

**Subtype Ecodan Power Inverter 5-170D Packaged**

Certificate Holder	Mitsubishi Electric Air Conditioning Systems Europe LTD
Address	Nettlehill Road, Houston Industrial Estate
ZIP	EH54 5EQ
City	Livingston
Country	GB
Certification Body	SZU - Strojirensky zkusebni ustav (Engineering Test Institute, Public Enterprise)
Subtype title	Ecodan Power Inverter 5-170D Packaged
Registration number	037-0030-20
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	2 kg
Certification Date	19.12.2023
Testing basis	HP Keymark scheme rules rev. no. 6
Testing laboratory	SZU Brno, CZ

**Model PUZ-WM50VHA(-BS) + EHPT17X-\*M\*D**

Model name	PUZ-WM50VHA(-BS) + EHPT17X-*M*D
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	1x230V 50Hz
Off-peak product	n/a

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	L
Efficiency ηDHW	120 %
COP	2.84
Heating up time	2:07 h:min
Standby power input	39.0 W
Reference hot water temperature	55.5 °C
Mixed water at 40°C	236 l

**EN 16147 | Warmer Climate**

Declared load profile	L
Efficiency ηDHW	135 %
COP	3.19
Heating up time	2:32 h:min
Standby power input	36.0 W
Reference hot water temperature	55.5 °C
Mixed water at 40°C	236 l

**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	5.00 kW	5.00 kW
El input	1.00 kW	1.62 kW
COP	5.00	3.08

**EN 12102-1 | Average Climate**

	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 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	183 %	129 %
P <sub>rated</sub>	5.00 kW	5.00 kW
SCOP	4.66	3.31
T <sub>biv</sub>	-7 °C	-7 °C
T <sub>OL</sub>	-20 °C	-20 °C
P <sub>dh T<sub>j</sub></sub> = -7°C	4.40 kW	4.40 kW
COP T <sub>j</sub> = -7°C	3.17	2.04
C <sub>dh T<sub>j</sub></sub> = -7 °C	0.990	0.990
P <sub>dh T<sub>j</sub></sub> = +2°C	2.70 kW	2.70 kW
COP T <sub>j</sub> = +2°C	4.47	3.23
C <sub>dh T<sub>j</sub></sub> = +2 °C	0.980	0.980
P <sub>dh T<sub>j</sub></sub> = +7°C	1.90 kW	1.70 kW
COP T <sub>j</sub> = +7°C	6.55	4.47
C <sub>dh T<sub>j</sub></sub> = +7 °C	0.950	0.960
P <sub>dh T<sub>j</sub></sub> = 12°C	1.80 kW	1.80 kW
COP T <sub>j</sub> = 12°C	8.57	6.67
C <sub>dh T<sub>j</sub></sub> = +12 °C	0.930	0.940
P <sub>dh T<sub>j</sub></sub> = T <sub>biv</sub>	4.40 kW	4.40 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.17	2.04
P <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	4.19 kW	4.19 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	2.84	1.97
C <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>		
WT <sub>OL</sub>	60 °C	60 °C
P <sub>off</sub>	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	0.81 kW	0.81 kW
Annual energy consumption Q <sub>he</sub>	2216 kWh	3122 kWh

**EN 12102-1 | Warmer Climate**

	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 | Warmer Climate**

	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
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

**Model PUZ-WM50VHA(-BS) + ERPT17X-\*M\*D**

Model name	PUZ-WM50VHA(-BS) + ERPT17X-*M*D
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	1x230V 50Hz
Off-peak product	n/a

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	120 %
COP	2.84
Heating up time	2:07 h:min
Standby power input	39.0 W
Reference hot water temperature	55.5 °C
Mixed water at 40°C	236 l

**EN 16147 | Warmer Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	135 %
COP	3.19
Heating up time	2:32 h:min
Standby power input	36.0 W
Reference hot water temperature	55.5 °C
Mixed water at 40°C	236 l

**EN 14511-4 | Heating**

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

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	5.00 kW	5.00 kW
El input	1.00 kW	1.62 kW
COP	5.00	3.08

**EN 12102-1 | Average Climate**

	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 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	190 %	133 %
P <sub>rated</sub>	5.00 kW	5.00 kW
SCOP	4.83	3.40
T <sub>biv</sub>	-7 °C	-7 °C
T <sub>OL</sub>	-20 °C	-20 °C
P <sub>dh T<sub>j</sub></sub> = -7°C	4.40 kW	4.40 kW
COP T <sub>j</sub> = -7°C	3.17	2.04
C <sub>dh T<sub>j</sub></sub> = -7 °C	0.990	0.990
P <sub>dh T<sub>j</sub></sub> = +2°C	2.70 kW	2.70 kW
COP T <sub>j</sub> = +2°C	4.56	3.29
C <sub>dh T<sub>j</sub></sub> = +2 °C	0.980	0.980
P <sub>dh T<sub>j</sub></sub> = +7°C	1.90 kW	1.70 kW
COP T <sub>j</sub> = +7°C	6.55	4.47
C <sub>dh T<sub>j</sub></sub> = +7 °C	0.950	0.960
P <sub>dh T<sub>j</sub></sub> = 12°C	1.80 kW	1.80 kW
COP T <sub>j</sub> = 12°C	8.57	6.67
C <sub>dh T<sub>j</sub></sub> = +12 °C	0.930	0.940
P <sub>dh T<sub>j</sub></sub> = T <sub>biv</sub>	4.40 kW	4.40 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.17	2.04
P <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	4.19 kW	4.19 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	2.84	1.97
C <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>		
WT <sub>OL</sub>	60 °C	60 °C
P <sub>off</sub>	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	0.81 kW	0.81 kW
Annual energy consumption Q <sub>he</sub>	2139 kWh	3038 kWh

**EN 12102-1 | Warmer Climate**

	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 | Warmer Climate**

	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	3.70	1.98
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	3.20 kW	3.20 kW
COP Tj = +7°C	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
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	1112 kWh	1616 kWh

**Model PUZ-WM50VHA(-BS) + EHPT17X-\*M\*E**

Model name	PUZ-WM50VHA(-BS) + EHPT17X-*M*E
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Heat Source	Outdoor Air
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	1x230V 50Hz
Off-peak product	n/a

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	115 %
COP	2.77
Heating up time	3:01 h:min
Standby power input	33.3 W
Reference hot water temperature	53 °C
Mixed water at 40°C	236 l

**EN 16147 | Warmer Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	130 %
COP	3.13
Heating up time	2:46 h:min
Standby power input	36.2 W
Reference hot water temperature	53 °C
Mixed water at 40°C	236 l

**EN 14511-4 | Heating**

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

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	4 kW	4 kW
El input	0.77 kW	1.3 kW
COP	5.2	3.08

**EN 12102-1 | Average Climate**

	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 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	183 %	129 %
P <sub>rated</sub>	5 kW	5 kW
SCOP	4.66	3.29
T <sub>biv</sub>	-7 °C	-7 °C
T <sub>OL</sub>	-10 °C	-10 °C
P <sub>dh T<sub>j</sub></sub> = -7°C	4.42 kW	4.42 kW
COP T <sub>j</sub> = -7°C	3.42	2.28
C <sub>dh T<sub>j</sub></sub> = -7 °C	0.988	0.992
P <sub>dh T<sub>j</sub></sub> = +2°C	2.9 kW	2.76 kW
COP T <sub>j</sub> = +2°C	4.38	3.29
C <sub>dh T<sub>j</sub></sub> = +2 °C	0.977	0.982
P <sub>dh T<sub>j</sub></sub> = +7°C	1.92 kW	1.75 kW
COP T <sub>j</sub> = +7°C	6.62	3.87
C <sub>dh T<sub>j</sub></sub> = +7 °C	0.948	0.967
P <sub>dh T<sub>j</sub></sub> = 12°C	1.92 kW	1.82 kW
COP T <sub>j</sub> = 12°C	7.74	6.45
C <sub>dh T<sub>j</sub></sub> = +12 °C	0.94	0.947
P <sub>dh T<sub>j</sub></sub> = T <sub>biv</sub>	4.42 kW	4.42 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.42	2.28
P <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	4.21 kW	4.22 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	3.11	1.97
C <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	0.989	0.993
WT <sub>OL</sub>	60 °C	60 °C
P <sub>off</sub>	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	0.78 kW
Annual energy consumption Q <sub>he</sub>	2216 kWh	3141 kWh

**EN 12102-1 | Warmer Climate**

	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 | Warmer Climate**

	Low temperature	Medium temperature
$\eta_s$	226 %	157 %
Prated	5 kW	5 kW
SCOP	5.73	4
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5 kW	5 kW
COP Tj = +2°C	3.86	2.42
Cdh Tj = +2 °C	0.988	0.993
Pdh Tj = +7°C	3.22 kW	3.23 kW
COP Tj = +7°C	5.23	3.25
Cdh Tj = +7 °C	0.976	0.985
Pdh Tj = 12°C	1.92 kW	1.82 kW
COP Tj = 12°C	7.72	5.87
Cdh Tj = +12 °C	0.94	0.952
Pdh Tj = Tbiv	5 kW	5 kW
COP Tj = Tbiv	3.86	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5 kW	5 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.86	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.988	0.993
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 kW	0 kW
Annual energy consumption Qhe	1167 kWh	1669 kWh

**Model PUZ-WM50VHA(-BS) + ERPT17X-\*M\*E**

Model name	PUZ-WM50VHA(-BS) + ERPT17X-*M*E
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	1x230V 50Hz
Off-peak product	n/a

**Outdoor Air/Water****EN 16147 | Average Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	115 %
COP	2.77
Heating up time	3:01 h:min
Standby power input	33.3 W
Reference hot water temperature	53 °C
Mixed water at 40°C	236 l

**EN 16147 | Warmer Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	130 %
COP	3.13
Heating up time	2:46 h:min
Standby power input	36.2 W
Reference hot water temperature	53 °C
Mixed water at 40°C	236 l

**EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	4 kW	4 kW
El input	0.77 kW	1.3 kW
COP	5.2	3.08

**EN 12102-1 | Average Climate**

	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 | Average Climate**

	Low temperature	Medium temperature
$\eta_S$	188 %	131 %
Prated	5 kW	5 kW
SCOP	4.78	3.35
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.42 kW	4.42 kW
COP Tj = -7°C	3.42	2.28
Cdh Tj = -7 °C	0.988	0.992
Pdh Tj = +2°C	2.9 kW	2.76 kW
COP Tj = +2°C	4.38	3.29
Cdh Tj = +2 °C	0.977	0.982
Pdh Tj = +7°C	1.92 kW	1.75 kW
COP Tj = +7°C	6.62	3.87
Cdh Tj = +7 °C	0.948	0.967
Pdh Tj = 12°C	1.92 kW	1.82 kW
COP Tj = 12°C	7.74	6.45
Cdh Tj = +12 °C	0.94	0.947
Pdh Tj = Tbiv	4.42 kW	4.42 kW
COP Tj = Tbiv	3.42	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.21 kW	4.22 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.11	1.97
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.989	0.993
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	0.78 kW
Annual energy consumption Qhe	2161 kWh	3086 kWh

**EN 12102-1 | Warmer Climate**

	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 | Warmer Climate**

	Low temperature	Medium temperature
$\eta_s$	240 %	164 %
Prated	5 kW	5 kW
SCOP	6.07	4.17
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5 kW	5 kW
COP Tj = +2°C	3.86	2.42
Cdh Tj = +2 °C	0.988	0.993
Pdh Tj = +7°C	3.22 kW	3.23 kW
COP Tj = +7°C	5.23	3.25
Cdh Tj = +7 °C	0.976	0.985
Pdh Tj = 12°C	1.92 kW	1.82 kW
COP Tj = 12°C	7.72	5.87
Cdh Tj = +12 °C	0.94	0.952
Pdh Tj = Tbiv	5 kW	5 kW
COP Tj = Tbiv	3.86	2.42
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5 kW	5 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.86	2.42
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.988	0.993
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 kW	0 kW
Annual energy consumption Qhe	1101 kWh	1602 kWh