

#### Page 1 of 49

#### This information was generated by the HP KEYMARK database on 17 Dec 2020

Summary of	Ecodan Zubadan 10/12-300D AA	Reg. No.	037-0027-20
Certificate Holder	Certificate Holder		
Name	Mitsubishi Electric Air Conditioning Systems Euro	pe 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)		
Name of testing laboratory	Heat Pump Test Center WPZ		
Subtype title	Ecodan Zubadan 10/12-300D AA		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R32		
Mass Of Refrigerant	1.7 kg		
Certification Date	06.10.2020		
Testing basis	HP Keymark scheme rules rev. no. 6		



# Model: PUD-SHWM100VAA(-BS) + E\*ST30D-M\*D

General Data	
Power supply	1x230V 50Hz

# Heating

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	8.00 kW	8.00 kW	
El input	1.60 kW	3.08 kW	
СОР	5.00	2.60	
Indoor water flow rate	1.37 m³/h	0.86 m³/h	

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

## **Average Climate**



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	180 %	136 %
Prated	10.00 kW	10.00 kW
SCOP	4.56	3.48
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	8.90 kW	8.90 kW
COP Tj = -7°C	3.16	2.18
Cdh	1.00	1.00
Pdh Tj = +2°C	5.70 kW	5.40 kW
COP Tj = +2°C	4.52	3.29
Cdh	0.99	0.99
Pdh Tj = +7°C	5.40 kW	5.20 kW
COP Tj = +7°C	5.63	4.81
Cdh	0.98	0.99

EHPA Secretariat | Rue dArlon 63-67 | Phone: +32 2 400 10 17 | Email: secretariat@heatpumpkeymark.com | www.heatpumpkeymark.com





Pdh Tj = 12°C	4.50 kW	3.60 kW
COP Tj = 12°C	7.89	7.06
Cdh	0.97	0.97
Pdh Tj = Tbiv	10.00 kW	10.00 kW
COP Tj = Tbiv	2.92	1.91
Pdh Tj = TOL	7.70 kW	7.70 kW
COP Tj = TOL	1.57	1.57
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	4430 kWh	5836 kWh

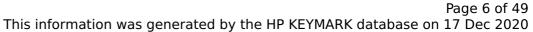
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)





#### EN 14825

	Low temperature	Medium temperature
$\eta_{s}$	235 %	136 %
Prated	10.00 kW	10.00 kW
SCOP	5.95	4.14
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	10.00 kW	10.00 kW
COP Tj = +2°C	3.45	2.05
Cdh	1.00	1.00
Pdh Tj = +7°C	6.40 kW	6.40 kW
COP Tj = +7°C	5.42	3.48
Cdh	0.99	0.99
Pdh Tj = 12°C	4.40 kW	4.20 kW
COP Tj = 12°C	7.46	5.68
Cdh	0.98	0.98
Pdh Tj = Tbiv	10.00 kW	10.00 kW
COP Tj = Tbiv	3.45	2.05
Pdh Tj = TOL	7.70 kW	7.70 kW
COP Tj = TOL	1.57	1.57
WTOL	60 °C	60 °C





Poff	15 W	15 W
РТО	15 W	15 W
PSB	15 W	15 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	2191 kWh	3169 kWh

## Domestic Hot Water (DHW)

## **Average Climate**

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	121 %	
СОР	2.93	
Heating up time	2:25 h:min	
Standby power input	39.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	417	





EN 16147		
Declared load profile	XL	
Efficiency ηDHW	145 %	
СОР	3.49	
Heating up time	2:38 h:min	
Standby power input	38.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	417	



# Model: PUD-SHWM100VAA(-BS) + E\*ST30D-\*M\*D

General Data	
Power supply	1x230V 50Hz

# Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	8.00 kW	8.00 kW
El input	1.60 kW	3.08 kW
СОР	5.00	2.60
Indoor water flow rate	1.37 m³/h	0.86 m³/h

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

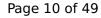
### **Average Climate**



	EN 12102-1	
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	180 %	136 %
Prated	10.00 kW	10.00 kW
SCOP	4.56	3.48
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	8.90 kW	8.90 kW
COP Tj = -7°C	3.16	2.18
Cdh	1.00	1.00
Pdh Tj = +2°C	5.70 kW	5.40 kW
COP Tj = +2°C	4.52	3.29
Cdh	0.99	0.99
Pdh Tj = +7°C	5.40 kW	5.20 kW
COP Tj = +7°C	5.63	4.81
Cdh	0.98	0.99

EHPA Secretariat | Rue dArlon 63-67 | Phone: +32 2 400 10 17 | Email: secretariat@heatpumpkeymark.com | www.heatpumpkeymark.com





Pdh Tj = 12°C	4.50 kW	3.60 kW
COP Tj = 12°C	7.89	7.06
Cdh	0.97	0.97
Pdh Tj = Tbiv	10.00 kW	10.00 kW
COP Tj = Tbiv	2.92	1.91
Pdh Tj = TOL	7.70 kW	7.70 kW
COP Tj = TOL	1.57	1.57
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	4430 kWh	5836 kWh

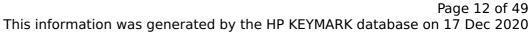
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)





#### EN 14825

	Low temperature	Medium temperature
$\eta_{s}$	235 %	136 %
Prated	10.00 kW	10.00 kW
SCOP	5.95	4.14
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	10.00 kW	10.00 kW
COP Tj = +2°C	3.45	2.05
Cdh	1.00	1.00
Pdh Tj = +7°C	6.40 kW	6.40 kW
COP Tj = +7°C	5.42	3.48
Cdh	0.99	0.99
Pdh Tj = 12°C	4.40 kW	4.20 kW
COP Tj = 12°C	7.46	5.68
Cdh	0.98	0.98
Pdh Tj = Tbiv	10.00 kW	10.00 kW
COP Tj = Tbiv	3.45	2.05
Pdh Tj = TOL	7.70 kW	7.70 kW
COP Tj = TOL	1.57	1.57
WTOL	60 °C	60 °C





<u> </u>	<u>,                                      </u>	
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

2191 kWh

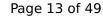
3169 kWh

## Domestic Hot Water (DHW)

Annual energy consumption Qhe

### **Average Climate**

EN 16147	
Declared load profile	XL
Efficiency ηDHW	121 %
СОР	2.93
Heating up time	2:25 h:min
Standby power input	39.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417





EN 16147	
Declared load profile	XL
Efficiency ηDHW	145 %
СОР	3.49
Heating up time	2:38 h:min
Standby power input	38.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417

# Model: PUD-SHWM100YAA(-BS) + E\*ST30D-M\*D

General Data	
Power supply	3x400V 50Hz

# Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	8.00 kW	8.00 kW
El input	1.60 kW	3.08 kW
СОР	5.00	2.60
Indoor water flow rate	1.37 m³/h	0.86 m³/h

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

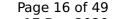
## **Average Climate**



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	178 %	135 %
Prated	10.00 kW	10.00 kW
SCOP	4.52	3.46
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	8.90 kW	8.90 kW
COP Tj = -7°C	3.16	2.18
Cdh	0.99	1.00
Pdh Tj = +2°C	5.70 kW	5.40 kW
COP Tj = +2°C	4.52	3.29
Cdh	0.98	0.99
Pdh Tj = +7°C	5.40 kW	5.20 kW
COP Tj = +7°C	5.63	4.81
Cdh	0.98	0.98

EHPA Secretariat | Rue dArlon 63-67 | Phone: +32 2 400 10 17 | Email: secretariat@heatpumpkeymark.com | www.heatpumpkeymark.com





This information was	generated by the HP	KEYMARK database on 17 Dec 202
Pdh Tj = 12°C	4.50 kW	3.60 kW
COP Tj = 12°C	7.89	7.06
Cdh	0.96	0.96
Pdh Tj = Tbiv	10.00 kW	10.00 kW
COP Tj = Tbiv	2.92	1.91
Pdh Tj = TOL	7.70 kW	7.70 kW
COP Tj = TOL	1.57	1.57
WTOL	60 °C	60 °C
Poff	22 W	22 W
РТО	22 W	22 W
PSB	22 W	22 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	4430 kWh	5836 kWh

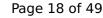
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)





#### EN 14825

	Low temperature	Medium temperature
$\eta_{s}$	232 %	135 %
Prated	10.00 kW	10.00 kW
SCOP	5.88	4.11
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	10.00 kW	10.00 kW
COP Tj = +2°C	3.45	2.05
Cdh	0.99	1.00
Pdh Tj = +7°C	6.40 kW	6.40 kW
COP Tj = +7°C	5.42	3.48
Cdh	0.98	0.99
Pdh Tj = 12°C	4.40 kW	4.20 kW
COP Tj = 12°C	7.46	5.68
Cdh	0.96	0.97
Pdh Tj = Tbiv	10.00 kW	10.00 kW
COP Tj = Tbiv	3.45	2.05
Pdh Tj = TOL	7.70 kW	7.70 kW
COP Tj = TOL	1.57	1.57
WTOL	60 °C	60 °C



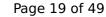


Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2191 kWh	3169 kWh

### Domestic Hot Water (DHW)

## **Average Climate**

EN 16147	
Declared load profile	XL
Efficiency ηDHW	121 %
СОР	2.93
Heating up time	2:25 h:min
Standby power input	39.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417





EN 16147	
Declared load profile	XL
Efficiency ηDHW	145 %
СОР	3.49
Heating up time	2:38 h:min
Standby power input	38.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417

# Model: PUD-SHWM100YAA(-BS) + E\*ST30D-\*M\*D

General Data	
Power supply	3x400V 50Hz

# Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	8.00 kW	8.00 kW
El input	1.60 kW	3.08 kW
СОР	5.00	2.60
Indoor water flow rate	1.37 m³/h	0.86 m³/h

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

## **Average Climate**



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	178 %	135 %
Prated	10.00 kW	10.00 kW
SCOP	4.52	3.46
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	8.90 kW	8.90 kW
COP Tj = -7°C	3.16	2.18
Cdh	0.99	1.00
Pdh Tj = +2°C	5.70 kW	5.40 kW
COP Tj = +2°C	4.52	3.29
Cdh	0.98	0.99
Pdh Tj = +7°C	5.40 kW	5.20 kW
COP Tj = +7°C	5.63	4.81
Cdh	0.98	0.98

EHPA Secretariat | Rue dArlon 63-67 | Phone: +32 2 400 10 17 | Email: secretariat@heatpumpkeymark.com | www.heatpumpkeymark.com





Pdh Tj = 12°C	4.50 kW	3.60 kW
COP Tj = 12°C	7.89	7.06
Cdh	0.96	0.96
Pdh Tj = Tbiv	10.00 kW	10.00 kW
COP Tj = Tbiv	2.92	1.91
Pdh Tj = TOL	7.70 kW	7.70 kW
COP Tj = TOL	1.57	1.57
WTOL	60 °C	60 °C
Poff	22 W	22 W
РТО	22 W	22 W
PSB	22 W	22 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	4430 kWh	5836 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	59 dB(A)	59 dB(A)





#### EN 14825

	Low temperature	Medium temperature
$\eta_{s}$	232 %	135 %
Prated	10.00 kW	10.00 kW
SCOP	5.88	4.11
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	10.00 kW	10.00 kW
COP Tj = +2°C	3.45	2.05
Cdh	0.99	1.00
Pdh Tj = +7°C	6.40 kW	6.40 kW
COP Tj = +7°C	5.42	3.48
Cdh	0.98	0.99
Pdh Tj = 12°C	4.40 kW	4.20 kW
COP Tj = 12°C	7.46	5.68
Cdh	0.96	0.97
Pdh Tj = Tbiv	10.00 kW	10.00 kW
COP Tj = Tbiv	3.45	2.05
Pdh Tj = TOL	7.70 kW	7.70 kW
COP Tj = TOL	1.57	1.57
WTOL	60 °C	60 °C



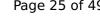


Poff	22 W	22 W
РТО	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2191 kWh	3169 kWh

## Domestic Hot Water (DHW)

# Average Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	121 %
СОР	2.93
Heating up time	2:25 h:min
Standby power input	39.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417 l





 $$\operatorname{\textit{Page}}\xspace$  25 of 49 This information was generated by the HP KEYMARK database on 17 Dec 2020

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	145 %	
СОР	3.49	
Heating up time	2:38 h:min	
Standby power input	38.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	417	



# Model: PUD-SHWM120VAA(-BS) + E\*ST30D-M\*D

General Data	
Power supply	1x230V 50Hz

# Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.00 kW	10.00 kW
El input	2.08 kW	3.77 kW
СОР	4.80	2.65
Indoor water flow rate	1.72 m³/h	1.07 m³/h

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

## Average Climate

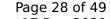


 $$\operatorname{\textit{Page}}\xspace$  27 of 49 This information was generated by the HP KEYMARK database on 17 Dec 2020

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	179 %	135 %
Prated	12.00 kW	12.00 kW
SCOP	4.55	3.46
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	10.60 kW	10.60 kW
COP Tj = -7°C	2.85	2.14
Cdh	1.00	1.00
Pdh Tj = +2°C	6.50 kW	6.50 kW
COP Tj = +2°C	4.51	3.25
Cdh	0.99	0.99
Pdh Tj = +7°C	5.60 kW	5.30 kW
COP Tj = +7°C	5.89	4.82
Cdh	0.98	0.99

EHPA Secretariat | Rue dArlon 63-67 | Phone: +32 2 400 10 17 | Email: secretariat@heatpumpkeymark.com | www.heatpumpkeymark.com





This information was generated by the HP KEYMARK database on 17 Dec 2020 Pdh Tj =  $12^{\circ}$ C 4.40 kW 4.30 kW COP Tj = 12°C8.00 6.94 Cdh 0.97 0.98 12.00 kW Pdh Tj = Tbiv12.00 kW 2.77 1.87 COP Tj = TbivPdh Tj = TOL9.20 kW 9.20 kW COPTj = TOL1.56 1.56 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 0.00 kW 0.00 kW Supplementary Heater: PSUP

#### Warmer Climate

Annual energy consumption Qhe

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)

5354 kWh

7068 kWh





#### EN 14825

	Low temperature	Medium temperature
$\eta_{s}$	231 %	135 %
Prated	12.00 kW	12.00 kW
SCOP	5.84	4.05
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	12.00 kW	12.00 kW
COP Tj = +2°C	3.30	2.03
Cdh	1.00	1.00
Pdh Tj = +7°C	7.70 kW	7.70 kW
$COP Tj = +7^{\circ}C$	5.17	3.35
Cdh	0.99	0.99
Pdh Tj = 12°C	4.40 kW	5.20 kW
COP Tj = 12°C	7.46	5.59
Cdh	0.98	0.98
Pdh Tj = Tbiv	12.00 kW	12.00 kW
COP Tj = Tbiv	3.30	2.03
Pdh Tj = TOL	9.20 kW	9.20 kW
COP Tj = TOL	1.56	1.56
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

2688 kWh

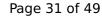
3901 kWh

## Domestic Hot Water (DHW)

Annual energy consumption Qhe

## **Average Climate**

EN 16147	
Declared load profile	XL
Efficiency ηDHW	121 %
СОР	2.93
Heating up time	2:25 h:min
Standby power input	39.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417





EN 16147	
Declared load profile	XL
Efficiency ηDHW	145 %
СОР	3.49
Heating up time	2:38 h:min
Standby power input	38.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417



# Model: PUD-SHWM120VAA(-BS) + E\*ST30D-\*M\*D

General Data	
Power supply	1x230V 50Hz

# Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.00 kW	10.00 kW
El input	2.08 kW	3.77 kW
СОР	4.80	2.65
Indoor water flow rate	1.72 m³/h	1.07 m³/h

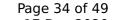
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

## Average Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	179 %	135 %
Prated	12.00 kW	12.00 kW
SCOP	4.55	3.46
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	10.60 kW	10.60 kW
COP Tj = -7°C	2.85	2.14
Cdh	1.00	1.00
Pdh Tj = +2°C	6.50 kW	6.50 kW
COP Tj = +2°C	4.51	3.25
Cdh	0.99	0.99
Pdh Tj = +7°C	5.60 kW	5.30 kW
COP Tj = +7°C	5.89	4.82
Cdh	0.98	0.99





This information was generated by the HP KEYMARK database on 17 Dec		
Pdh Tj = 12°C	4.40 kW	4.30 kW
COP Tj = 12°C	8.00	6.94
Cdh	0.97	0.98
Pdh Tj = Tbiv	12.00 kW	12.00 kW
COP Tj = Tbiv	2.77	1.87
Pdh Tj = TOL	9.20 kW	9.20 kW
COP Tj = TOL	1.56	1.56
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	5354 kWh	7068 kWh

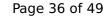
EN 12102-1				
	Low temperature	Medium temperature		
Sound power level indoor	41 dB(A)	41 dB(A)		
Sound power level outdoor	60 dB(A)	60 dB(A)		





#### EN 14825

	Low temperature	Medium temperature
$\eta_{s}$	231 %	135 %
Prated	12.00 kW	12.00 kW
SCOP	5.84	4.05
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	12.00 kW	12.00 kW
COP Tj = +2°C	3.30	2.03
Cdh	1.00	1.00
Pdh Tj = +7°C	7.70 kW	7.70 kW
COP Tj = +7°C	5.17	3.35
Cdh	0.99	0.99
Pdh Tj = 12°C	4.40 kW	5.20 kW
COP Tj = 12°C	7.46	5.59
Cdh	0.98	0.98
Pdh Tj = Tbiv	12.00 kW	12.00 kW
COP Tj = Tbiv	3.30	2.03
Pdh Tj = TOL	9.20 kW	9.20 kW
COP Tj = TOL	1.56	1.56
WTOL	60 °C	60 °C



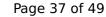


Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2688 kWh	3901 kWh

### Domestic Hot Water (DHW)

## **Average Climate**

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	121 %	
СОР	2.93	
Heating up time	2:25 h:min	
Standby power input	39.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	417	





EN 16147		
Declared load profile	XL	
Efficiency ηDHW	145 %	
СОР	3.49	
Heating up time	2:38 h:min	
Standby power input	38.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	417	



# Model: PUD-SHWM120YAA(-BS) + E\*ST30D-M\*D

General Data	
Power supply	3x400V 50Hz

## Heating

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	10.00 kW	10.00 kW	
El input	2.08 kW	3.77 kW	
СОР	4.80	2.65	
Indoor water flow rate	1.72 m³/h	1.07 m³/h	

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

## **Average Climate**



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	177 %	134 %
Prated	12.00 kW	12.00 kW
SCOP	4.51	3.44
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	10.60 kW	10.60 kW
COP Tj = -7°C	2.85	2.14
Cdh	0.99	1.00
Pdh Tj = +2°C	6.50 kW	6.50 kW
COP Tj = +2°C	4.51	3.25
Cdh	0.98	0.99
Pdh Tj = +7°C	5.60 kW	5.30 kW
COP Tj = +7°C	5.89	4.82
Cdh	0.98	0.98

EHPA Secretariat | Rue dArlon 63-67 | Phone: +32 2 400 10 17 | Email: secretariat@heatpumpkeymark.com | www.heatpumpkeymark.com





Pdh Tj = 12°C	4.40 kW	4.30 kW
COP Tj = 12°C	8.00	6.94
Cdh	0.96	0.96
Pdh Tj = Tbiv	12.00 kW	12.00 kW
COP Tj = Tbiv	2.77	1.87
Pdh Tj = TOL	9.20 kW	9.20 kW
COP Tj = TOL	1.56	1.56
WTOL	60 °C	60 °C
Poff	22 W	22 W
РТО	22 W	22 W
PSB	22 W	22 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	5354 kWh	7068 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)





### EN 14825

	Low temperature	Medium temperature
η <sub>s</sub>	229 %	134 %
Prated	12.00 kW	12.00 kW
SCOP	5.79	4.03
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	12.00 kW	12.00 kW
COP Tj = +2°C	3.30	2.03
Cdh	0.99	1.00
Pdh Tj = +7°C	7.70 kW	7.70 kW
$COP Tj = +7^{\circ}C$	5.17	3.35
Cdh	0.98	0.99
Pdh Tj = 12°C	4.40 kW	5.20 kW
COP Tj = 12°C	7.46	5.59
Cdh	0.96	0.98
Pdh Tj = Tbiv	12.00 kW	12.00 kW
COP Tj = Tbiv	3.30	2.03
Pdh Tj = TOL	9.20 kW	9.20 kW
COP Tj = TOL	1.56	1.56
WTOL	60 °C	60 °C





Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 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	2688 kWh	3901 kWh

## Domestic Hot Water (DHW)

## Average Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	121 %	
СОР	2.93	
Heating up time	2:25 h:min	
Standby power input	39.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	417	





EN 16147		
Declared load profile	XL	
Efficiency ηDHW	145 %	
СОР	3.49	
Heating up time	2:38 h:min	
Standby power input	38.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	417	

# Model: PUD-SHWM120YAA(-BS) + E\*ST30D-\*M\*D

General Data		
Power supply	3x400V 50Hz	

## Heating

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	10.00 kW	10.00 kW	
El input	2.08 kW	3.77 kW	
СОР	4.80	2.65	
Indoor water flow rate	1.72 m³/h	1.07 m³/h	

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

## Average Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	177 %	134 %
Prated	12.00 kW	12.00 kW
SCOP	4.51	3.44
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	10.60 kW	10.60 kW
COP Tj = -7°C	2.85	2.14
Cdh	0.99	1.00
Pdh Tj = +2°C	6.50 kW	6.50 kW
COP Tj = +2°C	4.51	3.25
Cdh	0.98	0.99
Pdh Tj = +7°C	5.60 kW	5.30 kW
COP Tj = +7°C	5.89	4.82
Cdh	0.98	0.98

EHPA Secretariat | Rue dArlon 63-67 | Phone: +32 2 400 10 17 | Email: secretariat@heatpumpkeymark.com | www.heatpumpkeymark.com





Pdh Tj = 12°C	4.40 kW	4.30 kW
COP Tj = 12°C	8.00	6.94
Cdh	0.96	0.96
Pdh Tj = Tbiv	12.00 kW	12.00 kW
COP Tj = Tbiv	2.77	1.87
Pdh Tj = TOL	9.20 kW	9.20 kW
COP Tj = TOL	1.56	1.56
WTOL	60 °C	60 °C
Poff	22 W	22 W
РТО	22 W	22 W
PSB	22 W	22 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	5354 kWh	7068 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	60 dB(A)	60 dB(A)





#### EN 14825

	Low temperature	Medium temperature
$\eta_{s}$	229 %	134 %
Prated	12.00 kW	12.00 kW
SCOP	5.79	4.03
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	12.00 kW	12.00 kW
COP Tj = +2°C	3.30	2.03
Cdh	0.99	1.00
Pdh Tj = +7°C	7.70 kW	7.70 kW
COP Tj = +7°C	5.17	3.35
Cdh	0.98	0.99
Pdh Tj = 12°C	4.40 kW	5.20 kW
COP Tj = 12°C	7.46	5.59
Cdh	0.96	0.98
Pdh Tj = Tbiv	12.00 kW	12.00 kW
COP Tj = Tbiv	3.30	2.03
Pdh Tj = TOL	9.20 kW	9.20 kW
COP Tj = TOL	1.56	1.56
WTOL	60 °C	60 °C





Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 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	2688 kWh	3901 kWh

## Domestic Hot Water (DHW)

## Average Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	121 %	
СОР	2.93	
Heating up time	2:25 h:min	
Standby power input	39.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	417	





EN 16147		
Declared load profile	XL	
Efficiency ηDHW	145 %	
СОР	3.49	
Heating up time	2:38 h:min	
Standby power input	38.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	417 l	