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#### This information was generated by the HP KEYMARK database on 22 Jun 2022

#### Login

Summary of	Vitocal 2xx-G B10	Reg. No.	011-1W0287	
Certificate Holder	Certificate Holder			
Name	Viessmann Wärmepumpen GmbH			
Address	Viessmannstr. 1	Zip	35107	
City	Allendorf/Eder	Country	Germany	
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH			
Subtype title	Vitocal 2xx-G B10			
Heat Pump Type	Brine/Water			
Refrigerant	R410A			
Mass of Refrigerant	2.4 kg			
Certification Date	11.07.2019			



# Model: VITOCAL 200-G BWC 201.B10

Configure model		
Model name	VITOCAL 200-G BWC 201.B10	
Application	Heating (medium temp)	
Units	Indoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

## Heating

EN 14511-2			
Low temperature Medium temperature			
Heat output	10.36 kW	9.42 kW	
El input	2.16 kW	3.32 kW	
СОР	4.81	2.85	

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	46 dB(A)	46 dB(A)

EN 14825			
	Low temperature	Medium temperature	
$\eta_{s}$	208 %	145 %	
Prated	10.27 kW	9.39 kW	
SCOP	5.41	3.82	
Tbiv	2 °C	2 °C	
TOL	2 °C	2 °C	
Pdh Tj = +2°C	10.27 kW	9.39 kW	
COP Tj = +2°C	4.95	3.00	
Cdh Tj = +2 °C	0.99	0.99	
Pdh Tj = +7°C	10.33 kW	9.66 kW	
$COP Tj = +7^{\circ}C$	5.24	3.50	
Cdh Tj = +7 °C	0.99	0.99	
Pdh Tj = 12°C	10.46 kW	10.02 kW	
COP Tj = 12°C	5.79	4.40	
Cdh Tj = +12 °C	0.99	0.99	
Pdh Tj = Tbiv	10.27 kW	9.39 kW	

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COP Tj = Tbiv	4.95	3.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.27 kW	9.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.95	3.00
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	0 W	0 W
PTO	0 W	0 W
PSB	12 W	12 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	2536 kWh	3281 kWh

### Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	206 %	143 %
		1





		NK database on 22 jun 202.
Prated	17.18 kW	15.83 kW
SCOP	5.36	3.78
Tbiv	-7 °C	-7 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	10.44 kW	9.78 kW
$COPTj = -7^{\circ}C$	5.76	3.84
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = $+2$ °C	10.48 kW	9.99 kW
COP Tj = +2°C	6.47	4.37
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = $+7^{\circ}$ C	10.55 kW	10.16 kW
$COPTj = +7^{\circ}C$	6.78	4.84
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	10.55 kW	10.26 kW
COP Tj = 12°C	6.85	5.25
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	10.44 kW	9.78 kW
COP Tj = Tbiv	5.76	3.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.44 kW	9.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.12	3.15
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99



WTOL	65 °C	65 °C
Poff	o w	0 W
РТО	o w	0 W
PSB	12 W	12 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.73 kW	6.35 kW
Annual energy consumption Qhe	7907 kWh	10312 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.47	9.65
COP Tj = -15°C (if TOL $<$ -20°C)	6.39	3.51
Cdh Tj = -15 °C	0.99	0.99

## Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	46 dB(A)	46 dB(A)	

EN 14825			
		Low temperature	Medium temperature
Pdesignh	11.72 kW		'
η <sub>s</sub>	204 %	150 %	





1	by the HERLIMARK
11.72 kW	10.81 kW
5.32	3.97
-7 °C	-7 °C
-10 °C	-10 °C
10.31 kW	9.51 kW
4.99	3.23
0.99	0.99
10.40 kW	9.78 kW
5.33	3.84
0.99	0.99
10.48 kW	9.96 kW
5.67	4.31
0.99	0.99
10.58 kW	10.15 kW
6.02	4.83
0.99	0.99
10.31 kW	9.51 kW
4.99	3.23
10.31 kW	9.42 kW
4.96	3.07
	11.72 kW 5.32 -7 °C -10 °C 10.31 kW 4.99 0.99 10.40 kW 5.33 0.99 10.48 kW 5.67 0.99 10.58 kW 6.02 0.99 10.31 kW 4.99





Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	o w	0 W
РТО	o w	0 W
PSB	12 W	12 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.41 kW	1.39 kW
Backup Heater	0.00 kW	
Annual energy consumption Qhe	4554 kWh	5630 kWh



# Model: VITOCAL 200-G BWC 201.B10 SC

Configure model		
Model name	VITOCAL 200-G BWC 201.B10 SC	
Application	Heating (medium temp)	
Units	Indoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	n/a	

## Heating

EN 14511-2				
Low temperature Medium temperature				
Heat output	10.36 kW	9.42 kW		
El input	2.16 kW	3.32 kW		
СОР	4.81	2.85		

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

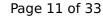




EN 12102-1				
Low temperature Medium temperature				
Sound power level indoor	46 dB(A)	46 dB(A)		

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	208 %	145 %
Prated	10.27 kW	9.39 kW
SCOP	5.41	3.82
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.27 kW	9.39 kW
COP Tj = +2°C	4.95	3.00
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	10.33 kW	9.66 kW
COP Tj = +7°C	5.24	3.50
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	10.46 kW	10.02 kW
COP Tj = 12°C	5.79	4.40
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	10.27 kW	9.39 kW

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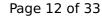


COP Tj = Tbiv	4.95	3.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.27 kW	9.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.95	3.00
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	o w	o w
PTO	o w	o w
PSB	12 W	12 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2536 kWh	3281 kWh

### Colder Climate

EN 12102-1			
Low temperature Medium temperature			
Sound power level indoor	46 dB(A)	46 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	206 %	143 %





Prated	17.18 kW	15.83 kW
SCOP	5.36	3.78
Tbiv	-7 °C	-7 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	10.44 kW	9.78 kW
$COP Tj = -7^{\circ}C$	5.76	3.84
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = $+2$ °C	10.48 kW	9.99 kW
COP Tj = +2°C	6.47	4.37
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = $+7^{\circ}$ C	10.55 kW	10.16 kW
$COPTj = +7^{\circ}C$	6.78	4.84
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	10.55 kW	10.26 kW
COP Tj = 12°C	6.85	5.25
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	10.44 kW	9.78 kW
COP Tj = Tbiv	5.76	3.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.44 kW	9.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.12	3.15
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99



WTOL	65 °C	65 °C
Poff	o w	0 W
РТО	o w	0 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.73 kW	6.35 kW
Annual energy consumption Qhe	7907 kWh	10312 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.47	9.65
COP Tj = -15°C (if TOL $<$ -20°C)	6.39	3.51
Cdh Tj = -15 °C	0.99	0.99

## **Average Climate**

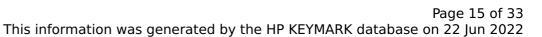
	EN 12102-1	
	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825			
		Low temperature	Medium temperature
Pdesignh	11.72 kW		,
η <sub>s</sub>	204 %	150 %	





Prated       11.72 kW       10.81 kW         SCOP       5.32       3.97         Tbiv       -7 °C       -7 °C         TOL       -10 °C       -10 °C         Pdh Tj = -7 °C       10.31 kW       9.51 kW         COP Tj = -7 °C       4.99       3.23         Cdh Tj = -7 °C       0.99       0.99         Pdh Tj = +2 °C       10.40 kW       9.78 kW         COP Tj = +2 °C       5.33       3.84
Tbiv $-7  ^{\circ}\text{C}$ $-7  ^{\circ}\text{C}$ TOL $-10  ^{\circ}\text{C}$ $-10  ^{\circ}\text{C}$ Pdh Tj = $-7  ^{\circ}\text{C}$ $10.31  \text{kW}$ $9.51  \text{kW}$ COP Tj = $-7  ^{\circ}\text{C}$ $4.99$ $3.23$ Cdh Tj = $-7  ^{\circ}\text{C}$ $0.99$ $0.99$ Pdh Tj = $+2  ^{\circ}\text{C}$ $10.40  \text{kW}$ $9.78  \text{kW}$ COP Tj = $+2  ^{\circ}\text{C}$ $5.33$ $3.84$
TOL $-10  ^{\circ}\text{C}$ $-10  ^{\circ}\text{C}$ Pdh Tj = $-7  ^{\circ}\text{C}$ $10.31  \text{kW}$ $9.51  \text{kW}$ COP Tj = $-7  ^{\circ}\text{C}$ $4.99$ $3.23$ Cdh Tj = $-7  ^{\circ}\text{C}$ $0.99$ $0.99$ Pdh Tj = $+2  ^{\circ}\text{C}$ $10.40  \text{kW}$ $9.78  \text{kW}$ COP Tj = $+2  ^{\circ}\text{C}$ $5.33$ $3.84$
Pdh Tj = -7°C $10.31 \text{ kW}$ $9.51 \text{ kW}$ COP Tj = -7°C $4.99$ $3.23$ Cdh Tj = -7 °C $0.99$ $0.99$ Pdh Tj = +2°C $10.40 \text{ kW}$ $9.78 \text{ kW}$ COP Tj = +2°C $5.33$ $3.84$
COP Tj = -7°C 4.99 3.23  Cdh Tj = -7 °C 0.99 0.99  Pdh Tj = +2°C 10.40 kW 9.78 kW  COP Tj = +2°C 5.33 3.84
Cdh Tj = -7 °C
Pdh Tj = $+2^{\circ}$ C
COP Tj = +2°C 5.33 3.84
Cdh Tj = +2 °C   0.99   0.99
Pdh Tj = $+7^{\circ}$ C
$COP Tj = +7^{\circ}C$ 5.67 4.31
Cdh Tj = $+7$ °C 0.99 0.99
Pdh Tj = 12°C
COP Tj = 12°C 6.02 4.83
Cdh Tj = $+12  ^{\circ}$ C 0.99 0.99
Pdh Tj = Tbiv 10.31 kW 9.51 kW
COP Tj = Tbiv 4.99 3.23
$ \begin{array}{c} \mbox{Pdh Tj} = \mbox{TOL or Pdh Tj} = \mbox{Tdesignh if TOL} < & 10.31 \ \mbox{kW} \\ \mbox{Tdesignh} &                                   $
COP Tj = TOL or COP Tj = Tdesignh if TOL < 4.96 3.07 Tdesignh





Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	0 W	0 W
РТО	0 W	0 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.41 kW	1.39 kW
Backup Heater	0.00 kW	
, ,	4554 kWh	5630 kWh



# Model: VITOCAL 222-G BWT 221.B10

Configure model		
Model name	VITOCAL 222-G BWT 221.B10	
Application	Heating + DHW + low temp	
Units	Indoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	
Off-peak product	Yes	

# Heating

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	10.36 kW	9.42 kW	
El input	2.16 kW	3.32 kW	
СОР	4.81	2.85	

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

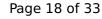




EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	208 %	145 %
Prated	10.27 kW	9.39 kW
SCOP	5.41	3.82
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.27 kW	9.39 kW
COP Tj = +2°C	4.95	3.00
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	10.33 kW	9.66 kW
COP Tj = +7°C	5.24	3.50
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	10.46 kW	10.02 kW
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Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	10.27 kW	9.39 kW

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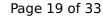


4.95	3.00
10.27 kW	9.39 kW
4.95	3.00
0.99	0.99
65 °C	65 °C
0 W	0 W
o w	0 W
12 W	12 W
0 W	0 W
Electricity	Electricity
0.00 kW	0.00 kW
2536 kWh	3281 kWh
	10.27 kW 4.95 0.99 65 °C 0 W 0 W 12 W 0 W Electricity 0.00 kW

### Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	46 dB(A)	46 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	206 %	143 %





This information was generated by the HP KETMARK database on 22 Jun 20.				
Prated	17.18 kW	15.83 kW		
SCOP	5.36	3.78		
Tbiv	-7 °C	-7 °C		
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Cdh Tj = -7 °C	0.99	0.99		
Pdh Tj = +2°C	10.48 kW	9.99 kW		
COP Tj = +2°C	6.47	4.37		
Cdh Tj = +2 °C	0.99	0.99		
Pdh Tj = $+7^{\circ}$ C	10.55 kW	10.16 kW		
$COP Tj = +7^{\circ}C$	6.78	4.84		
Cdh Tj = +7 °C	0.99	0.99		
Pdh Tj = 12°C	10.55 kW	10.26 kW		
COP Tj = 12°C	6.85	5.25		
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Pdh Tj = Tbiv	10.44 kW	9.78 kW		
COP Tj = Tbiv	5.76	3.84		
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.44 kW	9.47 kW		
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.12	3.15		
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99		
	·	•		

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WTOL	65 °C	65 °C
Poff	o w	0 W
РТО	o w	o w
PSB	12 W	12 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.73 kW	6.35 kW
Annual energy consumption Qhe	7907 kWh	10312 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.47	9.65
COP Tj = -15°C (if TOL $<$ -20°C)	6.39	3.51
Cdh Tj = -15 °C	0.99	0.99

## Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	46 dB(A)	46 dB(A)	

EN 14825			
		Low temperature	Medium temperature
Pdesignh	11.72 kW		
η <sub>s</sub>	204 %	150 %	





1	by the HERLIMARK
11.72 kW	10.81 kW
5.32	3.97
-7 °C	-7 °C
-10 °C	-10 °C
10.31 kW	9.51 kW
4.99	3.23
0.99	0.99
10.40 kW	9.78 kW
5.33	3.84
0.99	0.99
10.48 kW	9.96 kW
5.67	4.31
0.99	0.99
10.58 kW	10.15 kW
6.02	4.83
0.99	0.99
10.31 kW	9.51 kW
4.99	3.23
10.31 kW	9.42 kW
4.96	3.07
	11.72 kW 5.32 -7 °C -10 °C 10.31 kW 4.99 0.99 10.40 kW 5.33 0.99 10.48 kW 5.67 0.99 10.58 kW 6.02 0.99 10.31 kW 4.99





Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	o w	o w
РТО	o w	o w
PSB	12 W	12 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.41 kW	1.39 kW
Backup Heater	0.00 kW	
Annual energy consumption Qhe	4554 kWh	5630 kWh

# Domestic Hot Water (DHW)

### Warmer Climate



EN 16147		
Declared load profile	XL	
Efficiency ηDHW	130 %	
СОР	3.11	
Heating up time	1:14 h:min	
Standby power input	63.0 W	
Reference hot water temperature	54.2 °C	
Mixed water at 40°C	302 I	

## Colder Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	130 %	
СОР	3.11	
Heating up time	1:14 h:min	
Standby power input	63.0 W	
Reference hot water temperature	54.2 °C	
Mixed water at 40°C	302 I	

# Average Climate



EN 16147		
Declared load profile	XL	
Efficiency ηDHW	130 %	
СОР	3.11	
Heating up time	1:14 h:min	
Standby power input	63.0 W	
Reference hot water temperature	54.2 °C	
Mixed water at 40°C	302 I	

# Model: VITOCAL 222-G BWT 221.B10 SC

Configure model		
Model name	VITOCAL 222-G BWT 221.B10 SC	
Application	Heating + DHW + low temp	
Units	Indoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data	
Power supply	3x400V 50Hz
Off-peak product	Yes

## Heating

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	10.36 kW	9.42 kW	
El input	2.16 kW	3.32 kW	
СОР	4.81	2.85	

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	46 dB(A)	46 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	208 %	145 %
Prated	10.27 kW	9.39 kW
SCOP	5.41	3.82
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.27 kW	9.39 kW
COP Tj = +2°C	4.95	3.00
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	10.33 kW	9.66 kW
COP Tj = +7°C	5.24	3.50
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	10.46 kW	10.02 kW
COP Tj = 12°C	5.79	4.40
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	10.27 kW	9.39 kW

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COP Tj = Tbiv 4.95 3.00  Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 10.27 kW 9.39 kW  COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 4.95 3.00  Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 0.99 0.99  WTOL 65 °C 65 °C  Poff 0 W 0 W  PTO 0 W 0 W  PSB 12 W 12 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 2536 kWh 3281 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  0.99  WTOL  65 °C  65 °C  Poff  0 W  0 W  PTO  0 W  12 W  PCK  D W  Supplementary Heater: Type of energy input  Electricity  Electricity  Supplementary Heater: PSUP  0.00 kW  0.00 kW	COP Tj = Tbiv	4.95	3.00
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh WTOL 65 °C 65 °C  Poff 0 W 0 W 0 W  PTO 0 W 0 W  PSB 12 W 12 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.27 kW	9.39 kW
WTOL 65 °C 65 °C  Poff 0 W 0 W  PTO 0 W 0 W  PSB 12 W 12 W  PCK 0 W  Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.95	3.00
Poff 0 W 0 W  PTO 0 W 0 W  PSB 12 W 12 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	0.99	0.99
PTO 0 W 0 W  PSB 12 W 12 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	WTOL	65 °C	65 °C
PSB 12 W 12 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	Poff	o w	0 W
PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	PTO	0 W	0 W
Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 0.00 kW 0.00 kW	PSB	12 W	12 W
Supplementary Heater: PSUP 0.00 kW 0.00 kW	PCK	o w	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 2536 kWh 3281 kWh	Supplementary Heater: PSUP	0.00 kW	0.00 kW
	Annual energy consumption Qhe	2536 kWh	3281 kWh

### Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	46 dB(A)	46 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	206 %	143 %





		NK database on 22 jun 202.
Prated	17.18 kW	15.83 kW
SCOP	5.36	3.78
Tbiv	-7 °C	-7 °C
TOL	-22 °C	-22 °C
Pdh Tj = $-7^{\circ}$ C	10.44 kW	9.78 kW
$COP Tj = -7^{\circ}C$	5.76	3.84
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = $+2$ °C	10.48 kW	9.99 kW
COP Tj = +2°C	6.47	4.37
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = $+7^{\circ}$ C	10.55 kW	10.16 kW
$COPTj = +7^{\circ}C$	6.78	4.84
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	10.55 kW	10.26 kW
COP Tj = 12°C	6.85	5.25
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	10.44 kW	9.78 kW
COP Tj = Tbiv	5.76	3.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.44 kW	9.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.12	3.15
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99



WTOL	65 °C	65 °C
Poff	o w	0 W
РТО	o w	o w
PSB	12 W	12 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.73 kW	6.35 kW
Annual energy consumption Qhe	7907 kWh	10312 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.47	9.65
COP Tj = -15°C (if TOL $<$ -20°C)	6.39	3.51
Cdh Tj = -15 °C	0.99	0.99

## Average Climate

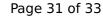
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	46 dB(A)	46 dB(A)	

EN 14825			
		Low temperature	Medium temperature
Pdesignh	11.72 kW		,
$\eta_{s}$	204 %	150 %	





	<u> </u>	THE TIP KLIMAKK
Prated	11.72 kW	10.81 kW
SCOP	5.32	3.97
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.31 kW	9.51 kW
$COP Tj = -7^{\circ}C$	4.99	3.23
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	10.40 kW	9.78 kW
COP Tj = +2°C	5.33	3.84
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	10.48 kW	9.96 kW
$COPTj = +7^{\circ}C$	5.67	4.31
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	10.58 kW	10.15 kW
COP Tj = 12°C	6.02	4.83
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	10.31 kW	9.51 kW
COP Tj = Tbiv	4.99	3.23
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.31 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.96	3.07





Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99	
WTOL	65 °C	65 °C	
Poff	o w	o w	
РТО	o w	o w	
PSB	12 W	12 W	
PCK	o w	o w	
Supplementary Heater: Type of energy input	Electricity	Electricity	
Supplementary Heater: PSUP	1.41 kW	1.39 kW	
Backup Heater	0.00 kW		
Annual energy consumption Qhe	4554 kWh	5630 kWh	

Domestic Hot Water (DHW)

Warmer Climate



EN 16147		
Declared load profile	XL	
Efficiency ηDHW	130 %	
СОР	3.11	
Heating up time	1:14 h:min	
Standby power input	63.0 W	
Reference hot water temperature	54.2 °C	
Mixed water at 40°C	302 I	

### Colder Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	130 %	
СОР	3.11	
Heating up time	1:14 h:min	
Standby power input	63.0 W	
Reference hot water temperature	54.2 °C	
Mixed water at 40°C	302 I	

## Average Climate



EN 16147		
Declared load profile	XL	
Efficiency ηDHW	130 %	
СОР	3.11	
Heating up time	1:14 h:min	
Standby power input	63.0 W	
Reference hot water temperature	54.2 °C	
Mixed water at 40°C	302 I	