

#### Page 1 of 40

#### This information was generated by the HP KEYMARK database on 18 Mar 2022

#### <u>Login</u>

Summary of	Ecodan Power Inverter 5-200D Packaged	Reg. No.	037-0032-20	
Certificate Holder				
Name	Mitsubishi Electric Air Conditioning Systems Europe LTD			
Address	Nettlehill Road, Houston Industrial Estate	Zip	EH54 5EQ	
City	Livingston	Country	United Kingdom	
Certification Body	SZU - Strojirensky zkusebni ustav (Engineering Test Institute, Public Enterprise)			
Subtype title	Ecodan Power Inverter 5-200D Packaged			
Heat Pump Type	Outdoor Air/Water			
Refrigerant	R32			
Mass of Refrigerant	2 kg			
Certification Date	22.06.2020			
Testing basis	HP Keymark scheme rules rev. no. 6			

# Model: PUZ-WM50VHA(-BS) + EHPT20X-M\*D

Configure model		
Model name	PUZ-WM50VHA(-BS) + EHPT20X-M*D	
Application	Heating + DHW + low temp	
Units	Indoor + Outdoor	
Climate Zone	Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	1x230V 50Hz	

## Heating

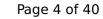
EN 14511-2			
	Low temperature	Medium temperature	
Heat output	5.00 kW	5.00 kW	
El input	1.00 kW	1.62 kW	
СОР	5.00	3.08	

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



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	61 dB(A)	61 dB(A)	

EN 14825			
	Low temperature	Medium temperature	
$\eta_{s}$	183 %	129 %	
Prated	5.00 kW	5.00 kW	
SCOP	4.66	3.31	
Tbiv	-7 °C	-7 °C	
TOL	-20 °C	-20 °C	
Pdh Tj = -7°C	4.40 kW	4.40 kW	
COP Tj = -7°C	3.17	2.04	
Cdh Tj = -7 °C	0.990	0.990	
Pdh Tj = $+2$ °C	2.70 kW	2.70 kW	
COP Tj = +2°C	4.47	3.23	
Cdh Tj = +2 °C	0.980	0.980	
Pdh Tj = +7°C	1.90 kW	1.70 kW	
COP Tj = +7°C	6.55	4.47	
Cdh Tj = +7 °C	0.950	0.960	





Pdh Tj = 12°C	1.80 kW	1.80 kW
COP Tj = 12°C	8.57	6.67
Cdh Tj = +12 °C	0.930	0.940
Pdh Tj = Tbiv	4.40 kW	4.40 kW
COP Tj = Tbiv	3.17	2.04
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.19 kW	4.19 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.84	1.97
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	15 W	15 W
РТО	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.81 kW	0.81 kW
Annual energy consumption Qhe	2216 kWh	3122 kWh



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	40 dB(A)	40 dB(A)	
Sound power level outdoor	61 dB(A)	61 dB(A)	

EN 14825			
	Low temperature	Medium temperature	
$\eta_{s}$	226 %	157 %	
Prated	5.00 kW	5.00 kW	
SCOP	5.73	4.00	
Tbiv	2 °C	2 °C	
TOL	-20 °C	-20 °C	
Pdh Tj = +2°C	5.00 kW	5.00 kW	
COP Tj = +2°C	3.70	1.98	
Cdh Tj = +2 °C	0.990	0.990	
Pdh Tj = +7°C	3.20 kW	3.20 kW	
COP Tj = +7°C	5.10	3.40	
Cdh Tj = +7 °C	0.980	0.980	
Pdh Tj = 12°C	1.90 kW	1.80 kW	
COP Tj = 12°C	7.98	5.81	
Cdh Tj = +12 °C	0.940	0.950	





Pdh Tj = Tbiv	5.00 kW	5.00 kW
COP Tj = Tbiv	3.70	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.00 kW	5.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.70	1.98
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	15 W	15 W
РТО	15 W	15 W
PSB	15 W	15 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	1166 kWh	1671 kWh

Domestic Hot Water (DHW)



EN 16147		
Declared load profile	L	
Efficiency ηDHW	135 %	
СОР	3.19	
Heating up time	2:19 h:min	
Standby power input	37.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	278	

EN 16147		
Declared load profile	L	
Efficiency ηDHW	154 %	
СОР	3.62	
Heating up time	2:49 h:min	
Standby power input	34.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	278 I	



# Model: PUZ-WM50VHA(-BS) + EHPT20X-\*M\*D

Configure model		
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Application Heating + DHW + low temp		
Units Indoor + Outdoor		
Climate Zone Warmer Climate		
Reversibility No		
Cooling mode application (optional) n/a		

General Data		
Power supply	1x230V 50Hz	

## Heating

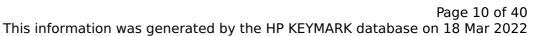
EN 14511-2		
	Low temperature	Medium temperature
Heat output	5.00 kW	5.00 kW
El input	1.00 kW	1.62 kW
СОР	5.00	3.08

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



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	Low temperature	Medium temperature
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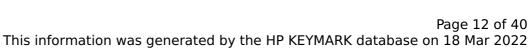


Pdh Tj = 12°C	1.80 kW	1.80 kW
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PTO	15 W	15 W
PSB	15 W	15 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.81 kW	0.81 kW
Annual energy consumption Qhe	2216 kWh	3122 kWh



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	Low temperature	Medium temperature
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Pdh Tj = 12°C	1.90 kW	1.80 kW
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This information was generated by the Till RETPIARIX database on 10 Mail 20.			
Pdh Tj = Tbiv	5.00 kW	5.00 kW	
COP Tj = Tbiv	3.70	1.98	
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.00 kW	5.00 kW	
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.70	1.98	
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh			
WTOL	60 °C	60 °C	
Poff	15 W	15 W	
PTO	15 W	15 W	
PSB	15 W	15 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	1166 kWh	1671 kWh	

## Domestic Hot Water (DHW)

CEN heat pump KEYMARK



EN 16147		
Declared load profile	L	
Efficiency ηDHW	135 %	
СОР	3.19	
Heating up time	2:19 h:min	
Standby power input	37.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	278	

EN 16147		
Declared load profile	L	
Efficiency ηDHW	154 %	
СОР	3.62	
Heating up time	2:49 h:min	
Standby power input	34.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	278	

# Model: PUZ-WM50VHA(-BS) + ERPT20X-\*M\*D

Configure model		
Model name PUZ-WM50VHA(-BS) + ERPT20X-*M*D		
Application Heating + DHW + low temp		
Units	Indoor + Outdoor	
Climate Zone Warmer Climate		
Reversibility	Yes	
Cooling mode application (optional)	n/a	

General Data		
Power supply	1x230V 50Hz	

## Heating

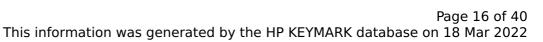
EN 14511-2		
	Low temperature	Medium temperature
Heat output	5.00 kW	5.00 kW
El input	1.00 kW	1.62 kW
СОР	5.00	3.08

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



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	190 %	133 %
Prated	5.00 kW	5.00 kW
SCOP	4.83	3.40
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.40 kW	4.40 kW
COP Tj = -7°C	3.17	2.04
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.70 kW	2.70 kW
COP Tj = +2°C	4.56	3.29
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = +7°C	1.90 kW	1.70 kW
COP Tj = +7°C	6.55	4.47
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$\bigcirc$	
	CEN heat pump
13	KEYMARK

Pdh Tj = 12°C	1.80 kW	1.80 kW
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Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	15 W	15 W
РТО	15 W	15 W
PSB	15 W	15 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.81 kW	0.81 kW
Annual energy consumption Qhe	2139 kWh	3038 kWh



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	237 %	162 %
Prated	5.00 kW	5.00 kW
SCOP	6.00	4.13
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	5.00 kW	5.00 kW
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Pdh Tj = +7°C	3.20 kW	3.20 kW
COP Tj = +7°C	4.96	3.35
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5.00 kW	5.00 kW
3.70	1.98
5.00 kW	5.00 kW
3.70	1.98
60 °C	60 °C
15 W	15 W
15 W	15 W
15 W	15 W
0 W	o w
Electricity	Electricity
0.00 kW	0.00 kW
1112 kWh	1616 kWh
	3.70 5.00 kW 3.70 60 °C 15 W 15 W 0 W Electricity 0.00 kW

## Domestic Hot Water (DHW)

CEN heat pump KEYMARK



EN 16147		
Declared load profile	L	
Efficiency ηDHW	135 %	
СОР	3.19	
Heating up time	2:19 h:min	
Standby power input	37.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	278	

EN 16147		
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# Model: PUZ-WM50VHA(-BS) + ERPT20X-M\*D

Configure model		
Model name PUZ-WM50VHA(-BS) + ERPT20X-M*D		
Application	Heating + DHW + low temp	
Units	Indoor + Outdoor	
Climate Zone 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	5.00 kW	5.00 kW	
El input	1.00 kW	1.62 kW	
СОР	5.00	3.08	

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



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
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EN 14825		
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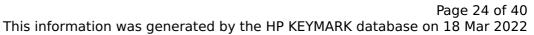


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WTOL	60 °C	60 °C
Poff	15 W	15 W
РТО	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.81 kW	0.81 kW
Annual energy consumption Qhe	2139 kWh	3038 kWh



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Supplementary Heater: Type of energy input	Electricity	Electricity
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## Domestic Hot Water (DHW)



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# Model: PUZ-WM50VHA(-BS) + EHPX-M\*D

Configure model		
Model name	PUZ-WM50VHA(-BS) + EHPX-M*D	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	1x230V 50Hz	

## Heating

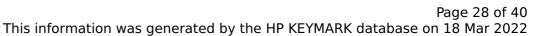
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	Low temperature	Medium temperature
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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.84	1.97
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	15 W	15 W
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PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.81 kW	0.81 kW
Annual energy consumption Qhe	2216 kWh	3122 kWh



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	226 %	157 %
Prated	5.00 kW	5.00 kW
SCOP	5.73	4.00
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	5.00 kW	5.00 kW
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Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	3.20 kW	3.20 kW
$COP Tj = +7^{\circ}C$	5.10	3.40
Cdh Tj = +7 °C	0.980	0.980
Pdh Tj = 12°C	1.90 kW	1.80 kW
COP Tj = 12°C	7.98	5.81
Cdh Tj = +12 °C	0.940	0.950



Annual energy consumption Qhe

Page 30 of 40

1671 kWh

#### This information was generated by the HP KEYMARK database on 18 Mar 2022 Pdh Tj = Tbiv5.00 kW 5.00 kW COP Tj = Tbiv 3.70 1.98 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 5.00 kW 5.00 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 1.98 3.70 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh WTOL 60 °C 60 °C Poff 15 W 15 W PTO 15 W 15 W **PSB** 15 W 15 W **PCK** 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW

1166 kWh



# Model: PUZ-WM50VHA(-BS) + EHPX-\*M\*D

Configure model		
Model name	PUZ-WM50VHA(-BS) + EHPX-*M*D	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply 1x230V 50Hz		

## Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	5.00 kW	5.00 kW
El input	1.00 kW	1.62 kW
СОР	5.00	3.08

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



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

Low temperature 183 %	Medium temperature 129 %
	129 %
E 00 LW	T. Control of the con
5.00 kW	5.00 kW
4.66	3.31
-7 °C	-7 °C
-20 °C	-20 °C
4.40 kW	4.40 kW
3.17	2.04
0.990	0.990
2.70 kW	2.70 kW
4.47	3.23
0.980	0.980
1.90 kW	1.70 kW
6.55	4.47
0.950	0.960
	-7 °C  -20 °C  4.40 kW  3.17  0.990  2.70 kW  4.47  0.980  1.90 kW  6.55



Page 33 of 40

#### This information was generated by the HP KEYMARK database on 18 Mar 2022

Pdh Tj = 12°C	1.80 kW	1.80 kW
COP Tj = 12°C	8.57	6.67
Cdh Tj = +12 °C	0.930	0.940
Pdh Tj = Tbiv	4.40 kW	4.40 kW
COP Tj = Tbiv	3.17	2.04
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.19 kW	4.19 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.84	1.97
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	15 W	15 W
РТО	15 W	15 W
PSB	15 W	15 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.81 kW	0.81 kW
Annual energy consumption Qhe	2216 kWh	3122 kWh



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	226 %	157 %
Prated	5.00 kW	5.00 kW
SCOP	5.73	4.00
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	5.00 kW	5.00 kW
COP Tj = +2°C	3.70	1.98
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	3.20 kW	3.20 kW
$COP Tj = +7^{\circ}C$	5.10	3.40
Cdh Tj = +7 °C	0.980	0.980
Pdh Tj = 12°C	1.90 kW	1.80 kW
COP Tj = 12°C	7.98	5.81
Cdh Tj = +12 °C	0.940	0.950



Pdh Tj = Tbiv	5.00 kW	5.00 kW
COP Tj = Tbiv	3.70	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.00 kW	5.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.70	1.98
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	15 W	15 W
РТО	15 W	15 W
PSB	15 W	15 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	1166 kWh	1671 kWh



# Model: PUZ-WM50VHA(-BS)

Configure model		
Model name	PUZ-WM50VHA(-BS)	
Application	Heating (medium temp)	
Units	Outdoor	
Climate Zone	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	5.00 kW	5.00 kW
El input	1.00 kW	1.62 kW
СОР	5.00	3.08

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



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	190 %	133 %
Prated	5.00 kW	5.00 kW
SCOP	4.83	3.40
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.40 kW	4.40 kW
COP Tj = -7°C	3.17	2.04
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	2.70 kW	2.70 kW
COP Tj = +2°C	4.56	3.29
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = +7°C	1.90 kW	1.70 kW
COP Tj = +7°C	6.55	4.47
Cdh Tj = +7 °C	0.950	0.960



Page 38 of 40

#### This information was generated by the HP KEYMARK database on 18 Mar 2022

Pdh Tj = 12°C	1.80 kW	1.80 kW
COP Tj = 12°C	8.57	6.67
Cdh Tj = +12 °C	0.930	0.940
Pdh Tj = Tbiv	4.40 kW	4.40 kW
COP Tj = Tbiv	3.17	2.04
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.19 kW	4.19 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.84	1.97
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	15 W	15 W
РТО	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.81 kW	0.81 kW
Annual energy consumption Qhe	2139 kWh	3038 kWh



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	237 %	162 %
Prated	5.00 kW	5.00 kW
SCOP	6.00	4.13
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	5.00 kW	5.00 kW
COP Tj = +2°C	3.68	1.98
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	3.20 kW	3.20 kW
COP Tj = +7°C	4.96	3.35
Cdh Tj = +7 °C	0.980	0.980
Pdh Tj = 12°C	1.90 kW	1.80 kW
COP Tj = 12°C	8.00	5.81
Cdh Tj = +12 °C	0.940	0.950



#### Page 40 of 40

#### This information was generated by the HP KEYMARK database on 18 Mar 2022

Pdh Tj = Tbiv	5.00 kW	5.00 kW
COP Tj = Tbiv	3.70	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.00 kW	5.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.70	1.98
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	15 W	15 W
РТО	15 W	15 W
PSB	15 W	15 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	1112 kWh	1616 kWh