

Login

Summary of	HA 3-5 OS 230V / HA 5-5 OS 230V	Reg. No.	40049297	
Certificate H	Certificate Holder			
Name	Saunier Duval Brand Group			
Address	Zip			
City		Country	Germany	
Certification Body	VDE Prüf- und Zertifizierungsinstitut GmbH			
Subtype title	HA 3-5 OS 230V / HA 5-5 OS 230V			
Heat Pump Type	Outdoor Air/Water			
Refrigerant	R410A			
Mass of Refrigerant	1.5 kg			
Certification Date	29.04.2021			
Testing basis	DIN EN 14511-1:2019-07; EN 14511-1:2018; DIN EN 14511-2:2019-07; EN 14511-2:2018; DIN EN 14511-3:2019-07; EN 14511-3:2018; DIN EN 14511-4:2019-07; EN 14511-4:2018; DIN EN 14825:2019-07; EN 14825:2018; DIN EN 12102-1:2018-02; EN 12102-1:2017			



Model: HA 3-5 OS 230V + HA 5-5 WSB

Configure model		
Model name	HA 3-5 OS 230V + HA 5-5 WSB	
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 14511-4		
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed	
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	

EN 14511-2			
Low temperature Medium temperature			
Heat output	3.13 kW	2.73 kW	
El input	0.64 kW	1.05 kW	
СОР	4.89	2.62	

Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	41 dB(A)	41 dB(A)	
Sound power level outdoor	51 dB(A)	53 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{s}	253 %	156 %
Prated	3.76 kW	3.31 kW
SCOP	6.41	3.98
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.76 kW	3.31 kW
COP Tj = +2°C	3.69	2.24
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	2.25 kW	2.06 kW
COP Tj = +7°C	5.81	3.36
Cdh Tj = +7 °C	0.970	0.980
Pdh Tj = 12°C	2.70 kW	2.41 kW
COP Tj = 12°C	8.08	5.31
Cdh Tj = +12 °C	0.970	0.980





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Pdh Tj = Tbiv	3.76 kW	3.31 kW	
COP Tj = Tbiv	3.69	2.24	
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.76 kW	3.31 kW	
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.69	2.24	
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	0.990	
WTOL	55 °C	55 °C	
Poff	11 W	11 W	
PTO	11 W	11 W	
PSB	11 W	11 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	783 kWh	1111 kWh	

Colder Climate

EN 12102-1			
Low temperature Medium temperature			
Sound power level indoor	41 dB(A)	41 dB(A)	
Sound power level outdoor	51 dB(A)	53 dB(A)	



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	Low temperature	Medium temperature
η_{S}	155 %	107 %
Prated	3.91 kW	2.82 kW
SCOP	3.96	2.76
Tbiv	-13 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.36 kW	1.78 kW
$COP Tj = -7^{\circ}C$	3.44	2.32
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = $+2$ °C	1.96 kW	1.70 kW
$COP Tj = +2^{\circ}C$	4.80	3.54
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = $+7$ °C	2.34 kW	2.09 kW
$COP Tj = +7^{\circ}C$	6.54	4.79
Cdh Tj = +7 °C	0.970	0.980
Pdh Tj = 12°C	2.68 kW	2.43 kW
COP Tj = 12°C	8.00	6.07
Cdh Tj = +12 °C	0.970	0.970
Pdh Tj = Tbiv	2.99 kW	2.30 kW
COP Tj = Tbiv	2.80	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL $<$ Tdesignh	2.22 kW	2.30 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	0.990
WTOL	55 °C	55 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.91 kW	2.82 kW
Annual energy consumption Qhe	2439 kWh	2517 kWh
Pdh Tj = -15°C (if TOL<-20°C)	2.22	2.30
COP Tj = -15°C (if TOL $<$ -20°C)	2.17	1.72
Cdh Tj = -15 °C	0.990	0.990

Average Climate

EN 12102-1			
Low temperature Medium temperature			
Sound power level indoor	41 dB(A)	41 dB(A)	
Sound power level outdoor	51 dB(A)	53 dB(A)	





3	Low temperature	Medium temperature
η_{s}	185 %	130 %
Prated	4.00 kW	3.51 kW
SCOP	4.70	3.33
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	3.54 kW	3.10 kW
$COP Tj = -7^{\circ}C$	3.19	2.08
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = $+2$ °C	2.18 kW	2.04 kW
$COPTj = +2^{\circ}C$	4.50	3.26
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = $+7^{\circ}$ C	2.32 kW	2.02 kW
$COP Tj = +7^{\circ}C$	6.15	4.36
Cdh Tj = +7 °C	0.970	0.980
Pdh Tj = 12°C	2.74 kW	2.44 kW
COP Tj = 12°C	8.42	5.86
Cdh Tj = +12 °C	0.970	0.980
Pdh Tj = Tbiv	3.54 kW	3.10 kW
COP Tj = Tbiv	3.19	2.08
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.24 kW	2.75 kW
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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	0.990
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.76 kW	0.76 kW
Annual energy consumption Qhe	1758 kWh	2177 kWh



Model: HA 3-5 OS 230V + HA 5-5 STB

Configure model		
Model name	HA 3-5 OS 230V + HA 5-5 STB	
Application	Heating + DHW + low 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 14511-4		
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed	
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	

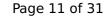
EN 14511-2		
	Low temperature	Medium temperature
Heat output	3.13 kW	2.73 kW
El input	0.64 kW	1.05 kW
СОР	4.89	2.62

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	51 dB(A)	53 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	253 %	156 %
Prated	3.76 kW	3.31 kW
SCOP	6.41	3.98
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.76 kW	3.31 kW
COP Tj = +2°C	3.69	2.24
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = $+7^{\circ}$ C	2.25 kW	2.06 kW
$COP Tj = +7^{\circ}C$	5.81	3.36
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.70 kW	2.41 kW
COP Tj = 12°C	8.08	5.31
Cdh Tj = +12 °C	0.97	0.98





3.76 kW	3.31 kW
3.69	2.24
3.76 kW	3.31 kW
3.69	2.24
0.99	0.99
55 °C	55 °C
11 W	11 W
11 W	11 W
11 W	11 W
o w	0 W
Electricity	Electricity
0.00 kW	0.00 kW
783 kWh	1111 kWh
	3.69 3.76 kW 3.69 0.99 55 °C 11 W 11 W 11 W 0 W Electricity 0.00 kW

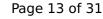
Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	51 dB(A)	53 dB(A)



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	Low temperature	Medium temperature
η_{S}	155 %	107 %
Prated	3.91 kW	2.82 kW
SCOP	3.96	2.76
Tbiv	-13 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7 °C	2.36 kW	1.78 kW
COP Tj = -7° C	3.44	2.32
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = $+2$ °C	1.96 kW	1.70 kW
$COP Tj = +2^{\circ}C$	4.80	3.54
Cdh Tj = $+2$ °C	0.980	0.980
Pdh Tj = $+7$ °C	2.34 kW	2.09 kW
$COP Tj = +7^{\circ}C$	6.54	4.79
Cdh Tj = $+7$ °C	0.970	0.980
Pdh Tj = 12°C	2.68 kW	2.43 kW
COP Tj = 12°C	8.00	6.07
Cdh Tj = +12 °C	0.970	0.970
Pdh Tj = Tbiv	2.99 kW	2.30 kW
COP Tj = Tbiv	2.80	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.22 kW	2.30 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	0.990
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.91 kW	2.82 kW
Annual energy consumption Qhe	2439 kWh	2517 kWh
Pdh Tj = -15°C (if TOL<-20°C)	2.22	2.30
COP Tj = -15°C (if TOL $<$ -20°C)	2.17	1.72
Cdh Tj = -15 °C	0.990	0.990

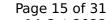
Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	51 dB(A)	53 dB(A)



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	Low temperature	Medium temperature
η_{S}	185 %	130 %
Prated	4.00 kW	3.51 kW
SCOP	4.70	3.33
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7 °C	3.54 kW	3.10 kW
COP Tj = -7 °C	3.19	2.08
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = $+2$ °C	2.18 kW	2.04 kW
$COPTj = +2^{\circ}C$	4.50	3.26
Cdh Tj = $+2$ °C	0.980	0.980
Pdh Tj = $+7$ °C	2.32 kW	2.02 kW
$COP Tj = +7^{\circ}C$	6.15	4.36
Cdh Tj = $+7$ °C	0.970	0.980
Pdh Tj = 12°C	2.74 kW	2.44 kW
COP Tj = 12°C	8.42	5.86
Cdh Tj = +12 °C	0.970	0.980
Pdh Tj = Tbiv	3.54 kW	3.10 kW
COP Tj = Tbiv	3.19	2.08
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.24 kW	2.75 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	1.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	0.990
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.76 kW	0.76 kW
Annual energy consumption Qhe	1758 kWh	2177 kWh

Domestic Hot Water (DHW)

Warmer Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	120 %	
СОР	2.88	
Heating up time	02:06 h:min	
Standby power input	80.0 W	
Reference hot water temperature	50.5 °C	
Mixed water at 40°C	242 I	



Colder Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	106 %	
СОР	2.55	
Heating up time	03:00 h:min	
Standby power input	80.0 W	
Reference hot water temperature	46.9 °C	
Mixed water at 40°C	246 I	

Average Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	102 %	
СОР	2.45	
Heating up time	02:32 h:min	
Standby power input	80.0 W	
Reference hot water temperature	50.7 °C	
Mixed water at 40°C	246	



Model: HA 5-5 OS 230V + HA 5-5 WSB

Configure model		
Model name	HA 5-5 OS 230V + HA 5-5 WSB	
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 14511-4	
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Operacing range outdoor exchanger/indoor exchanger lower inflictiower infliction	passed
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed

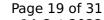
EN 14511-2		
	Low temperature	Medium temperature
Heat output	4.42 kW	3.69 kW
El input	0.95 kW	1.38 kW
СОР	4.68	2.67

Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	53 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	253 %	156 %
Prated	3.76 kW	3.30 kW
SCOP	6.41	3.98
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.76 kW	3.30 kW
COP Tj = +2°C	3.69	2.24
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = $+7^{\circ}$ C	2.25 kW	2.06 kW
$COP Tj = +7^{\circ}C$	5.81	3.36
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.70 kW	2.41 kW
COP Tj = 12°C	8.08	5.31
Cdh Tj = +12 °C	0.97	0.98





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Pdh Tj = Tbiv	3.76 kW	3.30 kW	
COP Tj = Tbiv	3.69	2.24	
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.76 kW	3.30 kW	
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.69	2.24	
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99	
WTOL	55 °C	55 °C	
Poff	11 W	11 W	
РТО	11 W	11 W	
PSB	11 W	11 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	783 kWh	1108 kWh	

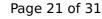
Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	41 dB(A)	41 dB(A)	
Sound power level outdoor	53 dB(A)	54 dB(A)	





	Low temperature	Medium temperature
η_{s}	158 %	110 %
Prated	5.19 kW	4.00 kW
SCOP	4.02	2.83
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.96 kW	2.44 kW
COP Tj = -7°C	3.41	2.42
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	1.97 kW	1.72 kW
COP Tj = +2°C	4.87	3.56
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = +7°C	2.36 kW	2.11 kW
$COP Tj = +7^{\circ}C$	6.57	4.89
Cdh Tj = +7 °C	0.970	0.980
Pdh Tj = 12°C	2.68 kW	2.52 kW
COP Tj = 12°C	8.00	6.71
Cdh Tj = +12 °C	0.970	0.970
Pdh Tj = Tbiv	4.24 kW	3.26 kW
COP Tj = Tbiv	2.42	1.68
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.30 kW	3.26 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.11	1.68
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	0.990
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.19 kW	4.00 kW
Annual energy consumption Qhe	3182 kWh	3485 kWh
Pdh Tj = -15°C (if TOL<-20°C)	3.30	3.26
COP Tj = -15°C (if TOL $<$ -20°C)	2.11	1.68
Cdh Tj = -15 °C	0.990	0.990

Average Climate

EN 12102-1			
Low temperature Medium temperature			
Sound power level indoor	41 dB(A)	41 dB(A)	
Sound power level outdoor	53 dB(A)	54 dB(A)	



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This information was generated by the HP KEYMARK database on 14 Oct 2022

	Low temperature	Medium temperature
η_{s}	175 %	135 %
Prated	5.22 kW	5.24 kW
SCOP	4.44	3.46
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.83 kW	4.33 kW
COP Tj = -7°C	2.71	2.00
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = $+2$ °C	2.67 kW	2.57 kW
COP Tj = +2°C	4.26	3.36
Cdh Tj = +2 °C	0.980	0.990
Pdh Tj = +7°C	2.30 kW	2.09 kW
COP Tj = +7°C	6.06	4.67
Cdh Tj = +7 °C	0.970	0.980
Pdh Tj = 12°C	2.71 kW	2.52 kW
COP Tj = 12°C	8.39	6.41
Cdh Tj = +12 °C	0.970	0.970
Pdh Tj = Tbiv	4.61 kW	4.63 kW
COP Tj = Tbiv	2.64	2.07
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.90 kW	3.72 kW



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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	0.990
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.32 kW	1.50 kW
Annual energy consumption Qhe	2427 kWh	3129 kWh



Model: HA 5-5 OS 230V + HA 5-5 STB

Configure model		
Model name	HA 5-5 OS 230V + HA 5-5 STB	
Application	Heating + DHW + low 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 14511-4		
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed	
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	

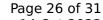
EN 14511-2			
Low temperature Medium temperature			
Heat output	4.42 kW	3.69 kW	
El input	0.95 kW	1.38 kW	
СОР	4.68	2.67	

Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	43 dB(A)	43 dB(A)	
Sound power level outdoor	53 dB(A)	54 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{s}	253 %	156 %
Prated	3.76 kW	3.30 kW
SCOP	6.41	3.98
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = $+2$ °C	3.76 kW	3.30 kW
COP Tj = +2°C	3.69	2.24
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = $+7^{\circ}$ C	2.25 kW	2.06 kW
COP Tj = +7°C	5.81	3.36
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.70 kW	2.41 kW
COP Tj = 12°C	8.08	5.31
Cdh Tj = +12 °C	0.97	0.98

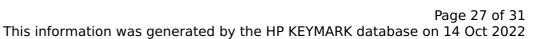




This information was generated by the Till RETPIANT database on 14 oct 202			
Pdh Tj = Tbiv	3.76 kW	3.30 kW	
COP Tj = Tbiv	3.69	2.24	
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.76 kW	3.30 kW	
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.69	2.24	
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99	
WTOL	55 °C	55 °C	
Poff	11 W	11 W	
РТО	11 W	11 W	
PSB	11 W	11 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	783 kWh	1108 kWh	

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)
Sound power level outdoor	53 dB(A)	54 dB(A)





	Low temperature	Medium temperature
η_{s}	158 %	110 %
Prated	5.19 kW	4.00 kW
SCOP	4.02	2.83
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	2.96 kW	2.44 kW
COP Tj = -7°C	3.41	2.42
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	1.97 kW	1.72 kW
COP Tj = +2°C	4.87	3.56
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = +7°C	2.36 kW	2.11 kW
$COP Tj = +7^{\circ}C$	6.57	4.89
Cdh Tj = +7 °C	0.970	0.980
Pdh Tj = 12°C	2.68 kW	2.52 kW
COP Tj = 12°C	8.00	6.71
Cdh Tj = +12 °C	0.970	0.970
Pdh Tj = Tbiv	4.24 kW	3.26 kW
COP Tj = Tbiv	2.42	1.68
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.30 kW	3.26 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.11	1.68
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	0.990
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.19 kW	4.00 kW
Annual energy consumption Qhe	3182 kWh	3485 kWh
Pdh Tj = -15°C (if TOL<-20°C)	3.30	3.26

Average Climate

Cdh Tj = -15 $^{\circ}$ C

COP Tj = -15°C (if TOL<-20°C)

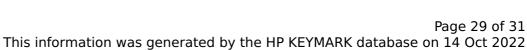
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	43 dB(A)	43 dB(A)	
Sound power level outdoor	53 dB(A)	54 dB(A)	

2.11

0.990

1.68

0.990





	Low temperature	Medium temperature
η_{S}	175 %	135 %
Prated	5.22 kW	5.24 kW
SCOP	4.44	3.46
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7° C	4.83 kW	4.33 kW
$COPTj = -7^{\circ}C$	2.71	2.00
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = $+2$ °C	2.67 kW	2.57 kW
$COPTj = +2^{\circ}C$	4.26	3.36
Cdh Tj = +2 °C	0.980	0.990
Pdh Tj = $+7$ °C	2.30 kW	2.09 kW
$COPTj = +7^{\circ}C$	6.06	4.67
Cdh Tj = +7 °C	0.970	0.980
Pdh Tj = 12°C	2.71 kW	2.52 kW
COP Tj = 12°C	8.39	6.41
Cdh Tj = +12 °C	0.970	0.970
Pdh Tj = Tbiv	4.61 kW	4.63 kW
COP Tj = Tbiv	2.64	2.07
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.90 kW	3.72 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.59	1.81
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	0.990
WTOL	55 °C	55 °C
Poff	11 W	11 W
РТО	11 W	11 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity

0.32 kW

2427 kWh

1.54 kW

3129 kWh

Domestic Hot Water (DHW)

Warmer Climate

Supplementary Heater: PSUP

Annual energy consumption Qhe

EN 16147		
Declared load profile	L	
Efficiency ηDHW	120 %	
СОР	2.88	
Heating up time	02:06 h:min	
Standby power input	80.0 W	
Reference hot water temperature	50.5 °C	
Mixed water at 40°C	242	

Colder Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	106 %	
СОР	2.55	
Heating up time	03:00 h:min	
Standby power input	80.0 W	
Reference hot water temperature	46.9 °C	
Mixed water at 40°C	246	

Average Climate

EN 16147		
Declared load profile	L	
Efficiency ηDHW	1.02 %	
СОР	2.45	
Heating up time	02:32 h:min	
Standby power input	80.0 W	
Reference hot water temperature	50.7 °C	
Mixed water at 40°C	246 I	