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Login

Summary of	Vitocal x5x-A z4	Reg. No.	011-1W0465	
Certificate Holder				
Name	Viessmann Wärmepumpen Gmb	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



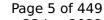


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w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

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

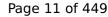
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



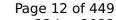


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

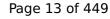
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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

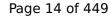




COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary 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
$COPTj = +7^{\circ}C$	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
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-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
COP	5.31	2.97

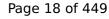
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



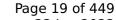


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w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

Colder Climate

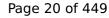
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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

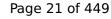




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COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	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
$COP Tj = +7^{\circ}C$	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	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 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

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

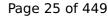
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



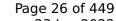


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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	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
$COPTj = +7^{\circ}C$	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 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	
COP	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



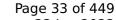


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if 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

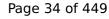
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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

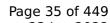




		· · · · · · · · · · · · · · · · · · ·
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	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
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 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	

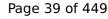
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



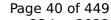


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

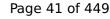
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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
$COPTj = +7^{\circ}C$	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	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-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

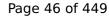
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

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



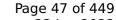


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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





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
$COP Tj = +7^{\circ}C$	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	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

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	

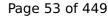
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



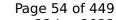


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

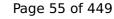
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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

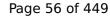




COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary 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	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-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

COP

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

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

5.31



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



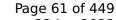


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if 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

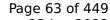




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COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	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	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	

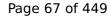
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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
	,	'



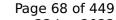


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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	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

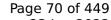




	<u> </u>	<u> </u>
COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	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
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	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



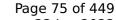


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

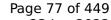




	,	
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary 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	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-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	

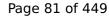
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



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



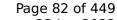


	<u>, </u>	
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °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

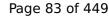
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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>	•
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	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
$COPTj = +7^{\circ}C$	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	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 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



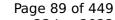


	<u> </u>	
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
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

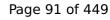




	,	
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary 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 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		

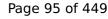
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

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



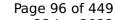


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w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

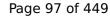
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

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

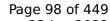




COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary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

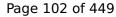
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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 = $+7^{\circ}$ C	5.70 kW	5.20 kW
$COP Tj = +7^{\circ}C$	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



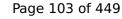


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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	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 = $+7^{\circ}$ 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 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



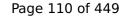


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

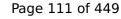
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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

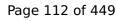




COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary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

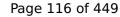
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



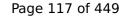


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

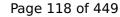
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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

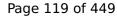




COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary 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	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 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	

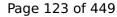
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



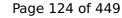


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w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

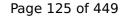
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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





	<u> </u>	•
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
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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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 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	

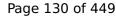
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



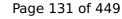


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

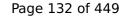
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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

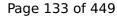




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COP Tj = Tbiv	2.40	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
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 = $+7^{\circ}$ 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	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 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



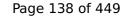


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w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

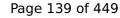
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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

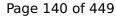




COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary 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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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 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	

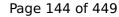
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



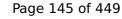


Pdh Tj = Tbiv 6.70 kW 6.60 kW COP Tj = Tbiv 3.80 2.80 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 6.70 kW 6.60 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 3.80 2.80 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PSB 16 W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

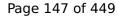




COP Tj = Tbiv	2.50	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary 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-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	

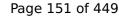
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

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



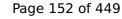


	<u>, </u>	
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °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

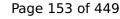
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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

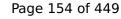




COP Tj = Tbiv	2.40	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	o w
Supplementary 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°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



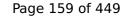


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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	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

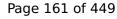




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COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
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

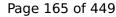
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

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





	<u> </u>	
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





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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	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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This information was generated by the HP KEYMARK database on 23 Jun 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	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 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

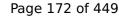
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



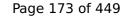


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

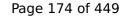
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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

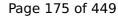




COP Tj = Tbiv	2.40	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary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

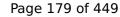
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

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



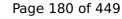


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

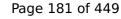
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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

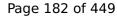




COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary 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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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	
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 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



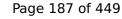


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if 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

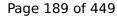




COP Tj = Tbiv	2.50	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary 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 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	

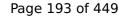
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

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



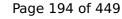


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if 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

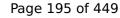
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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	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 = $+7^{\circ}$ 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	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

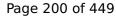
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



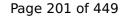


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

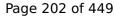
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

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





		<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	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	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-M-AC 252.A13

Configure model		
Model name Vitocal 250-AH HAWO-M-AC 252.A13		
Application Heating (medium temp)		
Inits 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

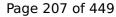
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

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



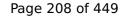


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	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

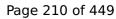




	<u> </u>	•
COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary 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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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 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	

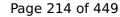
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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 = $+7^{\circ}$ 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



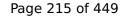


	<u> </u>	
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1145 kWh	1419 kWh

Colder Climate

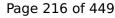
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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

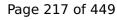




		<u>, </u>
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	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	o 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 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

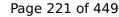
Warmer Climate





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



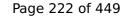


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w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

Colder Climate

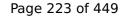
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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

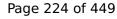




inis inisimation was genera	· · · · · · · · · · · · · · · · · · ·	
COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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	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	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
COP	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



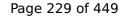


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
PTO	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	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

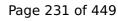




This information was general	,	
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary Heater: Type of energy input	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-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	

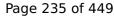
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



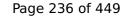


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w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

Colder Climate

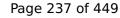
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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

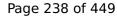




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COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
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	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	

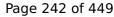
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

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



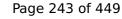


	<u> </u>	
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1145 kWh	1419 kWh

Colder Climate

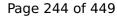
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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





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	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
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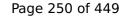


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w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

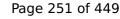
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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

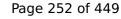




	<u> </u>	•
COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary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



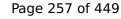


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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





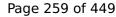
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary 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

EN 12102-1

	I	
	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





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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
$COP Tj = -7^{\circ}C$	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°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	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 = $+7^{\circ}$ 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





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	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

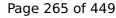
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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





2.60	2.10
7.70 kW	7.20 kW
2.30	1.80
1.000	1.000
70 °C	70 °C
o w	0 W
14 W	14 W
16 W	16 W
0 W	0 W
Electricity	Electricity
10.80 kW	10.35 kW
7028 kWh	8129 kWh
	7.70 kW 2.30 1.000 70 °C 0 W 14 W 16 W 0 W Electricity 10.80 kW

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





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
$COPTj = +2^{\circ}C$	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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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	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

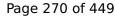
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



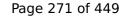


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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
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

Average Climate

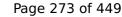
Sound power level outdoor

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





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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
$COP Tj = -7^{\circ}C$	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°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	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

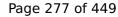
Warmer Climate





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



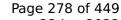


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w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

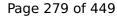
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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



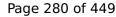


2.60	2.10
7.70 kW	7.20 kW
2.30	1.80
1.000	1.000
70 °C	70 °C
0 W	0 W
14 W	14 W
16 W	16 W
0 W	0 W
Electricity	Electricity
10.80 kW	10.35 kW
7028 kWh	8129 kWh
	7.70 kW 2.30 1.000 70 °C 0 W 14 W 16 W 0 W Electricity 10.80 kW

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





3	,	,
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 23 Jun 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 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

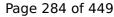
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



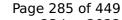


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W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



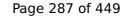


COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary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

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





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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
$COPTj = +7^{\circ}C$	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 23 Jun 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

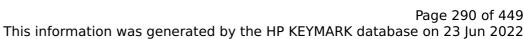
General Data		
Power supply	1x230V 50Hz	

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

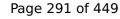
Warmer Climate



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)

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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





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
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	1478 kWh	1942 kWh

Colder Climate

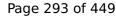
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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





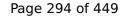
COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary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

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 23 Jun 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 = $+7$ °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 23 Jun 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	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	2.40 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





	T .
1.000	1.000
5.30 kW	4.70 kW
4.40	2.90
5.30 kW	4.70 kW
4.40	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
Electricity	Electricity
0.00 kW	0.00 kW
1145 kWh	1419 kWh
	5.30 kW 4.40 5.30 kW 4.40 1.000 70 °C 0 W 14 W 16 W 0 W Electricity 0.00 kW

Colder Climate

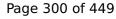
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825





	Low temperature	Medium temperature
Pdesignh	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	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

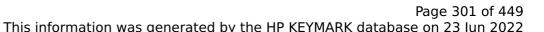
Sound power level outdoor

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





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 23 Jun 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

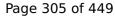
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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°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



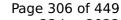


1.000	1.000
6.70 kW	6.60 kW
4.00	2.90
6.70 kW	6.60 kW
4.00	2.90
1.000	1.000
70 °C	70 °C
0 W	o w
14 W	14 W
16 W	16 W
o w	o w
Electricity	Electricity
0.00 kW	0.00 kW
1478 kWh	1942 kWh
	6.70 kW 4.00 6.70 kW 4.00 1.000 70 °C 0 W 14 W 16 W 0 W Electricity 0.00 kW

Colder Climate

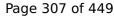
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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	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

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





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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
$COP Tj = +2^{\circ}C$	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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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 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

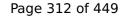
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



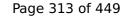


	<u> </u>	
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
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

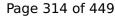
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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
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

Average Climate

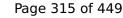
Sound power level outdoor

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





This information was gener	acea by the in Reinn	aatabase on 25 jan 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
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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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	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 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	

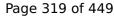
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

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



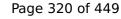


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w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

Colder Climate

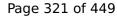
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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



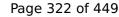


COP Tj = Tbiv	2.60	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary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

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
	*	•





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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
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	2.80	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	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



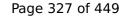


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	o w
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	0.00 kW	0.00 kW
Annual energy consumption Qhe	1145 kWh	1419 kWh

Colder Climate

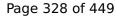
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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



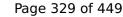


COP Tj = Tbiv 2.80 2.20 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 6.00 kW 5.50 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.40 1.90 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PCK 0 W 0 W Supplementary Heater: Type 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	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





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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
$COP Tj = +7^{\circ}C$	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 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	

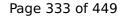
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



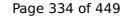


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

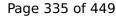
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	54 dB(A)	54 dB(A)	

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





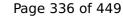
COP Tj = Tbiv	2.60	2.10
COF IJ = IBIV	2.00	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.70 kW	7.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
РТО	14 W	14 W
PSB	16 W	16 W
PCK	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

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)
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EN 14825		
	Low temperature	Medium temperature





Inis information was generated by the HP KEYMARK database on 23 Jun 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 = $+7$ °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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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 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	

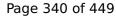
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



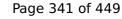


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

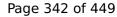
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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



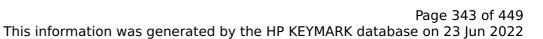


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COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
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

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





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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 23 Jun 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	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-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





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





2.60	2.10
7.70 kW	7.20 kW
2.30	1.80
1.000	1.000
70 °C	70 °C
0 W	0 W
14 W	14 W
16 W	16 W
0 W	0 W
Electricity	Electricity
10.80 kW	10.35 kW
7028 kWh	8129 kWh
	7.70 kW 2.30 1.000 70 °C 0 W 14 W 16 W 0 W Electricity 10.80 kW

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





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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
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 23 Jun 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	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	

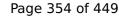
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



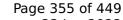


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.40	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.40	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	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

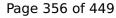
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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





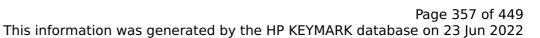
COP Tj = Tbiv	2.80	2.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary 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





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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
$COP Tj = -7^{\circ}C$	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°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	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

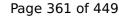
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



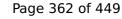


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	4.00	2.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.00	2.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

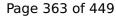
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	54 dB(A)	54 dB(A)

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





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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
$COPTj = +2^{\circ}C$	4.40	3.60
Cdh Tj = $+2$ °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	5.90 kW	5.60 kW
$COP Tj = +7^{\circ}C$	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 23 Jun 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 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

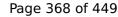
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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	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	1165 kWh	1454 kWh

Colder Climate

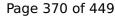
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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	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 12102-1Low temperatureMedium temperatureSound power level indoor40 dB(A)40 dB(A)Sound power level outdoor56 dB(A)56 dB(A)

EN 14825		
	Low temperature	Medium temperature
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This information was gener	ated by the HP KETMP	ARK database on 23 Jun 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°C	3.10	2.40
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°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 23 Jun 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

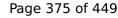
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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
$COP Tj = +2^{\circ}C$	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



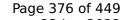


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Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if 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

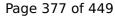
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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



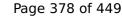


2.50	2.00
7.70 kW	7.20 kW
2.30	1.80
1.000	1.000
70 °C	70 °C
0 W	0 W
14 W	14 W
16 W	16 W
0 W	o w
Electricity	Electricity
10.80 kW	10.35 kW
7252 kWh	8407 kWh
	7.70 kW 2.30 1.000 70 °C 0 W 14 W 16 W 0 W Electricity 10.80 kW

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	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
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 23 Jun 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

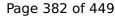
EN 14511-2				
Low temperature Medium temperature				
Heat output	9.10 kW	8.49 kW		
El input	1.86 kW	2.53 kW		
СОР	4.90	3.35		

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



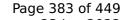


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

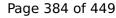
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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





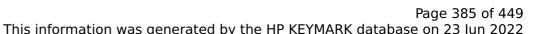
COP Tj = Tbiv	2.40	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary 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
		*





This information was generated by the HP KEYMARK database on 23 Jun		
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
$COP Tj = +2^{\circ}C$	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
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 23 Jun 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

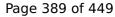
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



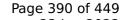


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

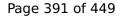
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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



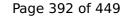


COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary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





This information was gener	acea by the in Reinn	aatabase on 25 jan 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°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
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 23 Jun 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-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

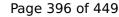
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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





	<u>, </u>	
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

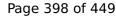
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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



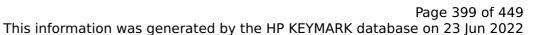


2.50	2.00
7.70 kW	7.20 kW
2.30	1.80
1.000	1.000
70 °C	70 °C
o w	0 W
14 W	14 W
16 W	16 W
0 W	0 W
Electricity	Electricity
10.80 kW	10.35 kW
7252 kWh	8407 kWh
	7.70 kW 2.30 1.000 70 °C 0 W 14 W 16 W 0 W Electricity 10.80 kW

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 gener	The state of the s	ARK database on 23 Jun 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
$COP Tj = -7^{\circ}C$	3.00	2.30
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	6.80 kW	6.60 kW
COPTj = +2°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 23 Jun 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

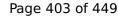
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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





	<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

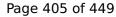
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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
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
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





5	,	•
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
$COP Tj = +2^{\circ}C$	4.30	3.40
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = $+7^{\circ}$ C	6.70 kW	6.50 kW
$COP Tj = +7^{\circ}C$	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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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 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

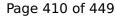
EN 14511-2		
	Low temperature	Medium temperature
Heat output	7.30 kW	6.75 kW
El input	1.46 kW	2.53 kW
СОР	5.00	2.67

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



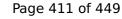


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

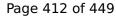
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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





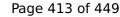
COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	0 W	0 W
Supplementary 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)

EN 14825		
	Low temperature	Medium temperature





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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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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 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	

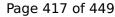
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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



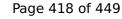


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	6.70 kW	6.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

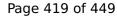
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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



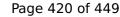


2.50	2.00
7.70 kW	7.20 kW
2.30	1.80
1.000	1.000
70 °C	70 °C
o w	0 W
14 W	14 W
16 W	16 W
0 W	0 W
Electricity	Electricity
10.80 kW	10.35 kW
7252 kWh	8407 kWh
	7.70 kW 2.30 1.000 70 °C 0 W 14 W 16 W 0 W Electricity 10.80 kW

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





3	•	•
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
$COP Tj = -7^{\circ}C$	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 = $+7$ °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	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	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

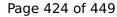
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

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



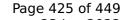


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	0 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	0.00 kW	0.00 kW
Annual energy consumption Qhe	1662 kWh	2266 kWh

Colder Climate

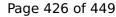
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

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





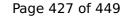
COP Tj = Tbiv	2.40	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
РТО	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary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

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





5	,	in a database on 25 jan 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°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 23 Jun 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

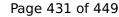
EN 14511-4	
Shutting off the heat transfer medium flow	naccod
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate



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



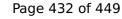


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	5.30 kW	4.70 kW
COP Tj = Tbiv	4.20	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.30 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.20	2.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	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

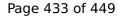
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

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





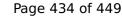
COP Tj = Tbiv	2.70	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.00 kW	5.50 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.30	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	0 W	0 W
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	0 W
Supplementary 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





The management of games		in the did cababe on 25 juin 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°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
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 23 Jun 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 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

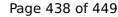
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

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 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 1518 kWh 2007 kWh			
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 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 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	Pdh Tj = Tbiv	6.70 kW	6.60 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	6.70 kW	6.60 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 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	0 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 1518 kWh 2007 kWh	Supplementary Heater: PSUP	0.00 kW	0.00 kW
	Annual energy consumption Qhe	1518 kWh	2007 kWh

Colder Climate

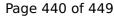
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

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



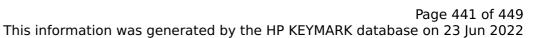


COP Tj = Tbiv 2.50 2.00 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 7.70 kW 7.20 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.30 1.80 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 1.000 1.000 WTOL 70 °C 70 °C Poff 0 W 0 W PTO 14 W 14 W PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity			
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 Supplementary Heater: Type of energy input Electricity Electricity Electricity	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	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	WTOL	70 °C	70 °C
PSB 16 W 16 W PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity	Poff	0 W	0 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity	РТО	14 W	14 W
Supplementary Heater: Type of energy input Electricity Electricity	PSB	16 W	16 W
	PCK	o w	0 W
Supplementary Heater: PSUP	Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary fleater. F30F	Supplementary Heater: PSUP	10.80 kW	10.35 kW
Annual energy consumption Qhe 7252 kWh 8407 kWh	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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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
$COP Tj = +7^{\circ}C$	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 23 Jun 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	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		

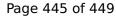
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

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



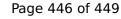


Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	7.50 kW	7.60 kW
COP Tj = Tbiv	3.80	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	7.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.80	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w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

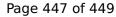
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	56 dB(A)	56 dB(A)	

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



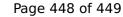


COP Tj = Tbiv	2.40	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.40 kW	7.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.70
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	70 °C	70 °C
Poff	o w	o w
PTO	14 W	14 W
PSB	16 W	16 W
PCK	o w	o w
Supplementary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

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 gener	The tribite of the tr	ARK database on 23 jun 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 23 Jun 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
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	2.60 kW	2.60 kW
Annual energy consumption Qhe	6242 kWh	7670 kWh