

This information was downloaded from the HP KEYMARK database on 28 Sep 2020

Summary of	Ecodan Power Inverter 6/9-200D Packaged AA	Reg. No.	037-0033-20
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)		
Name of testing laboratory	SZU - Strojirensky zkusebni ustav (Engineering Test Institute, Public Enterprise)		
Subtype title	Ecodan Power Inverter 6/9-200D Packaged AA		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	HFC-32		
Mass Of Refrigerant	2.2 kg		
Certification Date	22.06.2020		
Testing basis	HP Keymark scheme rules rev. no. 6		

## Model: PUZ-WM60VAA(-BS) + ERPT20X-VM\*D

### General Data

Power supply	1x230V 50Hz
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### Heating

#### EN 14511-2

	Low temperature	Medium temperature
Heat output	6.00 kW	6.00 kW
El input	1.19 kW	2.01 kW
COP	5.06	2.98
Indoor water flow rate	1.03 m <sup>3</sup> /h	0.65 m <sup>3</sup> /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

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	197 %	145 %
Prated	6.00 kW	6.00 kW
SCOP	4.99	3.71
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	5.80 kW	5.30 kW
COP Tj = -7°C	3.39	2.26
Cdh	0.99	0.99
Pdh Tj = +2°C	4.10 kW	3.50 kW
COP Tj = +2°C	4.82	3.57
Cdh	0.98	0.98
Pdh Tj = +7°C	3.30 kW	3.60 kW
COP Tj = +7°C	6.35	5.07

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Cdh	0.97	0.98
Pdh Tj = 12 °C	3.10 kW	3.20 kW
COP Tj = 12 °C	8.86	6.81
Cdh	0.96	0.97
Pdh Tj = Tbiv	5.30 kW	5.30 kW
COP Tj = Tbiv	3.40	2.26
Pdh Tj = TOL	4.90 kW	4.90 kW
COP Tj = TOL	1.76	1.76
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	0.79 kW	0.79 kW
Annual energy consumption Qhe	2475 kWh	3318 kWh

## Warmer Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	226 %	145 %
Prated	6.00 kW	6.00 kW
SCOP	5.73	4.02
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.00 kW	6.00 kW
COP Tj = +2°C	3.64	1.85
Cdh	0.99	1.00
Pdh Tj = +7°C	3.90 kW	3.90 kW
COP Tj = +7°C	4.76	3.22
Cdh	0.98	0.99
Pdh Tj = 12°C	3.60 kW	3.40 kW
COP Tj = 12°C	7.50	5.76

Cdh	0.97	0.98
Pdh Tj = Tbiv	5.30 kW	5.30 kW
COP Tj = Tbiv	3.21	2.15
Pdh Tj = TOL	4.90 kW	4.90 kW
COP Tj = TOL	1.67	1.67
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	1397 kWh	1991 kWh

## Domestic Hot Water (DHW)

### Average Climate

<b>EN 16147</b>	
Declared load profile	L
Efficiency $\eta_{DHW}$	145 %
COP	3.42
Heating up time	1:58 h:min
Standby power input	36.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	278 l

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	L
Efficiency $\eta_{DHW}$	161 %
COP	3.78
Heating up time	2:28 h:min
Standby power input	34.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	278 l

## Model: PUZ-WM60VAA(-BS) + EHPX-VM\*D

### General Data

Power supply	1x230V 50Hz
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### Heating

#### EN 14511-2

	Low temperature	Medium temperature
Heat output	6.00 kW	6.00 kW
El input	1.19 kW	2.01 kW
COP	5.06	2.98
Indoor water flow rate	1.03 m <sup>3</sup> /h	0.65 m <sup>3</sup> /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

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	190 %	142 %
Prated	6.00 kW	6.00 kW
SCOP	4.84	3.62
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	5.80 kW	5.30 kW
COP Tj = -7°C	3.39	2.26
Cdh	0.99	0.99
Pdh Tj = +2°C	4.10 kW	3.50 kW
COP Tj = +2°C	4.82	3.57
Cdh	0.98	0.98
Pdh Tj = +7°C	3.30 kW	3.60 kW
COP Tj = +7°C	6.35	5.07

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Cdh	0.97	0.98
Pdh Tj = 12 °C	3.10 kW	3.20 kW
COP Tj = 12 °C	8.86	6.81
Cdh	0.96	0.97
Pdh Tj = Tbiv	5.30 kW	5.30 kW
COP Tj = Tbiv	3.40	2.26
Pdh Tj = TOL	4.90 kW	4.90 kW
COP Tj = TOL	1.76	1.76
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	0.79 kW	0.79 kW
Annual energy consumption Qhe	2475 kWh	3318 kWh

## Warmer Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	218 %	142 %
Prated	6.00 kW	6.00 kW
SCOP	5.52	3.92
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.00 kW	6.00 kW
COP Tj = +2°C	3.64	1.85
Cdh	0.99	1.00
Pdh Tj = +7°C	3.90 kW	3.90 kW
COP Tj = +7°C	4.76	3.22
Cdh	0.98	0.99
Pdh Tj = 12°C	3.60 kW	3.40 kW
COP Tj = 12°C	7.50	5.76

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Cdh	0.97	0.98
Pdh Tj = Tbiv	5.30 kW	5.30 kW
COP Tj = Tbiv	3.21	2.15
Pdh Tj = TOL	4.90 kW	4.90 kW
COP Tj = TOL	1.67	1.67
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	1397 kWh	1991 kWh

## Model: PUZ-WM85VAA(-BS) + ERPT20X-VM\*D

### General Data

Power supply	1x230V 50Hz
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### Heating

#### EN 14511-2

	Low temperature	Medium temperature
Heat output	8.50 kW	8.50 kW
El input	1.77 kW	3.01 kW
COP	4.80	2.82
Indoor water flow rate	1.46 m <sup>3</sup> /h	0.91 m <sup>3</sup> /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

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	197 %	141 %
Prated	8.50 kW	8.50 kW
SCOP	5.00	3.60
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	7.50 kW	7.50 kW
COP Tj = -7°C	3.10	2.07
Cdh	0.99	1.00
Pdh Tj = +2°C	4.60 kW	4.60 kW
COP Tj = +2°C	4.79	3.46
Cdh	0.98	0.99
Pdh Tj = +7°C	3.20 kW	3.70 kW
COP Tj = +7°C	6.81	5.00

Cdh	0.97	0.98
Pdh Tj = 12 °C	3.20 kW	3.40 kW
COP Tj = 12 °C	9.14	7.08
Cdh	0.96	0.97
Pdh Tj = Tbiv	7.50 kW	7.50 kW
COP Tj = Tbiv	3.10	2.07
Pdh Tj = TOL	6.10 kW	6.10 kW
COP Tj = TOL	1.80	1.80
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	1.32 kW	1.32 kW
Annual energy consumption Qhe	3473 kWh	4837 kWh

## Warmer Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	234 %	141 %
Prated	8.50 kW	8.50 kW
SCOP	5.92	4.05
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.50 kW	8.50 kW
COP Tj = +2°C	3.66	1.88
Cdh	0.99	1.00
Pdh Tj = +7°C	5.50 kW	5.50 kW
COP Tj = +7°C	4.91	3.22
Cdh	0.99	0.99
Pdh Tj = 12°C	3.60 kW	3.40 kW
COP Tj = 12°C	7.66	5.76

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Cdh	0.97	0.98
Pdh Tj = Tbiv	7.50 kW	7.50 kW
COP Tj = Tbiv	2.94	1.96
Pdh Tj = TOL	6.10 kW	6.10 kW
COP Tj = TOL	1.71	1.71
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	1916 kWh	2799 kWh

## Domestic Hot Water (DHW)

### Average Climate

<b>EN 16147</b>	
Declared load profile	L
Efficiency $\eta_{DHW}$	145 %
COP	3.42
Heating up time	1:58 h:min
Standby power input	36.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	278 l

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	L
Efficiency $\eta_{DHW}$	161 %
COP	3.78
Heating up time	2:28 h:min
Standby power input	34.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	278 l

## Model: PUZ-WM85VAA(-BS) + EHPX-VM\*D

### General Data

Power supply	1x230V 50Hz
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### Heating

#### EN 14511-2

	Low temperature	Medium temperature
Heat output	8.50 kW	8.50 kW
El input	1.77 kW	3.01 kW
COP	4.80	2.82
Indoor water flow rate	1.46 m <sup>3</sup> /h	0.91 m <sup>3</sup> /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

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	193 %	139 %
Prated	8.50 kW	8.50 kW
SCOP	4.89	3.54
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	7.50 kW	7.50 kW
COP Tj = -7°C	3.10	2.07
Cdh	0.99	1.00
Pdh Tj = +2°C	4.60 kW	4.60 kW
COP Tj = +2°C	4.79	3.46
Cdh	0.98	0.99
Pdh Tj = +7°C	3.20 kW	3.70 kW
COP Tj = +7°C	6.81	5.00

Cdh	0.97	0.98
Pdh Tj = 12 °C	3.20 kW	3.40 kW
COP Tj = 12 °C	9.14	7.08
Cdh	0.96	0.97
Pdh Tj = Tbiv	7.50 kW	7.50 kW
COP Tj = Tbiv	3.10	2.07
Pdh Tj = TOL	6.10 kW	6.10 kW
COP Tj = TOL	1.80	1.80
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	1.32 kW	1.32 kW
Annual energy consumption Qhe	3473 kWh	4837 kWh

## Warmer Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	227 %	139 %
Prated	8.50 kW	8.50 kW
SCOP	5.76	3.98
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.50 kW	8.50 kW
COP Tj = +2°C	3.66	1.88
Cdh	0.99	1.00
Pdh Tj = +7°C	5.50 kW	5.50 kW
COP Tj = +7°C	4.91	3.22
Cdh	0.99	0.99
Pdh Tj = 12°C	3.60 kW	3.40 kW
COP Tj = 12°C	7.66	5.76

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Cdh	0.97	0.98
Pdh Tj = Tbiv	7.50 kW	7.50 kW
COP Tj = Tbiv	2.94	1.96
Pdh Tj = TOL	6.10 kW	6.10 kW
COP Tj = TOL	1.71	1.71
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	1916 kWh	2799 kWh