

## Subtype Ecodan Zubadan 8/11/14

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 8/11/14
Registration number	037-0059-20
Heat Pump Type	Outdoor Air/Water
Refrigerant	R410A
Mass of Refrigerant	5.5 kg
Certification Date	09.04.2020
Testing basis	HP Keymark scheme rules rev. no. 7
Testing laboratory	SZU Brno, CZ

## Model PUHZ-SHW140YHA(-BS) + EHST20C-M\*D

Model name	PUHZ-SHW140YHA(-BS) + EHST20C-M*D
Application	Heating + DHW + low 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 16147 | Average Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	138 %
COP	3.25
Heating up time	01:32 h:min
Standby power input	35 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	278 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	14 kW	14 kW
El input	3.32 kW	5.62 kW
COP	4.22	2.49

#### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	70 dB(A)	70 dB(A)

#### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	163 %	127 %
Prated	17 kW	15.8 kW

SCOP	4.16	3.25
Tbiv	-7 °C	-7 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	15 kW	14 kW
COP Tj = -7°C	2.59	1.84
Cdh Tj = -7 °C	0.99	1
Pdh Tj = +2°C	9.1 kW	8.5 kW
COP Tj = +2°C	4.01	3.1
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.9 kW	5.5 kW
COP Tj = +7°C	5.71	4.67
Cdh Tj = +7 °C	0.99	0.98
Pdh Tj = 12°C	7.3 kW	7 kW
COP Tj = 12°C	7.47	6.62
Cdh Tj = +12 °C	0.99	0.98
Pdh Tj = Tbiv	15 kW	14 kW
COP Tj = Tbiv	2.59	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.1 kW	13.9 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.42	1.83
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	2.9 kW	1.9 kW
Annual energy consumption Qhe	8446 kWh	10054 kWh

## Model PUAZ-SHW140YHA(-BS) + EHST20C-\*M\*D

Model name	PUAZ-SHW140YHA(-BS) + EHST20C-*M*D
Application	Heating + DHW + low 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 16147 | Average Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	138 %
COP	3.25
Heating up time	01:32 h:min
Standby power input	35 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	278 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	14 kW	14 kW
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	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	70 dB(A)	70 dB(A)

#### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	163 %	127 %
Prated	17 kW	15.8 kW

SCOP	4.16	3.25
Tbiv	-7 °C	-7 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	15 kW	14 kW
COP Tj = -7°C	2.59	1.84
Cdh Tj = -7 °C	0.99	1
Pdh Tj = +2°C	9.1 kW	8.5 kW
COP Tj = +2°C	4.01	3.1
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.9 kW	5.5 kW
COP Tj = +7°C	5.71	4.67
Cdh Tj = +7 °C	0.99	0.98
Pdh Tj = 12°C	7.3 kW	7 kW
COP Tj = 12°C	7.47	6.62
Cdh Tj = +12 °C	0.99	0.98
Pdh Tj = Tbiv	15 kW	14 kW
COP Tj = Tbiv	2.59	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.1 kW	13.9 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.42	1.83
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	2.9 kW	1.9 kW
Annual energy consumption Qhe	8446 kWh	10054 kWh

## Model PUAZ-SHW140YHA(-BS) + ERST20C-\*M\*D

Model name	PUAZ-SHW140YHA(-BS) + ERST20C-*M*D
Application	Heating + DHW + low 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 16147 | Average Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	138 %
COP	3.25
Heating up time	01:32 h:min
Standby power input	35 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	278 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	14 kW	14 kW
El input	3.32 kW	5.62 kW
COP	4.22	2.49

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	70 dB(A)	70 dB(A)

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	165 %	128 %

Prated	17 kW	15.8 kW
SCOP	4.21	3.27
Tbiv	-7 °C	-7 °C
TOL	-28 °C	-28 °C
Pdh Tj = -7°C	15 kW	14 kW
COP Tj = -7°C	2.59	1.84
Cdh Tj = -7 °C	0.99	1
Pdh Tj = +2°C	9.1 kW	8.5 kW
COP Tj = +2°C	4.03	3.1
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	5.9 kW	5.5 kW
COP Tj = +7°C	5.71	4.67
Cdh Tj = +7 °C	0.99	0.98
Pdh Tj = 12°C	7.3 kW	7 kW
COP Tj = 12°C	7.47	6.62
Cdh Tj = +12 °C	0.99	0.98
Pdh Tj = Tbiv	15 kW	14 kW
COP Tj = Tbiv	2.59	1.84
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.1 kW	13.9 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.42	1.83
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	2.9 kW	1.9 kW
Annual energy consumption Qhe	8344 kWh	9973 kWh

## Model PUHZ-SHW140YHA(-BS) + EHSC-M\*D

Model name	PUHZ-SHW140YHA(-BS) + EHSC-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	14 kW	14 kW
El input	3.32 kW	5.62 kW
COP	4.22	2.49

#### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
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PTO	22 W	22 W
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PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.9 kW	1.9 kW
Annual energy consumption Qhe	8446 kWh	10054 kWh

## Model PUHZ-SHW140YHA(-BS) + EHSC-\*M\*D

Model name	PUHZ-SHW140YHA(-BS) + EHSC-*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
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### EN 14511-2 | Heating

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Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.9 kW	1.9 kW
Annual energy consumption Qhe	8446 kWh	10054 kWh

## Model PUHZ-SHW140YHA(-BS) + ERSC-M\*D

Model name	PUHZ-SHW140YHA(-BS) + ERSC-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

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Complete power supply failure	passed
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Starting and operating test	passed

### EN 14511-2 | Heating

	Low temperature	Medium temperature
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PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.9 kW	1.9 kW
Annual energy consumption Qhe	8344 kWh	9973 kWh

## Model PUAZ-SHW140YHA(-BS) + ERSC-\*M\*D

Model name	PUAZ-SHW140YHA(-BS) + ERSC-*M*D
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Units	Indoor, Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

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Power supply	3x400V 50Hz
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