Qhe	5672 kWh	6944 kWh



Model: Vitocal 150-A AWO-E-AC 151.A16

Configure model		
Model name	Vitocal 150-A AWO-E-AC 151.A16	
Application	Heating (medium temp)	
Units	Indoor + 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	9.10 kW	8.49 kW	
El input	1.86 kW	2.53 kW	
СОР	4.90	3.35	

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

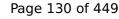
Warmer Climate





EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	7.54 kW	7.56 kW
η_{s}	239 %	175 %
Prated	7.54 kW	7.56 kW
SCOP	6.06	4.46
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.50 kW	7.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.60 kW	6.10 kW
COP Tj = +7°C	5.40	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.60 kW
COP Tj = 12°C	7.30	5.60



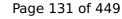


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1662 kWh	2266 kWh

Colder Climate

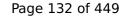
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	11.83 kW	11.17 kW
η_{s}	141 %	117 %
Prated	11.83 kW	11.17 kW
SCOP	3.61	2.99
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	12.10 kW	11.70 kW
COP Tj = -7°C	2.80	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.60 kW	7.50 kW
COP Tj = +2°C	4.30	3.50
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.60 kW
COP Tj = +7°C	6.10	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.40 kW	5.70 kW
COP Tj = 12°C	7.30	6.50
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	9.70 kW	9.10 kW

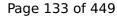




	•	
COP Tj = Tbiv	2.40	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	11.83 kW	11.17 kW
Annual energy consumption Qhe	8080 kWh	10386 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	13.67 kW	13.37 kW
η_{s}	178 %	141 %
Prated	13.67 kW	13.37 kW
SCOP	4.52	3.60
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.00 kW	11.80 kW
COP Tj = -7°C	2.90	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.40 kW	7.50 kW
COP Tj = +2°C	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	6.70 kW	6.50 kW
$COPTj = +7^{\circ}C$	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.30 kW	5.70 kW
COP Tj = 12°C	7.30	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	12.10 kW	11.80 kW
COP Tj = Tbiv	2.90	2.30



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.10 kW	10.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.60 kW	2.60 kW
Annual energy consumption Qhe	6242 kWh	7670 kWh



Model: Vitocal 150-A AWO-E-AC-AF 151.A10

Configure model		
Model name	Vitocal 150-A AWO-E-AC-AF 151.A10	
Application	Heating (medium temp)	
Units	Indoor + 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	7.30 kW	6.75 kW
El input	1.46 kW	2.53 kW
СОР	5.00	2.67

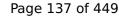
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	239 %	168 %
Prated	5.27 kW	4.65 kW
SCOP	6.04	4.27
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.20	2.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.30	3.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.20	5.40



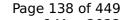


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1165 kWh	1454 kWh

Colder Climate

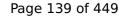
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	160 %	127 %
Prated	8.48 kW	7.98 kW
SCOP	4.08	3.25
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.20	2.60
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.00	4.00
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW





	<u> </u>	
COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	5126 kWh	6050 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	190 %	145 %
Prated	9.80 kW	9.37 kW
SCOP	4.83	3.70
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.10	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.20 kW
COP Tj = +2°C	4.80	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.70 kW
COP Tj = +7°C	6.00	4.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.30	6.00
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.10	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.90	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4129 kWh	5229 kWh



Model: Vitocal 150-A AWO-E-AC-AF 151.A13

Configure model		
Model name	Vitocal 150-A AWO-E-AC-AF 151.A13	
Application	Heating (medium temp)	
Units	Indoor + 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	8.10 kW	7.56 kW	
El input	1.65 kW	2.47 kW	
СОР	4.90	3.06	

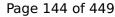
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	239 %	173 %
Prated	6.68 kW	6.62 kW
SCOP	6.05	4.41
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.40	3.70
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	6.90	5.50



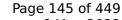


		·
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1518 kWh	2007 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	144 %	118 %
Prated	10.80 kW	10.35 kW
SCOP	3.67	3.03
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.20	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW

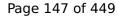




This information was general	, -	
COP Tj = Tbiv	2.50	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7252 kWh	8407 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	178 %	141 %
Prated	12.42 kW	12.10 kW
SCOP	4.53	3.54
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
$COPTj = +7^{\circ}C$	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	2.90	2.30



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.30 kW	2.30 kW
Annual energy consumption Qhe	5672 kWh	6944 kWh



Model: Vitocal 150-A AWO-E-AC-AF 151.A16

Configure model		
Model name	Vitocal 150-A AWO-E-AC-AF 151.A16	
Application	Heating (medium temp)	
Units	Indoor + 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	9.10 kW	8.49 kW	
El input	1.86 kW	2.53 kW	
СОР	4.90	3.35	

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

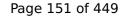
Warmer Climate





EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825		
	Low temperature	Medium temperature
Pdesignh	7.54 kW	7.56 kW
η_{s}	239 %	175 %
Prated	7.54 kW	7.56 kW
SCOP	6.06	4.46
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.50 kW	7.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.60 kW	6.10 kW
COP Tj = +7°C	5.40	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.60 kW
COP Tj = 12°C	7.30	5.60



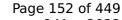


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
PTO	14 W	14 W
PSB	16 W	16 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	1662 kWh	2266 kWh

Colder Climate

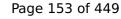
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	11.83 kW	11.17 kW
η_{s}	141 %	117 %
Prated	11.83 kW	11.17 kW
SCOP	3.61	2.99
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	12.10 kW	11.70 kW
COP Tj = -7°C	2.80	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.60 kW	7.50 kW
COP Tj = +2°C	4.30	3.50
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.60 kW
COP Tj = +7°C	6.10	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.40 kW	5.70 kW
COP Tj = 12°C	7.30	6.50
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	9.70 kW	9.10 kW





COP Tj = Tbiv	2.40	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	11.83 kW	11.17 kW
Annual energy consumption Qhe	8080 kWh	10386 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	13.67 kW	13.37 kW
η_{s}	178 %	141 %
Prated	13.67 kW	13.37 kW
SCOP	4.52	3.60
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.00 kW	11.80 kW
$COP Tj = -7^{\circ}C$	2.90	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.40 kW	7.50 kW
$COP Tj = +2^{\circ}C$	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.50 kW
$COP Tj = +7^{\circ}C$	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.30 kW	5.70 kW
COP Tj = 12°C	7.30	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	12.10 kW	11.80 kW
COP Tj = Tbiv	2.90	2.30



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.10 kW	10.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.60 kW	2.60 kW
Annual energy consumption Qhe	6242 kWh	7670 kWh

Model: Vitocal 151-A AWOT-E-AC 151.A10

Configure model		
Model name Vitocal 151-A AWOT-E-AC 151.A10		
Application	Heating (medium temp)	
Units	Indoor + 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	7.30 kW	6.75 kW
El input	1.46 kW	2.53 kW
СОР	5.00	2.67

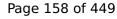
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	239 %	168 %
Prated	5.27 kW	4.65 kW
SCOP	6.04	4.27
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.20	2.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.30	3.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.20	5.40



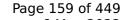


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	o w
РТО	14 W	14 W
PSB	16 W	16 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	1165 kWh	1454 kWh

Colder Climate

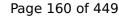
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	160 %	127 %
Prated	8.48 kW	7.98 kW
SCOP	4.08	3.25
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.20	2.60
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.00	4.00
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

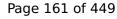




	<u> </u>	
COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	5126 kWh	6050 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	190 %	145 %
Prated	9.80 kW	9.37 kW
SCOP	4.83	3.70
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.10	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.20 kW
COP Tj = +2°C	4.80	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.70 kW
$COP Tj = +7^{\circ}C$	6.00	4.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.30	6.00
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.10	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.90	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4129 kWh	5229 kWh

Model: Vitocal 151-A AWOT-E-AC 151.A13

Configure model		
Model name Vitocal 151-A AWOT-E-AC 151.A13		
Application	Heating (medium temp)	
Units Indoor + Outdoor		
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	n/a	

General Data		
Power supply 3x400V 50Hz		

Heating

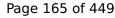
EN 14511-2			
Low temperature Medium temperature			
Heat output	8.10 kW	7.56 kW	
El input	1.65 kW	2.47 kW	
СОР	4.90	3.06	

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	239 %	173 %
Prated	6.68 kW	6.62 kW
SCOP	6.05	4.41
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.40	3.70
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	6.90	5.50



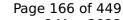


		·
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1518 kWh	2007 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	144 %	118 %
Prated	10.80 kW	10.35 kW
SCOP	3.67	3.03
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.20	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW

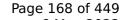




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COP Tj = Tbiv	2.50	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7252 kWh	8407 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	178 %	141 %
Prated	12.42 kW	12.10 kW
SCOP	4.53	3.54
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	2.90	2.30



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This information was generated by the HP KEYMARK database on 6 May 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.30 kW	2.30 kW
Annual energy consumption Qhe	5672 kWh	6944 kWh



Model: Vitocal 151-A AWOT-E-AC 151.A16

Configure model		
Model name	Vitocal 151-A AWOT-E-AC 151.A16	
Application	Heating (medium temp)	
Units	Indoor + 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	9.10 kW	8.49 kW
El input	1.86 kW	2.53 kW
СОР	4.90	3.35

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

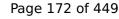
Warmer Climate





EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	7.54 kW	7.56 kW
η_{s}	239 %	175 %
Prated	7.54 kW	7.56 kW
SCOP	6.06	4.46
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.50 kW	7.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.60 kW	6.10 kW
COP Tj = +7°C	5.40	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.60 kW
COP Tj = 12°C	7.30	5.60



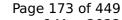


Pdh Tj = Tbiv 7.50 kW 7.60 kW COP Tj = Tbiv 3.80 2.80 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 7.50 kW 7.60 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 3.80 2.80 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW			
COP Tj = Tbiv 3.80 2.80 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
WTOL 70 °C 70 °C 70 °C Poff 0 W 14 W 14 W PSB 16 W 16 W PCK 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 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	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W O W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	Poff	o w	o w
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	РТО	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 0.00 kW 0.00 kW	PCK	o w	o w
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 1662 kWh 2266 kWh	Supplementary Heater: PSUP	0.00 kW	0.00 kW
	Annual energy consumption Qhe	1662 kWh	2266 kWh

Colder Climate

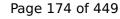
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	11.83 kW	11.17 kW
η_{s}	141 %	117 %
Prated	11.83 kW	11.17 kW
SCOP	3.61	2.99
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	12.10 kW	11.70 kW
COP Tj = -7°C	2.80	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.60 kW	7.50 kW
COP Tj = +2°C	4.30	3.50
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.60 kW
COP Tj = +7°C	6.10	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.40 kW	5.70 kW
COP Tj = 12°C	7.30	6.50
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	9.70 kW	9.10 kW

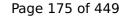




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COP Tj = Tbiv	2.40	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	11.83 kW	11.17 kW
Annual energy consumption Qhe	8080 kWh	10386 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL<-20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	13.67 kW	13.37 kW
η_{s}	178 %	141 %
Prated	13.67 kW	13.37 kW
SCOP	4.52	3.60
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.00 kW	11.80 kW
COP Tj = -7°C	2.90	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.40 kW	7.50 kW
COP Tj = +2°C	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.50 kW
$COP Tj = +7^{\circ}C$	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.30 kW	5.70 kW
COP Tj = 12°C	7.30	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	12.10 kW	11.80 kW
COP Tj = Tbiv	2.90	2.30



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.10 kW	10.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.60 kW	2.60 kW
Annual energy consumption Qhe	6242 kWh	7670 kWh



Model: Vitocal 151-A AWOT-E-AC-AF 151.A10

Configure model		
Model name	Vitocal 151-A AWOT-E-AC-AF 151.A10	
Application	Heating (medium temp)	
Units	Indoor + 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	7.30 kW	6.75 kW	
El input	1.46 kW	2.53 kW	
СОР	5.00	2.67	

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	239 %	168 %
Prated	5.27 kW	4.65 kW
SCOP	6.04	4.27
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.20	2.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.30	3.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.20	5.40



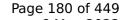


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1165 kWh	1454 kWh

Colder Climate

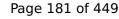
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	160 %	127 %
Prated	8.48 kW	7.98 kW
SCOP	4.08	3.25
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.20	2.60
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.00	4.00
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

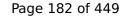




	<u> </u>	
COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	5126 kWh	6050 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	190 %	145 %
Prated	9.80 kW	9.37 kW
SCOP	4.83	3.70
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.10	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.20 kW
COP Tj = +2°C	4.80	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.70 kW
$COPTj = +7^{\circ}C$	6.00	4.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.30	6.00
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.10	2.40



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This information was generated by the HP KEYMARK database on 6 May 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.90	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4129 kWh	5229 kWh

Model: Vitocal 151-A AWOT-E-AC-AF 151.A13

Configure model		
Model name	Vitocal 151-A AWOT-E-AC-AF 151.A13	
Application	Heating (medium temp)	
Units	Indoor + 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	8.10 kW	7.56 kW
El input	1.65 kW	2.47 kW
СОР	4.90	3.06

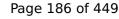
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	239 %	173 %
Prated	6.68 kW	6.62 kW
SCOP	6.05	4.41
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.40	3.70
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	6.90	5.50



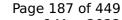


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1518 kWh	2007 kWh

Colder Climate

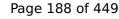
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	144 %	118 %
Prated	10.80 kW	10.35 kW
SCOP	3.67	3.03
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.20	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW

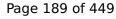




COP Tj = Tbiv	2.50	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7252 kWh	8407 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	178 %	141 %
Prated	12.42 kW	12.10 kW
SCOP	4.53	3.54
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
$COPTj = +7^{\circ}C$	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	2.90	2.30



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.30 kW	2.30 kW
Annual energy consumption Qhe	5672 kWh	6944 kWh

Model: Vitocal 151-A AWOT-E-AC-AF 151.A16

Configure model		
Model name	Vitocal 151-A AWOT-E-AC-AF 151.A16	
Application	Heating (medium temp)	
Units	Indoor + 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	9.10 kW	8.49 kW	
El input	1.86 kW	2.53 kW	
СОР	4.90	3.35	

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 indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825		
	Low temperature	Medium temperature
Pdesignh	7.54 kW	7.56 kW
η_{s}	239 %	175 %
Prated	7.54 kW	7.56 kW
SCOP	6.06	4.46
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.50 kW	7.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.60 kW	6.10 kW
COP Tj = +7°C	5.40	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.60 kW
COP Tj = 12°C	7.30	5.60



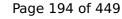


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	o w
РТО	14 W	14 W
PSB	16 W	16 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	1662 kWh	2266 kWh

Colder Climate

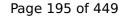
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	11.83 kW	11.17 kW
η_{s}	141 %	117 %
Prated	11.83 kW	11.17 kW
SCOP	3.61	2.99
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	12.10 kW	11.70 kW
COP Tj = -7°C	2.80	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.60 kW	7.50 kW
COP Tj = +2°C	4.30	3.50
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.60 kW
COP Tj = +7°C	6.10	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.40 kW	5.70 kW
COP Tj = 12°C	7.30	6.50
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	9.70 kW	9.10 kW





	•	
COP Tj = Tbiv	2.40	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	11.83 kW	11.17 kW
Annual energy consumption Qhe	8080 kWh	10386 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	13.67 kW	13.37 kW
η_{s}	178 %	141 %
Prated	13.67 kW	13.37 kW
SCOP	4.52	3.60
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.00 kW	11.80 kW
COP Tj = -7°C	2.90	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.40 kW	7.50 kW
COP Tj = +2°C	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.50 kW
COP Tj = +7°C	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.30 kW	5.70 kW
COP Tj = 12°C	7.30	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	12.10 kW	11.80 kW
COP Tj = Tbiv	2.90	2.30



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.10 kW	10.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.60 kW	2.60 kW
Annual energy consumption Qhe	6242 kWh	7670 kWh

Model: Vitocal 250-AH HAWO-M-AC 252.A10

Configure model		
Model name	Vitocal 250-AH HAWO-M-AC 252.A10	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

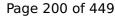
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60





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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1145 kWh	1419 kWh

Colder Climate

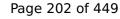
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

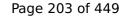




Time intermediation was genera		
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
COP Tj = +7°C	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 250-AH HAWO-M-AC 252.A13

Configure model		
Model name	Vitocal 250-AH HAWO-M-AC 252.A13	
Application	Heating (medium temp)	
Units Indoor + 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	7.56 kW	
El input	1.56 kW	2.23 kW	
СОР	5.21	3.40	

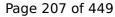
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



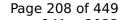


1	
1.000	1.000
6.70 kW	6.60 kW
4.00	2.90
6.70 kW	6.60 kW
4.00	2.90
1.000	1.000
70 °C	70 °C
o w	0 W
14 W	14 W
16 W	16 W
o w	o w
n/a	n/a
0.00 kW	0.00 kW
1478 kWh	1942 kWh
	6.70 kW 4.00 6.70 kW 4.00 1.000 70 °C 0 W 14 W 16 W 0 W n/a 0.00 kW

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW

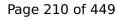




COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
$COP Tj = +7^{\circ}C$	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40



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This information was generated by the HP KEYMARK database on 6 May 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh



Model: Vitocal 250-AH HAWO-AC 252.A10

Configure model		
Model name	Vitocal 250-AH HAWO-AC 252.A10	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

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

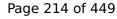
Warmer Climate





EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60





Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
PTO	14 W	14 W
PSB	16 W	16 W
PCK	0 W	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1145 kWh	1419 kWh

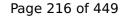
Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825



	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

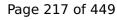




Time intermediation was genera		
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
COP Tj = +7°C	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 250-AH HAWO-AC 252.A13

Configure model		
Model name	Vitocal 250-AH HAWO-AC 252.A13	
Application	Heating (medium temp)	
Units	Indoor + 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	7.56 kW	
El input	1.56 kW	2.23 kW	
СОР	5.21	3.40	

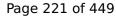
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80





Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1478 kWh	1942 kWh

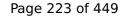
Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825



	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW

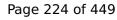




	<u> </u>	<u> </u>
COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
$COP Tj = +7^{\circ}C$	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh

Model: Vitocal 250-AH HAWO-M-AC-AF 252.A10

Configure model		
Model name Vitocal 250-AH HAWO-M-AC-AF 252.A10		
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η _s	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



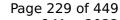


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1145 kWh	1419 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW

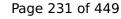




Time intermediation was genera		
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7° C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.80 kW	5.60 kW
$COP Tj = +7^{\circ}C$	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 250-AH HAWO-M-AC-AF 252.A13

Configure model		
Model name	Vitocal 250-AH HAWO-M-AC-AF 252.A13	
Application	Heating (medium temp)	
Units	Indoor + 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	7.56 kW
El input	1.56 kW	2.23 kW
СОР	5.21	3.40

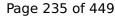
EN 14511-4	
Shutting off the heat transfer medium flow	naccod
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



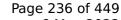


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1478 kWh	1942 kWh

Colder Climate

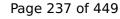
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW





in a manual mas genera		
COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
$COPTj = +7^{\circ}C$	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh



Model: Vitocal 250-AH HAWO-AC-AF 252.A10

Configure model		
Model name	Vitocal 250-AH HAWO-AC-AF 252.A10	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW		
El input	1.38 kW	2.27 kW		
СОР	5.31	2.97		

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



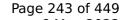


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1145 kWh	1419 kWh

Colder Climate

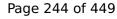
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW





Time intermediation was genera		
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
COP Tj = +7°C	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh

Model: Vitocal 250-AH HAWO-AC-AF 252.A13

Configure model		
Model name Vitocal 250-AH HAWO-AC-AF 252.A13		
Application Heating (medium temp)		
Units Indoor + 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	7.56 kW
El input	1.56 kW	2.23 kW
СОР	5.21	3.40

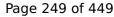
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80





	· · · · · · · · · · · · · · · · · · ·	
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1478 kWh	1942 kWh

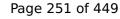
Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825



	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW

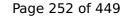




in a manual mas genera		
COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)





EN 14825

	Low temperature	Medium temperature
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40



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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh

Model: Vitocal 250-A AWO-M-E-AC 251.A10 (SP)

Configure model		
Model name	Vitocal 250-A AWO-M-E-AC 251.A10 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW	
El input	1.38 kW	2.27 kW	
СОР	5.31	2.97	

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 indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



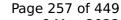


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	o w
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

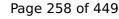
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW



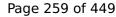


COP Tj = Tbiv 2.80 2.20 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 6.00 kW 5.50 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.40 1.90 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW Annual energy consumption Qhe 4988 kWh 5868 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	Poff	o w	o w
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	РТО	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 8.48 kW 7.98 kW	PCK	o w	o w
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 4988 kWh 5868 kWh	Supplementary Heater: PSUP	8.48 kW	7.98 kW
	Annual energy consumption Qhe	4988 kWh	5868 kWh

Average Climate

EN 12102-1			
Low temperature Medium temperature			
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825		
	Low temperature	Medium temperature





ring information has gene	rated by the in Rein	and database on o may 2021
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
$COP Tj = +7^{\circ}C$	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 250-A AWO-M-E-AC 251.A13 (SP)

Configure model	
Model name Vitocal 250-A AWO-M-E-AC 251.A13 (SP)	
Application	Heating (medium temp)
Units	Indoor + 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	7.56 kW
El input	1.56 kW	2.23 kW
СОР	5.21	3.40

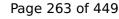
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



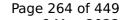


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW





COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh

Average Climate

Sound power level outdoor

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)

54 dB(A)

54 dB(A)

EN 14825		
	Low temperature	Medium temperature
	•	•





This information was generated by the HP KEYMARK database on 6 May 202			
Pdesignh	12.42 kW	12.10 kW	
η_{s}	181 %	147 %	
Prated	12.42 kW	12.10 kW	
SCOP	4.60	3.75	
Tbiv	-7 °C	-7 °C	
TOL	-10 °C	-10 °C	
Pdh Tj = -7 °C	11.00 kW	10.70 kW	
COP Tj = -7°C	3.00	2.40	
Cdh Tj = -7 °C	1.000	1.000	
Pdh Tj = +2°C	6.80 kW	6.60 kW	
COP Tj = +2°C	4.40	3.60	
Cdh Tj = +2 °C	1.000	1.000	
Pdh Tj = +7°C	5.90 kW	5.60 kW	
$COP Tj = +7^{\circ}C$	6.20	5.00	
Cdh Tj = +7 °C	1.000	1.000	
Pdh Tj = 12°C	5.50 kW	5.70 kW	
COP Tj = 12°C	7.50	6.60	
Cdh Tj = +12 °C	1.000	1.000	
Pdh Tj = Tbiv	11.00 kW	10.70 kW	
COP Tj = Tbiv	3.00	2.40	
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW	



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh



Model: Vitocal 250-A AWO-M-E-AC-AF 251.A10 (SP)

Configure model		
Model name	Vitocal 250-A AWO-M-E-AC-AF 251.A10 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

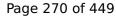
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



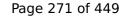


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

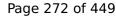
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW



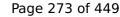


COP Tj = Tbiv 2.80 2.20 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 6.00 kW 5.50 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.40 1.90 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW Annual energy consumption Qhe 4988 kWh 5868 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	Poff	o w	0 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	РТО	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 8.48 kW 7.98 kW	PCK	0 W	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 4988 kWh 5868 kWh	Supplementary Heater: PSUP	8.48 kW	7.98 kW
	Annual energy consumption Qhe	4988 kWh	5868 kWh

Average Climate

EN 12102-1 Low temperature Medium temperature Sound power level indoor 40 dB(A) 40 dB(A) Sound power level outdoor 54 dB(A) 54 dB(A)

EN 14825		
	Low temperature	Medium temperature





The most series gove		and database on o may 202
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
$COPTj = -7^{\circ}C$	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	5.40 kW	5.10 kW
$COPTj = +2^{\circ}C$	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.80 kW	5.60 kW
$COPTj = +7^{\circ}C$	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 250-A AWO-M-E-AC-AF 251.A13 (SP)

Configure model	
Model name	Vitocal 250-A AWO-M-E-AC-AF 251.A13 (SP)
Application	Heating (medium temp)
Units	Indoor + 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	7.56 kW
El input	1.56 kW	2.23 kW
СОР	5.21	3.40

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



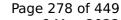


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW





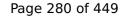
COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh

Average Climate

EN 12102-1 Low temperature Medium temperature Sound power level indoor 40 dB(A) 40 dB(A)

Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature





This information was gene	Tated by the HF KLTMA	ARK database on 6 May 2022
Pdesignh	12.42 kW	12.10 kW
η_{S}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7 °C	11.00 kW	10.70 kW
$COPTj = -7^{\circ}C$	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
$COPTj = +2^{\circ}C$	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.90 kW	5.60 kW
$COPTj = +7^{\circ}C$	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
	1	



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh



Model: Vitocal 252-A AWOT-M-E-AC 251.A10 (SP)

Configure model		
Model name	Vitocal 252-A AWOT-M-E-AC 251.A10 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

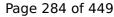
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



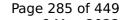


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW





2.80	2.20
6.00 kW	5.50 kW
2.40	1.90
1.000	1.000
70 °C	70 °C
0 W	0 W
14 W	14 W
16 W	16 W
0 W	o w
Electricity	Electricity
8.48 kW	7.98 kW
4988 kWh	5868 kWh
	6.00 kW 2.40 1.000 70 °C 0 W 14 W 16 W 0 W Electricity 8.48 kW

Average Climate

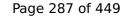
Sound power level outdoor

EN 12102-1		
Low temperature	Medium temperature	
40 dB(A)	40 dB(A)	
	Low temperature	

54 dB(A)

54 dB(A)

EN 14825			
	Low temperature	Medium temperature	





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Pdesignh	9.80 kW	9.37 kW
η_s	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
COP Tj = +7°C	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 252-A AWOT-M-E-AC 251.A13 (SP)

Configure model		
Model name Vitocal 252-A AWOT-M-E-AC 251.A13 (SP)		
Application	Heating (medium temp)	
Units	Indoor + 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	7.56 kW	
El input	1.56 kW	2.23 kW	
СОР	5.21	3.40	

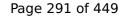
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80





Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

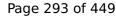
Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825



	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW





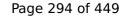
COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh

Average Climate

EN 12102-1 Low temperature Medium temperature Sound power level indoor 40 dB(A) 40 dB(A)

Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature





This information was generated by the HP KEYMARK database on 6 May 2022			
Pdesignh	12.42 kW	12.10 kW	
η_{s}	181 %	147 %	
Prated	12.42 kW	12.10 kW	
SCOP	4.60	3.75	
Tbiv	-7 °C	-7 °C	
TOL	-10 °C	-10 °C	
Pdh Tj = -7°C	11.00 kW	10.70 kW	
COP Tj = -7°C	3.00	2.40	
Cdh Tj = -7 °C	1.000	1.000	
Pdh Tj = +2°C	6.80 kW	6.60 kW	
$COP Tj = +2^{\circ}C$	4.40	3.60	
Cdh Tj = +2 °C	1.000	1.000	
Pdh Tj = $+7^{\circ}$ C	5.90 kW	5.60 kW	
$COP Tj = +7^{\circ}C$	6.20	5.00	
Cdh Tj = +7 °C	1.000	1.000	
Pdh Tj = 12°C	5.50 kW	5.70 kW	
COP Tj = 12°C	7.50	6.60	
Cdh Tj = +12 °C	1.000	1.000	
Pdh Tj = Tbiv	11.00 kW	10.70 kW	
COP Tj = Tbiv	3.00	2.40	
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW	
	1		



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh

Model: Vitocal 252-A AWO-M-E-AC-AF 251.A10 (SP)

Configure model		
Model name	Vitocal 252-A AWO-M-E-AC-AF 251.A10 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

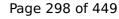
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



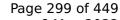


This information was gener	aced by the Hi KETH	intradicabase on o may 202
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

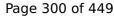
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW



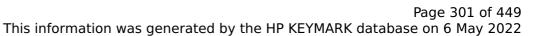


COP Tj = Tbiv 2.80 2.20 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 6.00 kW 5.50 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.40 1.90 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW Annual energy consumption Qhe 4988 kWh 5868 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
WTOL 70 °C 70 °C 70 °C 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Electricity 7.98 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	Poff	0 W	0 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	PTO	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 8.48 kW 7.98 kW	PCK	o w	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 4988 kWh 5868 kWh	Supplementary Heater: PSUP	8.48 kW	7.98 kW
	Annual energy consumption Qhe	4988 kWh	5868 kWh

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature





9.80 kW 197 % 9.80 kW 4.99	9.37 kW 154 % 9.37 kW
9.80 kW	
	9.37 kW
4.99	
	3.91
-7 °C	-7 °C
-10 °C	-10 °C
8.70 kW	8.30 kW
3.30	2.50
1.000	1.000
5.40 kW	5.10 kW
5.00	3.90
1.000	1.000
5.80 kW	5.60 kW
6.20	4.90
1.000	1.000
5.50 kW	5.60 kW
7.60	6.30
1.000	1.000
8.70 kW	8.30 kW
3.30	2.50
7.90 kW	7.50 kW
	-10 °C 8.70 kW 3.30 1.000 5.40 kW 5.00 1.000 5.80 kW 6.20 1.000 5.50 kW 7.60 1.000 8.70 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 252-A AWO-M-E-AC-AF 251.A13 (SP)

Configure model		
Model name	Vitocal 252-A AWO-M-E-AC-AF 251.A13 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	7.56 kW	
El input	1.56 kW	2.23 kW	
СОР	5.21	3.40	

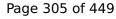
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{S}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = $+2^{\circ}$ C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80
	1	





	<u>-</u>	
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

Colder Climate

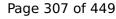
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW





COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
	*	•





This information was gene	Tated by the HE KLIMP	TRK database on 6 May 2022
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
$COP Tj = +2^{\circ}C$	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.90 kW	5.60 kW
$COP Tj = +7^{\circ}C$	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
	1	



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh



Model: Vitocal 250-A AWO-M-E-AC 251.A10 2C (SP)

Configure model	
Model name	Vitocal 250-A AWO-M-E-AC 251.A10 2C (SP)
Application	Heating (medium temp)
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

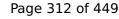
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



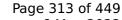


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

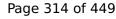
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW





COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh

Average Climate

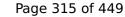
Sound power level outdoor

EN 12102-1 Low temperature Medium temperature Sound power level indoor 40 dB(A) 40 dB(A)

54 dB(A)

54 dB(A)

EN 14825		
	Low temperature	Medium temperature





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Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
COP Tj = +7°C	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 250-A AWO-M-E-AC 251.A13 2C (SP)

Configure model		
Model name	Vitocal 250-A AWO-M-E-AC 251.A13 2C (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	7.56 kW	
El input	1.56 kW	2.23 kW	
СОР	5.21	3.40	

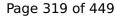
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



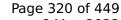


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

Colder Climate

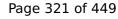
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW



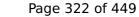


COP Tj = Tbiv 2.60 2.10 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 7.70 kW 7.20 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.30 1.80 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW Annual energy consumption Qhe 7028 kWh 8129 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.60	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
WTOL 70 °C 70 °C 70 °C 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Electricity 10.80 kW 10.35 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	Poff	o w	0 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	РТО	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 10.80 kW 10.35 kW	PCK	o w	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 7028 kWh 8129 kWh	Supplementary Heater: PSUP	10.80 kW	10.35 kW
	Annual energy consumption Qhe	7028 kWh	8129 kWh

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature





5	,	,
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7° C	11.00 kW	10.70 kW
$COP Tj = -7^{\circ}C$	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2^{\circ}$ C	6.80 kW	6.60 kW
$COPTj = +2^{\circ}C$	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.90 kW	5.60 kW
$COPTj = +7^{\circ}C$	6.20	5.00
Cdh Tj = $+7$ °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh



Model: Vitocal 250-A AWO-M-E-AC-AF 251.A10 2C (SP)

Configure model		
Model name	Vitocal 250-A AWO-M-E-AC-AF 251.A10 2C (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

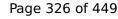
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



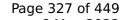


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

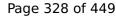
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW



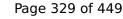


COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825		
	Low temperature	Medium temperature





ring information has gene	rated by the in Rein	and database on o may 2021
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.10 kW
COP Tj = +2°C	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.60 kW
$COPTj = +7^{\circ}C$	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 250-A AWO-M-E-AC-AF 251.A13 2C (SP)

Configure model		
Model name	Vitocal 250-A AWO-M-E-AC-AF 251.A13 2C (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	7.56 kW		
El input	1.56 kW	2.23 kW		
СОР	5.21	3.40		

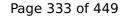
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



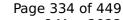


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

Colder Climate

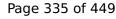
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW



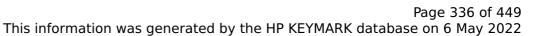


COP Tj = Tbiv 2.60 2.10 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 7.70 kW 7.20 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.30 1.80 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW Annual energy consumption Qhe 7028 kWh 8129 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.60	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
WTOL 70 °C 70 °C 70 °C 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Electricity 10.80 kW 10.35 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	Poff	0 W	0 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	PTO	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 10.80 kW 10.35 kW	PCK	0 W	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 7028 kWh 8129 kWh	Supplementary Heater: PSUP	10.80 kW	10.35 kW
	Annual energy consumption Qhe	7028 kWh	8129 kWh

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825		
	Low temperature	Medium temperature





5	, -	and database on o may 202
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
COPTj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh

Model: Vitocal 252-A AWO-M-E-AC 251.A10 2C (SP)

Configure model		
Model name Vitocal 252-A AWO-M-E-AC 251.A10 2C (SP)		
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW	
El input	1.38 kW	2.27 kW	
СОР	5.31	2.97	

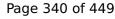
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



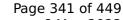


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

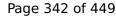
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW





COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	4988 kWh	5868 kWh

Average Climate

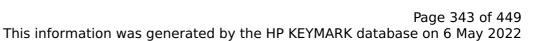
Sound power level outdoor

Low temperature Medium temperature Sound power level indoor 40 dB(A) 40 dB(A)

54 dB(A)

54 dB(A)

EN 14825		
	Low temperature	Medium temperature





		The database off o May 202
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	5.40 kW	5.10 kW
$COPTj = +2^{\circ}C$	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.80 kW	5.60 kW
$COPTj = +7^{\circ}C$	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW



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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 252-A AWO-M-E-AC 251.A13 2C (SP)

Configure model		
Model name	Vitocal 252-A AWO-M-E-AC 251.A13 2C (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	7.56 kW
El input	1.56 kW	2.23 kW
СОР	5.21	3.40

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



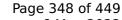


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

Colder Climate

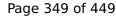
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW





COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7028 kWh	8129 kWh

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature





This information was gene	rated by the fill RETTIN	ant database on o may 202.
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
$COP Tj = -7^{\circ}C$	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.60 kW
$COP Tj = +7^{\circ}C$	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh



Model: Vitocal 252-A AWO-M-E-AC-AF 251.A10 2C (SP)

Configure model		
Model name	Model name Vitocal 252-A AWO-M-E-AC-AF 251.A10 2C (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	7.31 kW	6.75 kW
El input	1.38 kW	2.27 kW
СОР	5.31	2.97

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	243 %	172 %
Prated	5.27 kW	4.65 kW
SCOP	6.14	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.40	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.50	5.60



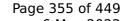


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1145 kWh	1419 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	165 %	131 %
Prated	8.48 kW	7.98 kW
SCOP	4.19	3.35
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.40	2.70
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.30	4.10
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.20
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.70	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW





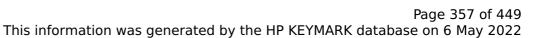
COP Tj = Tbiv 2.80 2.20 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 6.00 kW 5.50 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.40 1.90 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW Annual energy consumption Qhe 4988 kWh 5868 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	Poff	o w	0 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	РТО	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 8.48 kW 7.98 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 8.48 kW 7.98 kW	PCK	0 W	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 4988 kWh 5868 kWh	Supplementary Heater: PSUP	8.48 kW	7.98 kW
	Annual energy consumption Qhe	4988 kWh	5868 kWh

Average Climate

EN 12102-1 Low temperature Medium temperature Sound power level indoor 40 dB(A) 40 dB(A)

	Sound power level outdoor	54 dB(A)	54 dB(A)
Į			

EN 14825		
	Low temperature	Medium temperature





The most series gove		and database on o may 202
Pdesignh	9.80 kW	9.37 kW
η_{s}	197 %	154 %
Prated	9.80 kW	9.37 kW
SCOP	4.99	3.91
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.30	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	5.40 kW	5.10 kW
$COPTj = +2^{\circ}C$	5.00	3.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.80 kW	5.60 kW
$COPTj = +7^{\circ}C$	6.20	4.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.60 kW
COP Tj = 12°C	7.60	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.30	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4055 kWh	4943 kWh



Model: Vitocal 252-A AWO-M-E-AC-AF 251.A13 2C (SP)

Configure model	
Model name	Vitocal 252-A AWO-M-E-AC-AF 251.A13 2C (SP)
Application Heating (medium temp)	
Units	Indoor + 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	7.56 kW
El input	1.56 kW	2.23 kW
СОР	5.21	3.40

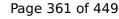
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	238 %	179 %
Prated	6.68 kW	6.62 kW
SCOP	6.03	4.55
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	4.00	2.90
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.60	3.90
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	7.20	5.80



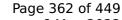


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1478 kWh	1942 kWh

Colder Climate

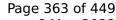
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	148 %	122 %
Prated	10.80 kW	10.35 kW
SCOP	3.79	3.14
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.50	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.50	5.30
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.50	6.80
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW





COP Tj = Tbiv 2.60 2.10 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 7.70 kW 7.20 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.30 1.80 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.60	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
WTOL 70 °C 70 °C 70 °C 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Electricity Supplementary Heater: PSUP	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	Poff	o w	o w
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	РТО	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 10.80 kW 10.35 kW	PCK	0 W	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
	Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe 7028 kWh 8129 kWh	Annual energy consumption Qhe	7028 kWh	8129 kWh

Average Climate

Low temperature Medium temperature Sound power level indoor 40 dB(A) 40 dB(A) Sound power level outdoor 54 dB(A) 54 dB(A)

EN 14825		
	Low temperature	Medium temperature





This information was gene	Tated by the HP KETN	1ARK database on 6 May 2022
Pdesignh	12.42 kW	12.10 kW
η_{s}	181 %	147 %
Prated	12.42 kW	12.10 kW
SCOP	4.60	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
$COP Tj = -7^{\circ}C$	3.00	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.90 kW	5.60 kW
$COPTj = +7^{\circ}C$	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.50	6.60
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	3.00	2.40
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.20
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	2.40 kW
Annual energy consumption Qhe	5573 kWh	6662 kWh

Model: Vitocal 150-A AWO-M-E-AC 151.A10 (SP)

Configure model		
Model name	Vitocal 150-A AWO-M-E-AC 151.A10 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	7.30 kW	6.75 kW	
El input	1.46 kW	2.53 kW	
СОР	5.00	2.67	

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 indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825			
	Low temperature	Medium temperature	
Pdesignh	5.27 kW	4.65 kW	
η_{s}	239 %	168 %	
Prated	5.27 kW	4.65 kW	
SCOP	6.04	4.27	
Tbiv	2 °C	2 °C	
TOL	2 °C	2 °C	
Pdh Tj = +2°C	5.30 kW	4.70 kW	
COP Tj = +2°C	4.20	2.70	
Cdh Tj = +2 °C	1.000	1.000	
Pdh Tj = +7°C	5.70 kW	5.20 kW	
COP Tj = +7°C	5.30	3.60	
Cdh Tj = +7 °C	1.000	1.000	
Pdh Tj = 12°C	5.80 kW	5.50 kW	
COP Tj = 12°C	7.20	5.40	



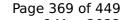


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	o w
РТО	14 W	14 W
PSB	16 W	16 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	1165 kWh	1454 kWh

Colder Climate

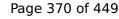
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	160 %	127 %
Prated	8.48 kW	7.98 kW
SCOP	4.08	3.25
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.20	2.60
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.00	4.00
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW





COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	5126 kWh	6050 kWh

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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	Г
Low temperature	Medium temperature





	This information was generated by the HF KLTMAKK database on 6 May 202				
Pdesignh	9.80 kW	9.37 kW			
η_{s}	190 %	145 %			
Prated	9.80 kW	9.37 kW			
SCOP	4.83	3.70			
Tbiv	-7 °C	-7 °C			
TOL	-10 °C	-10 °C			
Pdh Tj = -7°C	8.70 kW	8.30 kW			
$COP Tj = -7^{\circ}C$	3.10	2.40			
Cdh Tj = -7 °C	1.000	1.000			
Pdh Tj = $+2^{\circ}$ C	5.40 kW	5.20 kW			
$COPTj = +2^{\circ}C$	4.80	3.70			
Cdh Tj = +2 °C	1.000	1.000			
Pdh Tj = $+7^{\circ}$ C	5.80 kW	5.70 kW			
$COPTj = +7^{\circ}C$	6.00	4.60			
Cdh Tj = +7 °C	1.000	1.000			
Pdh Tj = 12°C	5.50 kW	5.70 kW			
COP Tj = 12°C	7.30	6.00			
Cdh Tj = +12 °C	1.000	1.000			
Pdh Tj = Tbiv	8.70 kW	8.30 kW			
COP Tj = Tbiv	3.10	2.40			
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW			



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.90	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4129 kWh	5229 kWh

Model: Vitocal 150-A AWO-M-E-AC 151.A13 (SP)

Configure model		
Model name	Vitocal 150-A AWO-M-E-AC 151.A13 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	8.10 kW	7.56 kW	
El input	1.65 kW	2.47 kW	
СОР	4.90	3.06	

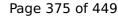
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825			
	Low temperature	Medium temperature	
Pdesignh	6.68 kW	6.62 kW	
η_{s}	239 %	173 %	
Prated	6.68 kW	6.62 kW	
SCOP	6.05	4.41	
Tbiv	2 °C	2 °C	
TOL	2 °C	2 °C	
Pdh Tj = +2°C	6.70 kW	6.60 kW	
COP Tj = +2°C	3.80	2.80	
Cdh Tj = +2 °C	1.000	1.000	
Pdh Tj = +7°C	5.70 kW	5.20 kW	
COP Tj = +7°C	5.40	3.70	
Cdh Tj = +7 °C	1.000	1.000	
Pdh Tj = 12°C	5.70 kW	5.50 kW	
COP Tj = 12°C	6.90	5.50	



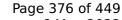


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1518 kWh	2007 kWh

Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	144 %	118 %
Prated	10.80 kW	10.35 kW
SCOP	3.67	3.03
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.20	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW



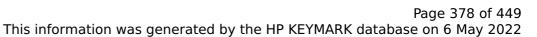


COP Tj = Tbiv 2.50 2.00 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 7.70 kW 7.20 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.30 1.80 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW Annual energy consumption Qhe 7252 kWh 8407 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.50	2.00
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	Poff	o w	o w
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	PTO	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 10.80 kW 10.35 kW	PCK	o w	o w
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 7252 kWh 8407 kWh	Supplementary Heater: PSUP	10.80 kW	10.35 kW
	Annual energy consumption Qhe	7252 kWh	8407 kWh

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825			
	Low temperature	Medium temperature	
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This information was gene	Tated by the Thi RETH	ARK database on 6 May 202
Pdesignh	12.42 kW	12.10 kW
η_{s}	178 %	141 %
Prated	12.42 kW	12.10 kW
SCOP	4.53	3.54
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
$COP Tj = +2^{\circ}C$	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.90 kW	5.70 kW
$COP Tj = +7^{\circ}C$	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	2.90	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
	1	



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.30 kW	2.30 kW
Annual energy consumption Qhe	5672 kWh	6944 kWh



Model: Vitocal 150-A AWO-M-E-AC 151.A16 (SP)

Configure model		
Model name	Vitocal 150-A AWO-M-E-AC 151.A16 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	9.10 kW	8.49 kW	
El input	1.86 kW	2.53 kW	
СОР	4.90	3.35	

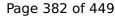
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

	EN 14825	
	Low temperature	Medium temperature
Pdesignh	7.54 kW	7.56 kW
η_{s}	239 %	175 %
Prated	7.54 kW	7.56 kW
SCOP	6.06	4.46
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.50 kW	7.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.60 kW	6.10 kW
COP Tj = +7°C	5.40	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.60 kW
COP Tj = 12°C	7.30	5.60



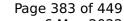


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1662 kWh	2266 kWh

Colder Climate

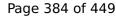
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	11.83 kW	11.17 kW
η_{s}	141 %	117 %
Prated	11.83 kW	11.17 kW
SCOP	3.61	2.99
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	12.10 kW	11.70 kW
COP Tj = -7°C	2.80	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.60 kW	7.50 kW
COP Tj = +2°C	4.30	3.50
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.60 kW
COP Tj = +7°C	6.10	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.40 kW	5.70 kW
COP Tj = 12°C	7.30	6.50
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	9.70 kW	9.10 kW





COP Tj = Tbiv 2.40 2.00 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 8.40 kW 7.70 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.20 1.70 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW Annual energy consumption Qhe 8080 kWh 10386 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.40	2.00
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
WTOL 70 °C 70 °C 70 °C 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Electricity 11.83 kW 11.17 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	Poff	0 W	0 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	PTO	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 11.83 kW 11.17 kW	PCK	0 W	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 8080 kWh 10386 kWh	Supplementary Heater: PSUP	11.83 kW	11.17 kW
	Annual energy consumption Qhe	8080 kWh	10386 kWh

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825		
	Low temperature	Medium temperature
	*	•



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This information was generated by the HP KEYMARK database on 6 May 2022

		and database on o may 202
Pdesignh	13.67 kW	13.37 kW
η_{s}	178 %	141 %
Prated	13.67 kW	13.37 kW
SCOP	4.52	3.60
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.00 kW	11.80 kW
COP Tj = -7°C	2.90	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.40 kW	7.50 kW
COP Tj = +2°C	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.50 kW
$COP Tj = +7^{\circ}C$	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.30 kW	5.70 kW
COP Tj = 12°C	7.30	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	12.10 kW	11.80 kW
COP Tj = Tbiv	2.90	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.10 kW	10.70 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.60 kW	2.60 kW
Annual energy consumption Qhe	6242 kWh	7670 kWh

Model: Vitocal 150-A AWO-M-E-AC-AF 151.A10 (SP)

Configure model		
Model name	Vitocal 150-A AWO-M-E-AC-AF 151.A10 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	7.30 kW	6.75 kW
El input	1.46 kW	2.53 kW
СОР	5.00	2.67

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	239 %	168 %
Prated	5.27 kW	4.65 kW
SCOP	6.04	4.27
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.20	2.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.30	3.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.20	5.40



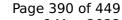


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	o w
РТО	14 W	14 W
PSB	16 W	16 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	1165 kWh	1454 kWh

Colder Climate

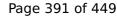
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	160 %	127 %
Prated	8.48 kW	7.98 kW
SCOP	4.08	3.25
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.20	2.60
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.00	4.00
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW





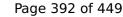
COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	5126 kWh	6050 kWh

Average Climate

EN 12102-1 Low temperature Medium temperature Sound power level indoor 40 dB(A) 40 dB(A)

Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature





ring information has gene	rated by the in Rein	and database on o may 2021
Pdesignh	9.80 kW	9.37 kW
η_{s}	190 %	145 %
Prated	9.80 kW	9.37 kW
SCOP	4.83	3.70
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
COP Tj = -7°C	3.10	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.20 kW
COP Tj = +2°C	4.80	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.70 kW
$COP Tj = +7^{\circ}C$	6.00	4.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.30	6.00
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.10	2.40
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.90	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4129 kWh	5229 kWh

Model: Vitocal 150-A AWO-M-E-AC-AF 151.A13 (SP)

Configure model		
Model name	Vitocal 150-A AWO-M-E-AC-AF 151.A13 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	8.10 kW	7.56 kW	
El input	1.65 kW	2.47 kW	
СОР	4.90	3.06	

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 indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	239 %	173 %
Prated	6.68 kW	6.62 kW
SCOP	6.05	4.41
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.40	3.70
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	6.90	5.50



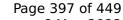


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1518 kWh	2007 kWh

Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	144 %	118 %
Prated	10.80 kW	10.35 kW
SCOP	3.67	3.03
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.20	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW





COP Tj = Tbiv	2.50	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe	7252 kWh	8407 kWh

Average Climate

EN 12102-1 Low temperature Medium temperature Sound power level indoor 40 dB(A) 40 dB(A) Sound power level outdoor 56 dB(A) 56 dB(A)

EN 14825		
	Low temperature	Medium temperature





Pdesignh	12.42 kW	12.10 kW
η_s	178 %	141 %
Prated	12.42 kW	12.10 kW
SCOP	4.53	3.54
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
$COPTj = +2^{\circ}C$	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
$COPTj = +7^{\circ}C$	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	2.90	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.30 kW	2.30 kW
Annual energy consumption Qhe	5672 kWh	6944 kWh

Model: Vitocal 150-A AWO-M-E-AC-AF 151.A16 (SP)

Configure model		
Model name	Vitocal 150-A AWO-M-E-AC-AF 151.A16 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	9.10 kW	8.49 kW	
El input	1.86 kW	2.53 kW	
СОР	4.90	3.35	

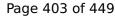
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825		
	Low temperature	Medium temperature
Pdesignh	7.54 kW	7.56 kW
η_{s}	239 %	175 %
Prated	7.54 kW	7.56 kW
SCOP	6.06	4.46
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.50 kW	7.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.60 kW	6.10 kW
COP Tj = +7°C	5.40	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.60 kW
COP Tj = 12°C	7.30	5.60





Pdh Tj = Tbiv 7.50 kW 7.60 kW COP Tj = Tbiv 3.80 2.80 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 7.50 kW 7.60 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 3.80 2.80 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW			
COP Tj = Tbiv 3.80 2.80 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
WTOL 70 °C 70 °C 70 °C Poff 0 W 14 W 14 W PSB 16 W 16 W PCK 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 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	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W O W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	Poff	o w	o w
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	РТО	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 0.00 kW 0.00 kW	PCK	o w	o w
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 1662 kWh 2266 kWh	Supplementary Heater: PSUP	0.00 kW	0.00 kW
	Annual energy consumption Qhe	1662 kWh	2266 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	11.83 kW	11.17 kW
η_{s}	141 %	117 %
Prated	11.83 kW	11.17 kW
SCOP	3.61	2.99
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	12.10 kW	11.70 kW
COP Tj = -7°C	2.80	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.60 kW	7.50 kW
COP Tj = +2°C	4.30	3.50
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.60 kW
COP Tj = +7°C	6.10	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.40 kW	5.70 kW
COP Tj = 12°C	7.30	6.50
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	9.70 kW	9.10 kW





COP Tj = Tbiv 2.40 2.00 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 8.40 kW 7.70 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.20 1.70 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW Annual energy consumption Qhe 8080 kWh 10386 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.40	2.00
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	Poff	0 W	0 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	РТО	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 11.83 kW 11.17 kW	PCK	0 W	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 8080 kWh 10386 kWh	Supplementary Heater: PSUP	11.83 kW	11.17 kW
	Annual energy consumption Qhe	8080 kWh	10386 kWh

Average Climate

Low temperature Medium temperature Sound power level indoor 40 dB(A) 40 dB(A) Sound power level outdoor 56 dB(A) 56 dB(A)

EN 14825		
	Low temperature	Medium temperature





This information was gene	Tated by the HE KLIMP	TRK database on 6 May 2022
Pdesignh	13.67 kW	13.37 kW
η_{s}	178 %	141 %
Prated	13.67 kW	13.37 kW
SCOP	4.52	3.60
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.00 kW	11.80 kW
COP Tj = -7°C	2.90	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.40 kW	7.50 kW
$COPTj = +2^{\circ}C$	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.50 kW
$COPTj = +7^{\circ}C$	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.30 kW	5.70 kW
COP Tj = 12°C	7.30	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	12.10 kW	11.80 kW
COP Tj = Tbiv	2.90	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.10 kW	10.70 kW
	1	



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.60 kW	2.60 kW
Annual energy consumption Qhe	6242 kWh	7670 kWh

Model: Vitocal 151-A AWOT-M-E-AC 151.A10 (SP)

Configure model		
Model name Vitocal 151-A AWOT-M-E-AC 151.A10 (SP)		
Application	Heating (medium temp)	
Units	Indoor + 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	7.30 kW	6.75 kW
El input	1.46 kW	2.53 kW
СОР	5.00	2.67

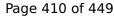
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	239 %	168 %
Prated	5.27 kW	4.65 kW
SCOP	6.04	4.27
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.20	2.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.30	3.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.20	5.40



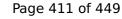


	<u> </u>	·
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 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	1165 kWh	1454 kWh

Colder Climate

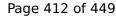
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	160 %	127 %
Prated	8.48 kW	7.98 kW
SCOP	4.08	3.25
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.20	2.60
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.00	4.00
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW



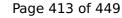


COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	5126 kWh	6050 kWh

Average Climate

EN 12102-1 Low temperature Medium temperature Sound power level indoor 40 dB(A) 40 dB(A) Sound power level outdoor 56 dB(A) 56 dB(A)

EN 14825		
	Low temperature	Medium temperature





Pdesignh	9.80 kW	9.37 kW
η_{s}	190 %	145 %
Prated	9.80 kW	9.37 kW
SCOP	4.83	3.70
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7° C	8.70 kW	8.30 kW
$COP Tj = -7^{\circ}C$	3.10	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.40 kW	5.20 kW
COP Tj = +2°C	4.80	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.80 kW	5.70 kW
$COP Tj = +7^{\circ}C$	6.00	4.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.30	6.00
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.10	2.40
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.90	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4129 kWh	5229 kWh



Model: Vitocal 151-A AWOT-M-E-AC 151.A13 (SP)

Configure model		
Model name Vitocal 151-A AWOT-M-E-AC 151.A13 (SP)		
Application	Heating (medium temp)	
Units	Indoor + 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	8.10 kW	7.56 kW
El input	1.65 kW	2.47 kW
СОР	4.90	3.06

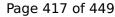
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	239 %	173 %
Prated	6.68 kW	6.62 kW
SCOP	6.05	4.41
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.40	3.70
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	6.90	5.50



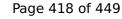


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1518 kWh	2007 kWh

Colder Climate

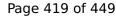
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	144 %	118 %
Prated	10.80 kW	10.35 kW
SCOP	3.67	3.03
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.20	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW



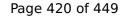


COP Tj = Tbiv 2.50 2.00 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 7.70 kW 7.20 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.30 1.80 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW Annual energy consumption Qhe 7252 kWh 8407 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.50	2.00
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
WTOL 70 °C 70 °C 70 °C 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Electricity 10.80 kW 10.35 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	Poff	0 W	0 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	PTO	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 10.80 kW 10.35 kW	PCK	o w	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 7252 kWh 8407 kWh	Supplementary Heater: PSUP	10.80 kW	10.35 kW
	Annual energy consumption Qhe	7252 kWh	8407 kWh

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature





This information was gene	Tated by the HE KETMA	TRK database on 6 May 2022
Pdesignh	12.42 kW	12.10 kW
η_{s}	178 %	141 %
Prated	12.42 kW	12.10 kW
SCOP	4.53	3.54
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.00 kW	10.70 kW
COP Tj = -7°C	3.00	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
$COP Tj = +2^{\circ}C$	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.90 kW	5.70 kW
$COP Tj = +7^{\circ}C$	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	2.90	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.30 kW	2.30 kW
Annual energy consumption Qhe	5672 kWh	6944 kWh



Model: Vitocal 151-A AWOT-M-E-AC 151.A16 (SP)

Configure model		
Model name	Vitocal 151-A AWOT-M-E-AC 151.A16 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	9.10 kW	8.49 kW	
El input	1.86 kW	2.53 kW	
СОР	4.90	3.35	

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

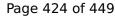
Warmer Climate





	EN 12102-1	
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	7.54 kW	7.56 kW
η_{s}	239 %	175 %
Prated	7.54 kW	7.56 kW
SCOP	6.06	4.46
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.50 kW	7.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.60 kW	6.10 kW
COP Tj = +7°C	5.40	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.60 kW
COP Tj = 12°C	7.30	5.60



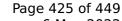


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1662 kWh	2266 kWh

Colder Climate

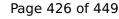
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	11.83 kW	11.17 kW
η_{s}	141 %	117 %
Prated	11.83 kW	11.17 kW
SCOP	3.61	2.99
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	12.10 kW	11.70 kW
COP Tj = -7°C	2.80	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.60 kW	7.50 kW
COP Tj = +2°C	4.30	3.50
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.60 kW
COP Tj = +7°C	6.10	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.40 kW	5.70 kW
COP Tj = 12°C	7.30	6.50
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	9.70 kW	9.10 kW



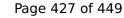


COP Tj = Tbiv 2.40 2.00 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 8.40 kW 7.70 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.20 1.70 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW Annual energy consumption Qhe 8080 kWh 10386 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.40	2.00
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
WTOL 70 °C 70 °C 70 °C 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Electricity 11.83 kW 11.17 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	Poff	0 W	0 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	PTO	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 11.83 kW 11.17 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 11.83 kW 11.17 kW	PCK	0 W	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 8080 kWh 10386 kWh	Supplementary Heater: PSUP	11.83 kW	11.17 kW
	Annual energy consumption Qhe	8080 kWh	10386 kWh

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
	*	•





Inis information was gene	rated by the HP KEYMA	ARK database on 6 May 2022
Pdesignh	13.67 kW	13.37 kW
η_{s}	178 %	141 %
Prated	13.67 kW	13.37 kW
SCOP	4.52	3.60
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7° C	12.00 kW	11.80 kW
$COPTj = -7^{\circ}C$	2.90	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.40 kW	7.50 kW
$COPTj = +2^{\circ}C$	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	6.70 kW	6.50 kW
$COPTj = +7^{\circ}C$	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.30 kW	5.70 kW
COP Tj = 12°C	7.30	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	12.10 kW	11.80 kW
COP Tj = Tbiv	2.90	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.10 kW	10.70 kW
	•	



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This information was generated by the HP KEYMARK database on 6 May 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.60 kW	2.60 kW
Annual energy consumption Qhe	6242 kWh	7670 kWh



Model: Vitocal 151-A AWOT-M-E-AC-AF 151.A10 (SP)

Configure model	
Model name	Vitocal 151-A AWOT-M-E-AC-AF 151.A10 (SP)
Application	Heating (medium temp)
Units	Indoor + 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	7.30 kW	6.75 kW
El input	1.46 kW	2.53 kW
СОР	5.00	2.67

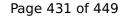
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	5.27 kW	4.65 kW
η_{s}	239 %	168 %
Prated	5.27 kW	4.65 kW
SCOP	6.04	4.27
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.30 kW	4.70 kW
COP Tj = +2°C	4.20	2.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.30	3.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	7.20	5.40



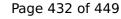


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1165 kWh	1454 kWh

Colder Climate

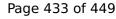
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	8.48 kW	7.98 kW
η_{s}	160 %	127 %
Prated	8.48 kW	7.98 kW
SCOP	4.08	3.25
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	8.70 kW	8.40 kW
COP Tj = -7°C	3.20	2.60
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	5.50 kW	5.20 kW
COP Tj = +2°C	5.00	4.00
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.90 kW	6.50 kW





COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.48 kW	7.98 kW
Annual energy consumption Qhe	5126 kWh	6050 kWh

Average Climate

EN 12102-1 Low temperature Medium temperature Sound power level indoor 40 dB(A) 40 dB(A)

Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature





Pdesignh	9.80 kW	9.37 kW
η_{s}	190 %	145 %
Prated	9.80 kW	9.37 kW
SCOP	4.83	3.70
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.70 kW	8.30 kW
$COP Tj = -7^{\circ}C$	3.10	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = $+2$ °C	5.40 kW	5.20 kW
COP Tj = +2°C	4.80	3.70
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.80 kW	5.70 kW
$COPTj = +7^{\circ}C$	6.00	4.60
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.30	6.00
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.70 kW	8.30 kW
COP Tj = Tbiv	3.10	2.40
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.90 kW	7.50 kW



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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.90	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.90 kW	1.90 kW
Annual energy consumption Qhe	4129 kWh	5229 kWh



Model: Vitocal 151-A AWOT-M-E-AC-AF 151.A13 (SP)

Configure model		
Model name	Vitocal 151-A AWOT-M-E-AC-AF 151.A13 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	8.10 kW	7.56 kW	
El input	1.65 kW	2.47 kW	
СОР	4.90	3.06	

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 indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.68 kW	6.62 kW
η_{s}	239 %	173 %
Prated	6.68 kW	6.62 kW
SCOP	6.05	4.41
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.70 kW	5.20 kW
COP Tj = +7°C	5.40	3.70
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.70 kW	5.50 kW
COP Tj = 12°C	6.90	5.50



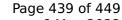


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1518 kWh	2007 kWh

Colder Climate

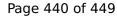
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	10.80 kW	10.35 kW
η_{s}	144 %	118 %
Prated	10.80 kW	10.35 kW
SCOP	3.67	3.03
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.80 kW
COP Tj = -7°C	3.00	2.50
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COP Tj = +2°C	4.40	3.60
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	5.90 kW	5.70 kW
COP Tj = +7°C	6.20	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.70 kW
COP Tj = 12°C	7.20	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	8.80 kW	8.40 kW





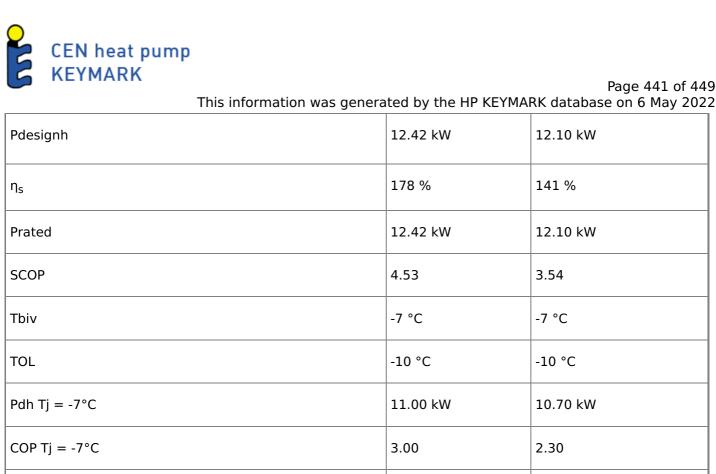
COP Tj = Tbiv 2.50 2.00 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 7.70 kW 7.20 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.30 1.80 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW Annual energy consumption Qhe 7252 kWh 8407 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.50	2.00
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
WTOL 70 °C 70 °C 70 °C Poff 0 W 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Electricity Supplementary Heater: PSUP	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	Poff	o w	o w
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	РТО	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 10.80 kW 10.35 kW	PSB	16 W	16 W
Supplementary Heater: PSUP 10.80 kW 10.35 kW	PCK	o w	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 7252 kWh 8407 kWh	Supplementary Heater: PSUP	10.80 kW	10.35 kW
	Annual energy consumption Qhe	7252 kWh	8407 kWh

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825		
	Low temperature	Medium temperature





η_{S}	178 %	141 %
Prated	12.42 kW	12.10 kW
SCOP	4.53	3.54
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7° C	11.00 kW	10.70 kW
$COPTj = -7^{\circ}C$	3.00	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
$COPTj = +2^{\circ}C$	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.90 kW	5.70 kW
$COP Tj = +7^{\circ}C$	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.50 kW	5.70 kW
COP Tj = 12°C	7.40	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.00 kW	10.70 kW
COP Tj = Tbiv	2.90	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.10 kW	9.70 kW
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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.70	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.30 kW	2.30 kW
Annual energy consumption Qhe	5672 kWh	6944 kWh

Model: Vitocal 151-A AWOT-M-E-AC-AF 151.A16 (SP)

Configure model		
Model name	Vitocal 151-A AWOT-M-E-AC-AF 151.A16 (SP)	
Application	Heating (medium temp)	
Units	Indoor + 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	9.10 kW	8.49 kW	
El input	1.86 kW	2.53 kW	
СОР	4.90	3.35	

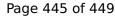
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	7.54 kW	7.56 kW
η_{s}	239 %	175 %
Prated	7.54 kW	7.56 kW
SCOP	6.06	4.46
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.50 kW	7.60 kW
COP Tj = +2°C	3.80	2.80
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.60 kW	6.10 kW
COP Tj = +7°C	5.40	3.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.60 kW	5.60 kW
COP Tj = 12°C	7.30	5.60





	<u> </u>	
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 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	1662 kWh	2266 kWh

Colder Climate

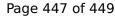
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825





	Low temperature	Medium temperature
Pdesignh	11.83 kW	11.17 kW
η_{s}	141 %	117 %
Prated	11.83 kW	11.17 kW
SCOP	3.61	2.99
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	12.10 kW	11.70 kW
COP Tj = -7°C	2.80	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.60 kW	7.50 kW
COP Tj = +2°C	4.30	3.50
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.60 kW
COP Tj = +7°C	6.10	5.00
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.40 kW	5.70 kW
COP Tj = 12°C	7.30	6.50
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	9.70 kW	9.10 kW





COP Tj = Tbiv	2.40	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	11.83 kW	11.17 kW
Annual energy consumption Qhe	8080 kWh	10386 kWh

Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

EN 14825		
	Low temperature	Medium temperature
	-	





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Pdesignh	13.67 kW	13.37 kW
η_{s}	178 %	141 %
Prated	13.67 kW	13.37 kW
SCOP	4.52	3.60
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.00 kW	11.80 kW
COP Tj = -7°C	2.90	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	7.40 kW	7.50 kW
COP Tj = +2°C	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	6.70 kW	6.50 kW
COP Tj = +7°C	6.10	4.80
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	5.30 kW	5.70 kW
COP Tj = 12°C	7.30	6.30
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	12.10 kW	11.80 kW
COP Tj = Tbiv	2.90	2.30
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.10 kW	10.70 kW



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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	2.10
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.60 kW	2.60 kW
Annual energy consumption Qhe	6242 kWh	7670 kWh