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

Summary of	Ecodan Zubadan 6/8-170D AA	Reg. No.	037-0018-20
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	Universität Stuttgart, IGE, Prüfstelle HLK		
Subtype title	Ecodan Zubadan 6/8-170D AA		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R32		
Mass Of Refrigerant	1.4 kg		
Certification Date	30.11.2020		
Testing basis	HP Keymark scheme rules rev. no. 6		

Model: PUD-SHWM60VAA(-BS) + E*ST17D-*M*D

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	1.89 kW
COP	4.99	2.65
Indoor water flow rate	0.86 m³/h	0.54 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	55 dB(A)	55 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	178 %	134 %
Prated	6.00 kW	6.00 kW
SCOP	4.52	3.41
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	5.30 kW	5.30 kW
COP Tj = -7°C	3.29	2.14
Cdh	0.99	0.99
Pdh Tj = +2°C	4.70 kW	4.30 kW
COP Tj = +2°C	4.56	3.28
Cdh	0.98	0.99
Pdh Tj = +7°C	5.10 kW	5.30 kW
COP Tj = +7°C	5.67	4.91
Cdh	0.98	0.99

Pdh Tj = 12°C	3.20 kW	3.10 kW
COP Tj = 12°C	7.80	6.89
Cdh	0.96	0.97
Pdh Tj = Tbiv	6.00 kW	6.00 kW
COP Tj = Tbiv	3.21	2.02
Pdh Tj = TOL	4.40 kW	4.40 kW
COP Tj = TOL	1.42	1.42
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	2649 kWh	3535 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	55 dB(A)	55 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	220 %	134 %
Prated	6.00 kW	6.00 kW
SCOP	5.57	4.06
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	6.00 kW	6.00 kW
COP Tj = +2°C	3.80	1.91
Cdh	0.99	1.00
Pdh Tj = +7°C	4.40 kW	3.90 kW
COP Tj = +7°C	4.89	3.28
Cdh	0.98	0.99
Pdh Tj = 12°C	4.70 kW	4.50 kW
COP Tj = 12°C	7.46	6.16
Cdh	0.98	0.98
Pdh Tj = Tbiv	6.00 kW	6.00 kW
COP Tj = Tbiv	3.80	1.91
Pdh Tj = TOL	4.40 kW	4.40 kW
COP Tj = TOL	1.42	1.42
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	1385 kWh	1919 kWh

Domestic Hot Water (DHW)

Average Climate

EN 16147	
Declared load profile	L
Efficiency ηDHW	136 %
COP	3.22
Heating up time	1:38 h:min
Standby power input	37.0 W
Reference hot water temperature	53.4 °C
Mixed water at 40°C	236 l

Warmer Climate

EN 16147

Declared load profile	L
Efficiency ηDHW	154 %
COP	3.62
Heating up time	1:39 h:min
Standby power input	36.0 W
Reference hot water temperature	53.4 °C
Mixed water at 40°C	236 l

Model: PUD-SHWM80VAA(-BS) + E*ST17D-*M*D

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	6.00 kW	6.00 kW
El input	1.19 kW	2.26 kW
COP	5.03	2.65
Indoor water flow rate	1.03 m³/h	0.65 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	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	181 %	135 %
Prated	8.00 kW	8.00 kW
SCOP	4.60	3.45
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	7.10 kW	7.10 kW
COP Tj = -7°C	3.11	2.14
Cdh	0.99	1.00
Pdh Tj = +2°C	4.70 kW	4.30 kW
COP Tj = +2°C	4.52	3.26
Cdh	0.99	0.99
Pdh Tj = +7°C	5.10 kW	5.30 kW
COP Tj = +7°C	6.00	4.91
Cdh	0.98	0.99

Pdh Tj = 12°C	3.20 kW	3.10 kW
COP Tj = 12°C	8.21	7.05
Cdh	0.96	0.97
Pdh Tj = Tbiv	8.00 kW	8.00 kW
COP Tj = Tbiv	3.09	1.97
Pdh Tj = TOL	5.30 kW	5.30 kW
COP Tj = TOL	1.41	1.41
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	3500 kWh	4695 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	225 %	135 %
Prated	8.00 kW	8.00 kW
SCOP	5.70	4.22
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	8.00 kW	8.00 kW
COP Tj = +2°C	3.74	1.88
Cdh	0.99	1.00
Pdh Tj = +7°C	5.10 kW	5.20 kW
COP Tj = +7°C	5.05	3.51
Cdh	0.98	0.99
Pdh Tj = 12°C	4.70 kW	4.50 kW
COP Tj = 12°C	7.34	6.08
Cdh	0.98	0.98
Pdh Tj = Tbiv	8.00 kW	8.00 kW
COP Tj = Tbiv	3.74	1.88
Pdh Tj = TOL	5.30 kW	5.30 kW
COP Tj = TOL	1.41	1.41
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	1820 kWh	2479 kWh

Domestic Hot Water (DHW)

Average Climate

EN 16147	
Declared load profile	L
Efficiency ηDHW	136 %
COP	3.22
Heating up time	1:38 h:min
Standby power input	37.0 W
Reference hot water temperature	53.4 °C
Mixed water at 40°C	236 l

Warmer Climate

EN 16147

Declared load profile	L
Efficiency ηDHW	154 %
COP	3.62
Heating up time	1:39 h:min
Standby power input	36.0 W
Reference hot water temperature	53.4 °C
Mixed water at 40°C	236 l

Model: PUD-SHWM80YAA(-BS) + E*ST17D-*M*D

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	6.00 kW	6.00 kW
El input	1.19 kW	2.26 kW
COP	5.03	2.65
Indoor water flow rate	1.03 m³/h	0.65 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	56 dB(A)	56 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	179 %	134 %
Prated	8.00 kW	8.00 kW
SCOP	4.55	3.42
Tbiv	-10 °C	-10 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	7.10 kW	7.10 kW
COP Tj = -7°C	3.11	2.14
Cdh	0.99	0.99
Pdh Tj = +2°C	4.70 kW	4.30 kW
COP Tj = +2°C	4.52	3.26
Cdh	0.98	0.98
Pdh Tj = +7°C	5.10 kW	5.30 kW
COP Tj = +7°C	6.00	4.91
Cdh	0.97	0.98

Pdh Tj = 12°C	3.20 kW	3.10 kW
COP Tj = 12°C	8.21	7.05
Cdh	0.94	0.95
Pdh Tj = Tbiv	8.00 kW	8.00 kW
COP Tj = Tbiv	3.09	1.97
Pdh Tj = TOL	5.30 kW	5.30 kW
COP Tj = TOL	1.41	1.41
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	3500 kWh	4695 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	56 dB(A)	56 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	222 %	134 %
Prated	8.00 kW	8.00 kW
SCOP	5.62	4.17
Tbiv	2 °C	2 °C
TOL	-28 °C	-28 °C
Pdh Tj = +2°C	8.00 kW	8.00 kW
COP Tj = +2°C	3.74	1.88
Cdh	0.99	1.00
Pdh Tj = +7°C	5.10 kW	5.20 kW
COP Tj = +7°C	5.05	3.51
Cdh	0.98	0.98
Pdh Tj = 12°C	4.70 kW	4.50 kW
COP Tj = 12°C	7.34	6.08
Cdh	0.97	0.97
Pdh Tj = Tbiv	8.00 kW	8.00 kW
COP Tj = Tbiv	3.74	1.88
Pdh Tj = TOL	5.30 kW	5.30 kW
COP Tj = TOL	1.41	1.41
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	1820 kWh	2479 kWh

Domestic Hot Water (DHW)

Average Climate

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Declared load profile	L
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