

Subtype Ecodan Zubadan 23

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 Zubadan 23
Registration number	037-0057-20
Heat Pump Type	Outdoor Air/Water
Refrigerant	R410A
Mass of Refrigerant	7.1 kg
Certification Date	09.04.2020
Testing basis	HP Keymark scheme rules rev. no. 7

Model PUHZ-SHW230YKA2(-BS) + EHSE-*M*D

Model name	PUHZ-SHW230YKA2(-BS) + EHSE-*M*D
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	n/a
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	n/a

Outdoor Air/Water**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	23 kW	23 kW
EI input	6.3 kW	9.31 kW
COP	3.65	2.47

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	73 dB(A)	73 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	164 %	127 %
Prated	25 kW	23 kW
SCOP	4.18	3.25
Tbiv	-10 °C	-10 °C
TOL	-25 °C	-25 °C
Pdh Tj = -7°C	22.1 kW	20.3 kW
COP Tj = -7°C	3.4	2.1
Cdh Tj = -7 °C	0.98	1
Pdh Tj = +2°C	13.5 kW	12.4 kW
COP Tj = +2°C	3.8	3.02
Cdh Tj = +2 °C	0.95	1
Pdh Tj = +7°C	12 kW	11.2 kW

COP Tj = +7°C	5.32	4.54
Cdh Tj = +7 °C	0.95	0.99
Pdh Tj = 12°C	14.6 kW	13.7 kW
COP Tj = 12°C	6.68	5.79
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	25 kW	23 kW
COP Tj = Tbiv	2.19	1.85
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	25 kW	23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.85
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 kW	0 kW
Annual energy consumption Qhe	12351 kWh	14615 kWh

Model PUHZ-SHW230YKA2(-BS) + EHSE-M*D

Model name	PUHZ-SHW230YKA2(-BS) + EHSE-M*D
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	n/a
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	n/a

Outdoor Air/Water**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	23 kW	23 kW
EI input	6.3 kW	9.31 kW
COP	3.65	2.47

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	73 dB(A)	73 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	164 %	127 %
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SCOP	4.18	3.25
Tbiv	-10 °C	-10 °C
TOL	-25 °C	-25 °C
Pdh Tj = -7°C	22.1 kW	20.3 kW
COP Tj = -7°C	3.4	2.1
Cdh Tj = -7 °C	0.98	1
Pdh Tj = +2°C	13.5 kW	12.4 kW
COP Tj = +2°C	3.8	3.02
Cdh Tj = +2 °C	0.95	1
Pdh Tj = +7°C	12 kW	11.2 kW

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Cdh Tj = +7 °C	0.95	0.99
Pdh Tj = 12°C	14.6 kW	13.7 kW
COP Tj = 12°C	6.68	5.79
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	25 kW	23 kW
COP Tj = Tbiv	2.19	1.85
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	25 kW	23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.85
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 kW	0 kW
Annual energy consumption Qhe	12351 kWh	14615 kWh

Model PUHZ-SHW230YKA2(-BS) + ERSE-*M*D

Model name	PUHZ-SHW230YKA2(-BS) + ERSE-*M*D
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	n/a

Outdoor Air/Water**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	23 kW	23 kW
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COP	3.65	2.47

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	73 dB(A)	73 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	165 %	128 %
Prated	25 kW	23 kW
SCOP	4.21	3.28
Tbiv	-10 °C	-10 °C
TOL	-25 °C	-25 °C
Pdh Tj = -7°C	22.1 kW	20.3 kW
COP Tj = -7°C	3.4	2.1
Cdh Tj = -7 °C	0.98	1
Pdh Tj = +2°C	13.5 kW	12.4 kW
COP Tj = +2°C	3.8	3.04
Cdh Tj = +2 °C	0.95	1

Pdh Tj = +7°C	12 kW	11.2 kW
COP Tj = +7°C	5.32	4.54
Cdh Tj = +7 °C	0.95	0.99
Pdh Tj = 12°C	14.6 kW	13.7 kW
COP Tj = 12°C	6.68	5.79
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	25 kW	23 kW
COP Tj = Tbiv	2.19	1.85
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	25 kW	23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.85
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 kW	0 kW
Annual energy consumption Qhe	12270 kWh	14485 kWh

Model PUHZ-SHW230YKA2(-BS) + ERSE-M*D

Model name	PUHZ-SHW230YKA2(-BS) + ERSE-M*D
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	n/a

Outdoor Air/Water**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	23 kW	23 kW
El input	6.3 kW	9.31 kW
COP	3.65	2.47

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	73 dB(A)	73 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	165 %	128 %
Prated	25 kW	23 kW
SCOP	4.21	3.28
Tbiv	-10 °C	-10 °C
TOL	-25 °C	-25 °C
Pdh Tj = -7°C	22.1 kW	20.3 kW
COP Tj = -7°C	3.4	2.1
Cdh Tj = -7 °C	0.98	1
Pdh Tj = +2°C	13.5 kW	12.4 kW
COP Tj = +2°C	3.8	3.04
Cdh Tj = +2 °C	0.95	1

Pdh Tj = +7°C	12 kW	11.2 kW
COP Tj = +7°C	5.32	4.54
Cdh Tj = +7 °C	0.95	0.99
Pdh Tj = 12°C	14.6 kW	13.7 kW
COP Tj = 12°C	6.68	5.79
Cdh Tj = +12 °C	0.98	0.99
Pdh Tj = Tbiv	25 kW	23 kW
COP Tj = Tbiv	2.19	1.85
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	25 kW	23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.19	1.85
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 kW	0 kW
Annual energy consumption Qhe	12270 kWh	14485 kWh

Model PUHZ-SHW230YKA2 + ERSE-MEE

Model name	PUHZ-SHW230YKA2 + ERSE-MEE
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	n/a
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	n/a

Outdoor Air/Water**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	23 kW	23 kW
El input	6.3 kW	9.31 kW
COP	3.65	2.47

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	8.06 kW	5.01 kW
Cooling capacity	20	20
EER	2.48	3.99

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	154 %	125 %
Prated	23 kW	23 kW
SCOP	3.92	3.21

Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	20.35 kW	20.35 kW
COP Tj = -7°C	2.39	1.95
Cdh Tj = -7 °C	0.997	0.998
Pdh Tj = +2°C	12.38 kW	12.38 kW
COP Tj = +2°C	3.76	3.04
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	11.8 kW	11.2 kW
COP Tj = +7°C	5.43	4.45
Cdh Tj = +7 °C	0.99	0.991
Pdh Tj = 12°C	13.8 kW	14 kW
COP Tj = 12°C	6.5	5.58
Cdh Tj = +12 °C	0.99	0.991
Pdh Tj = Tbiv	20.35 kW	20.35 kW
COP Tj = Tbiv	2.39	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	21.5 kW	22 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.97	1.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.998	0.998
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	1.5 kW	1 kW
Annual energy consumption Qhe	12116 kWh	14806 kWh

EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	20 kW	20 kW
SEER	4.32	5.6
Pdc Tj = 35°C	20 kW	20 kW
EER Tj = 35°C	2.48	3.99
Cdc Tj = 35 °C	0.997	0.996
Pdc Tj = 30°C	14.74 kW	14.74 kW
EER Tj = 30°C	3.91	4.98
Cdc Tj = 30 °C	0.994	0.993
Pdc Tj = 25°C	12.2 kW	14.9 kW
EER Tj = 25°C	4.86	5.93
Cdc Tj = 25 °C	0.991	0.991
Pdc Tj = 20°C	12.1 kW	15.2 kW
EER Tj = 20°C	5.18	7.14

Cdc Tj = 20 °C	0.991	0.99
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Annual energy consumption Qce	2781 kWh	2141 kWh

Model PUHZ-SHW230YKA2 + ERSE-YM9EE

Model name	PUHZ-SHW230YKA2 + ERSE-YM9EE
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	n/a
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C, +18°C/+23°C
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	n/a

Outdoor Air/Water**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	23 kW	23 kW
El input	6.3 kW	9.31 kW
COP	3.65	2.47

EN 14511-2 | Cooling

	+7°C/+12°C	+18°C/+23°C
El input	8.06 kW	5.01 kW
Cooling capacity	20	20
EER	2.48	3.99

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	154 %	125 %
Prated	23 kW	23 kW
SCOP	3.92	3.21

Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	20.35 kW	20.35 kW
COP Tj = -7°C	2.39	1.95
Cdh Tj = -7 °C	0.997	0.998
Pdh Tj = +2°C	12.38 kW	12.38 kW
COP Tj = +2°C	3.76	3.04
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	11.8 kW	11.2 kW
COP Tj = +7°C	5.43	4.45
Cdh Tj = +7 °C	0.99	0.991
Pdh Tj = 12°C	13.8 kW	14 kW
COP Tj = 12°C	6.5	5.58
Cdh Tj = +12 °C	0.99	0.991
Pdh Tj = Tbiv	20.35 kW	20.35 kW
COP Tj = Tbiv	2.39	1.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	21.5 kW	22 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.97	1.78
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.998	0.998
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	1.5 kW	1 kW
Annual energy consumption Qhe	12116 kWh	14806 kWh

EN 14825 | Cooling

	+7°C/+12°C	+18°C/+23°C
Pdesignc	20 kW	20 kW
SEER	4.32	5.6
Pdc Tj = 35°C	20 kW	20 kW
EER Tj = 35°C	2.48	3.99
Cdc Tj = 35 °C	0.997	0.996
Pdc Tj = 30°C	14.74 kW	14.74 kW
EER Tj = 30°C	3.91	4.98
Cdc Tj = 30 °C	0.994	0.993
Pdc Tj = 25°C	12.2 kW	14.9 kW
EER Tj = 25°C	4.86	5.93
Cdc Tj = 25 °C	0.991	0.991
Pdc Tj = 20°C	12.1 kW	15.2 kW
EER Tj = 20°C	5.18	7.14

Cdc Tj = 20 °C	0.991	0.99
Poff	22 W	22 W
PTO	0 W	0 W
PSB	22 W	22 W
PCK	0 W	0 W
Annual energy consumption Qce	2781 kWh	2141 kWh