

### Page 1 of 25

Summary of	Ecodan Zubadan 14-300D AA	Reg. No.	037-0028-20	
Certificate Holder	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)			
Name of testing laboratory	Heat Pump Test Center WPZ			
Subtype title	Ecodan Zubadan 14-300D 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-SHWM140VAA(-BS) + E\*ST30D-M\*D

General Data	
Power supply	1x230V 50Hz

## Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	12.00 kW	12.00 kW
El input	2.55 kW	4.90 kW
СОР	4.70	2.45
Indoor water flow rate	2.06 m³/h	1.29 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	62 dB(A)	62 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	179 %	134 %
Prated	14.00 kW	14.00 kW
SCOP	4.54	3.43
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	12.40 kW	12.40 kW
COP Tj = -7°C	2.76	2.15
Cdh	1.00	1.00
Pdh Tj = +2°C	7.60 kW	7.50 kW
COP Tj = +2°C	4.34	3.15
Cdh	0.99	0.99
Pdh Tj = +7°C	5.20 kW	6.30 kW
COP Tj = +7°C	6.27	4.96
Cdh	0.98	0.99

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5.40 kW	4.00 kW
9.00	6.90
0.98	0.97
14.00 kW	14.00 kW
2.69	1.80
9.60 kW	9.60 kW
1.55	1.55
60 °C	60 °C
15 W	15 W
15 W	15 W
15 W	15 W
o w	o w
electricity	electricity
0.00 kW	0.00 kW
6265 kWh	8315 kWh
	5.40 kW  9.00  0.98  14.00 kW  2.69  9.60 kW  1.55  60 °C  15 W  15 W  0 W  electricity  0.00 kW

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)





### EN 14825

	Low temperature	Medium temperature
$\eta_{s}$	224 %	134 %
Prated	14.00 kW	14.00 kW
SCOP	5.68	3.96
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	14.00 kW	14.00 kW
COP Tj = +2°C	3.05	1.95
Cdh	1.00	1.00
Pdh Tj = +7°C	9.00 kW	8.80 kW
COP Tj = +7°C	5.08	3.24
Cdh	0.99	0.99
Pdh Tj = 12°C	5.10 kW	5.50 kW
COP Tj = 12°C	7.18	5.50
Cdh	0.98	0.98
Pdh Tj = Tbiv	14.00 kW	14.00 kW
COP Tj = Tbiv	3.05	1.95
Pdh Tj = TOL	9.60 kW	9.60 kW
COP Tj = TOL	1.55	1.55
WTOL	60 °C	60 °C



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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

3236 kWh

4667 kWh

## Domestic Hot Water (DHW)

Annual energy consumption Qhe

## **Average Climate**

EN 16147		
Declared lead profile	VI	
Declared load profile	XL	
Efficiency ηDHW	121 %	
СОР	2.91	
Heating up time	2:15 h:min	
Standby power input	42.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	417	



EN 16147		
Declared load profile	XL	
Efficiency ηDHW	139 %	
СОР	3.34	
Heating up time	2:05 h:min	
Standby power input	39.0 W	
Reference hot water temperature	52.5 °C	
Mixed water at 40°C	417	



# Model: PUD-SHWM140VAA(-BS) + E\*ST30D-\*M\*D

General Data	
Power supply	1x230V 50Hz

## Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	12.00 kW	12.00 kW
El input	2.55 kW	4.90 kW
СОР	4.70	2.45
Indoor water flow rate	2.06 m³/h	1.29 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

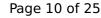
## **Average Climate**



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	179 %	134 %
Prated	14.00 kW	14.00 kW
SCOP	4.54	3.43
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	12.40 kW	12.40 kW
COP Tj = -7°C	2.76	2.15
Cdh	1.00	1.00
Pdh Tj = +2°C	7.60 kW	7.50 kW
COP Tj = +2°C	4.34	3.15
Cdh	0.99	0.99
Pdh Tj = +7°C	5.20 kW	6.30 kW
COP Tj = +7°C	6.27	4.96
Cdh	0.98	0.99

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Pdh Tj = 12°C	5.40 kW	4.00 kW
COP Tj = 12°C	9.00	6.90
Cdh	0.98	0.97
Pdh Tj = Tbiv	14.00 kW	14.00 kW
COP Tj = Tbiv	2.69	1.80
Pdh Tj = TOL	9.60 kW	9.60 kW
COP Tj = TOL	1.55	1.55
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	6265 kWh	8315 kWh
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EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)





#### EN 14825

	Low temperature	Medium temperature
η <sub>s</sub>	224 %	134 %
Prated	14.00 kW	14.00 kW
SCOP	5.68	3.96
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	14.00 kW	14.00 kW
COP Tj = +2°C	3.05	1.95
Cdh	1.00	1.00
Pdh Tj = +7°C	9.00 kW	8.80 kW
$COP Tj = +7^{\circ}C$	5.08	3.24
Cdh	0.99	0.99
Pdh Tj = 12°C	5.10 kW	5.50 kW
COP Tj = 12°C	7.18	5.50
Cdh	0.98	0.98
Pdh Tj = Tbiv	14.00 kW	14.00 kW
COP Tj = Tbiv	3.05	1.95
Pdh Tj = TOL	9.60 kW	9.60 kW
COP Tj = TOL	1.55	1.55
WTOL	60 °C	60 °C

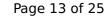


Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3236 kWh	4667 kWh

## Domestic Hot Water (DHW)

## Average Climate

EN 16147	
Declared lead profile	VI
Declared load profile	XL
Efficiency ηDHW	121 %
СОР	2.91
Heating up time	2:15 h:min
Standby power input	42.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417





EN 16147	
Declared load profile	XL
Efficiency ηDHW	139 %
СОР	3.34
Heating up time	2:05 h:min
Standby power input	39.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417



# Model: PUD-SHWM140YAA(-BS) + E\*ST30D-M\*D

General Data	
Power supply	3x400V 50Hz

## Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	12.00 kW	12.00 kW
El input	2.55 kW	4.90 kW
СОР	4.70	2.45
Indoor water flow rate	2.06 m³/h	1.29 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

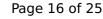
## **Average Climate**



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	177 %	134 %
Prated	14.00 kW	14.00 kW
SCOP	4.51	3.42
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	12.40 kW	12.40 kW
COP Tj = -7°C	2.76	2.15
Cdh	1.00	1.00
Pdh Tj = +2°C	7.60 kW	7.50 kW
COP Tj = +2°C	4.34	3.15
Cdh	0.99	0.99
Pdh Tj = +7°C	5.20 kW	6.30 kW
COP Tj = +7°C	6.27	4.96
Cdh	0.97	0.98

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Pdh Tj = 12°C	5.40 kW	4.00 kW
COP Tj = 12°C	9.00	6.90
Cdh	0.96	0.96
Pdh Tj = Tbiv	14.00 kW	14.00 kW
COP Tj = Tbiv	2.69	1.80
Pdh Tj = TOL	9.60 kW	9.60 kW
COP Tj = TOL	1.55	1.55
WTOL	60 °C	60 °C
Poff	22 W	22 W
РТО	22 W	22 W
PSB	22 W	22 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	6265 kWh	8315 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	62 dB(A)	62 dB(A)





#### EN 14825

	Low temperature	Medium temperature
$\eta_{s}$	223 %	134 %
Prated	14.00 kW	14.00 kW
SCOP	5.64	3.94
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	14.00 kW	14.00 kW
COP Tj = +2°C	3.05	1.95
Cdh	1.00	1.00
Pdh Tj = +7°C	9.00 kW	8.80 kW
$COP Tj = +7^{\circ}C$	5.08	3.24
Cdh	0.99	0.99
Pdh Tj = 12°C	5.10 kW	5.50 kW
COP Tj = 12°C	7.18	5.50
Cdh	0.97	0.98
Pdh Tj = Tbiv	14.00 kW	14.00 kW
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COP Tj = TOL	1.55	1.55
WTOL	60 °C	60 °C

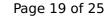


Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3236 kWh	4667 kWh

## Domestic Hot Water (DHW)

## **Average Climate**

EN 16147	
Declared load profile	XL
Efficiency ηDHW	121 %
СОР	2.91
Heating up time	2:15 h:min
Standby power input	42.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417





EN 16147	
Declared load profile	XL
Efficiency ηDHW	139 %
СОР	3.34
Heating up time	2:05 h:min
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Reference hot water temperature	52.5 °C
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# Model: PUD-SHWM140YAA(-BS) + E\*ST30D-\*M\*D

General Data	
Power supply 3x400V 50Hz	

## Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	12.00 kW	12.00 kW
El input	2.55 kW	4.90 kW
СОР	4.70	2.45
Indoor water flow rate	2.06 m³/h	1.29 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$  21 of 25 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	62 dB(A)	62 dB(A)

EN 14825		
	Low temperature	Medium temperature
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Prated	14.00 kW	14.00 kW
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Tbiv	-10 °C	-10 °C
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Pdh Tj = +2°C	7.60 kW	7.50 kW
COP Tj = +2°C	4.34	3.15
Cdh	0.99	0.99
Pdh Tj = +7°C	5.20 kW	6.30 kW
COP Tj = +7°C	6.27	4.96
Cdh	0.97	0.98

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5.40 kW	4.00 kW
9.00	6.90
0.96	0.96
14.00 kW	14.00 kW
2.69	1.80
9.60 kW	9.60 kW
1.55	1.55
60 °C	60 °C
22 W	22 W
22 W	22 W
22 W	22 W
o w	o w
electricity	electricity
0.00 kW	0.00 kW
6265 kWh	8315 kWh
	5.40 kW  9.00  0.96  14.00 kW  2.69  9.60 kW  1.55  60 °C  22 W  22 W  0 W  electricity  0.00 kW

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
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#### EN 14825

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COP Tj = TOL	1.55	1.55
WTOL	60 °C	60 °C

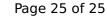


Poff	22 W	22 W
РТО	22 W	22 W
PSB	22 W	22 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3236 kWh	4667 kWh

## Domestic Hot Water (DHW)

## Average Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	121 %
СОР	2.91
Heating up time	2:15 h:min
Standby power input	42.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	417





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