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

Summary of	Ecodan Power Inverter 20	Reg. No.	037-0053-20
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	RISE Research Institute of Sweden		
Subtype title	Ecodan Power Inverter 20		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R410a		
Mass Of Refrigerant	7.7 kg		
Certification Date	09.04.2020		
Testing basis	HP Keymark scheme rules rev. no. 7		

Model: PUHZ-SW200YKA(-BS) + EHSE-M*C

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	25.00 kW	25.00 kW
El input	6.25 kW	10.20 kW
COP	4.00	2.45
Indoor water flow rate	4.30 m³/h	2.69 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	45 dB(A)	45 dB(A)
Sound power level outdoor	78 dB(A)	78 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	162 %	128 %
Prated	17.30 kW	15.50 kW
SCOP	4.14	3.26
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	15.30 kW	13.70 kW
COP Tj = -7°C	2.53	1.83
Cdh	0.99	0.99
Pdh Tj = +2°C	9.30 kW	8.30 kW
COP Tj = +2°C	4.24	3.30
Cdh	0.99	0.99
Pdh Tj = +7°C	6.30 kW	5.90 kW
COP Tj = +7°C	5.21	4.27
Cdh	0.99	0.99

Pdh Tj = 12°C	7.70 kW	7.40 kW
COP Tj = 12°C	7.07	6.31
Cdh	0.99	0.99
Pdh Tj = Tbiv	15.30 kW	13.70 kW
COP Tj = Tbiv	2.53	1.83
Pdh Tj = TOL	10.50 kW	10.50 kW
COP Tj = TOL	1.52	1.62
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	3.10 kW	2.50 kW
Annual energy consumption Qhe	8410 kWh	9623 kWh

Model: PUHZ-SW200YKA(-BS) + EHSE-YM*C

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	25.00 kW	25.00 kW
El input	6.25 kW	10.20 kW
COP	4.00	2.45
Indoor water flow rate	4.30 m³/h	2.69 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	45 dB(A)	45 dB(A)
Sound power level outdoor	78 dB(A)	78 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	162 %	128 %
Prated	17.30 kW	15.50 kW
SCOP	4.14	3.26
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	15.30 kW	13.70 kW
COP Tj = -7°C	2.53	1.83
Cdh	0.99	0.99
Pdh Tj = +2°C	9.30 kW	8.30 kW
COP Tj = +2°C	4.24	3.30
Cdh	0.99	0.99
Pdh Tj = +7°C	6.30 kW	5.90 kW
COP Tj = +7°C	5.21	4.27
Cdh	0.99	0.99

Pdh Tj = 12°C	7.70 kW	7.40 kW
COP Tj = 12°C	7.07	6.31
Cdh	0.99	0.99
Pdh Tj = Tbiv	15.30 kW	13.70 kW
COP Tj = Tbiv	2.53	1.83
Pdh Tj = TOL	10.50 kW	10.50 kW
COP Tj = TOL	1.52	1.62
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	3.10 kW	2.50 kW
Annual energy consumption Qhe	8410 kWh	9623 kWh

Model: PUHZ-SW200YKA(-BS) + ERSE-M*C

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	25.00 kW	25.00 kW
El input	6.25 kW	10.20 kW
COP	4.00	2.45
Indoor water flow rate	4.30 m³/h	2.69 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	45 dB(A)	45 dB(A)
Sound power level outdoor	78 dB(A)	78 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	164 %	129 %
Prated	17.30 kW	15.50 kW
SCOP	4.18	3.29
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	15.30 kW	13.70 kW
COP Tj = -7°C	2.53	1.83
Cdh	0.99	0.99
Pdh Tj = +2°C	9.30 kW	8.30 kW
COP Tj = +2°C	4.24	3.30
Cdh	0.99	0.99
Pdh Tj = +7°C	6.30 kW	5.90 kW
COP Tj = +7°C	5.21	4.27
Cdh	0.99	0.99

Pdh Tj = 12°C	7.70 kW	7.40 kW
COP Tj = 12°C	7.07	6.31
Cdh	0.99	0.99
Pdh Tj = Tbiv	15.30 kW	13.70 kW
COP Tj = Tbiv	2.53	1.83
Pdh Tj = TOL	10.50 kW	10.50 kW
COP Tj = TOL	1.52	1.62
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	3.10 kW	2.50 kW
Annual energy consumption Qhe	8410 kWh	9623 kWh

Model: PUHZ-SW200YKA(-BS) + ERSE-YM*C

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	25.00 kW	25.00 kW
El input	6.25 kW	10.20 kW
COP	4.00	2.45
Indoor water flow rate	4.30 m³/h	2.69 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	45 dB(A)	45 dB(A)
Sound power level outdoor	78 dB(A)	78 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	164 %	129 %
Prated	17.30 kW	15.50 kW
SCOP	4.18	3.29
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	15.30 kW	13.70 kW
COP Tj = -7°C	2.53	1.83
Cdh	0.99	0.99
Pdh Tj = +2°C	9.30 kW	8.30 kW
COP Tj = +2°C	4.24	3.30
Cdh	0.99	0.99
Pdh Tj = +7°C	6.30 kW	5.90 kW
COP Tj = +7°C	5.21	4.27
Cdh	0.99	0.99

Pdh Tj = 12°C	7.70 kW	7.40 kW
COP Tj = 12°C	7.07	6.31
Cdh	0.99	0.99
Pdh Tj = Tbiv	15.30 kW	13.70 kW
COP Tj = Tbiv	2.53	1.83
Pdh Tj = TOL	10.50 kW	10.50 kW
COP Tj = TOL	1.52	1.62
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	3.10 kW	2.50 kW
Annual energy consumption Qhe	8410 kWh	9623 kWh

Model: PUHZ-SW200YKA(-BS) + EHSE-M*D

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	25.00 kW	25.00 kW
El input	6.25 kW	10.20 kW
COP	4.00	2.45
Indoor water flow rate	4.30 m³/h	2.69 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	45 dB(A)	45 dB(A)
Sound power level outdoor	78 dB(A)	78 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	163 %	127 %
Prated	17.30 kW	15.50 kW
SCOP	4.14	3.26
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	15.30 kW	13.70 kW
COP Tj = -7°C	2.53	1.83
Cdh	1.00	1.00
Pdh Tj = +2°C	9.30 kW	8.30 kW
COP Tj = +2°C	4.24	3.30
Cdh	0.99	0.99
Pdh Tj = +7°C	6.30 kW	5.90 kW
COP Tj = +7°C	5.22	4.27
Cdh	0.99	0.98

Pdh Tj = 12°C	7.70 kW	7.40 kW
COP Tj = 12°C	7.08	6.31
Cdh	0.99	0.98
Pdh Tj = Tbiv	15.30 kW	13.70 kW
COP Tj = Tbiv	2.53	1.83
Pdh Tj = TOL	10.50 kW	10.50 kW
COP Tj = TOL	1.52	1.60
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	3.11 kW	2.54 kW
Annual energy consumption Qhe	8410 kWh	9623 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	78 dB(A)	78 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	209 %	127 %
Prated	17.30 kW	15.50 kW
SCOP	5.29	3.74
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	17.30 kW	15.50 kW
COP Tj = +2°C	3.01	1.80
Cdh	0.99	0.99
Pdh Tj = +7°C	11.10 kW	10.00 kW
COP Tj = +7°C	4.70	3.00
Cdh	0.99	0.99
Pdh Tj = 12°C	7.60 kW	7.20 kW
COP Tj = 12°C	6.69	5.37
Cdh	0.99	0.99
Pdh Tj = Tbiv	15.30 kW	13.70 kW
COP Tj = Tbiv	2.53	1.74
Pdh Tj = TOL	10.50 kW	10.50 kW
COP Tj = TOL	1.52	1.52
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	4278 kWh	5449 kWh

Model: PUHZ-SW200YKA(-BS) + EHSE-YM*D

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	25.00 kW	25.00 kW
El input	6.25 kW	10.20 kW
COP	4.00	2.45
Indoor water flow rate	4.30 m³/h	2.69 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	45 dB(A)	45 dB(A)
Sound power level outdoor	78 dB(A)	78 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	163 %	127 %
Prated	17.30 kW	15.50 kW
SCOP	4.14	3.26
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	15.30 kW	13.70 kW
COP Tj = -7°C	2.53	1.83
Cdh	1.00	1.00
Pdh Tj = +2°C	9.30 kW	8.30 kW
COP Tj = +2°C	4.24	3.30
Cdh	0.99	0.99
Pdh Tj = +7°C	6.30 kW	5.90 kW
COP Tj = +7°C	5.22	4.27
Cdh	0.99	0.98

Pdh Tj = 12°C	7.70 kW	7.40 kW
COP Tj = 12°C	7.08	6.31
Cdh	0.99	0.98
Pdh Tj = Tbiv	15.30 kW	13.70 kW
COP Tj = Tbiv	2.53	1.83
Pdh Tj = TOL	10.50 kW	10.50 kW
COP Tj = TOL	1.52	1.60
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	3.11 kW	2.54 kW
Annual energy consumption Qhe	8410 kWh	9623 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	78 dB(A)	78 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	209 %	127 %
Prated	17.30 kW	15.50 kW
SCOP	5.29	3.74
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	17.30 kW	15.50 kW
COP Tj = +2°C	3.01	1.80
Cdh	0.99	0.99
Pdh Tj = +7°C	11.10 kW	10.00 kW
COP Tj = +7°C	4.70	3.00
Cdh	0.99	0.99
Pdh Tj = 12°C	7.60 kW	7.20 kW
COP Tj = 12°C	6.69	5.37
Cdh	0.99	0.99
Pdh Tj = Tbiv	15.30 kW	13.70 kW
COP Tj = Tbiv	2.53	1.74
Pdh Tj = TOL	10.50 kW	10.50 kW
COP Tj = TOL	1.52	1.52
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	4278 kWh	5449 kWh

Model: PUHZ-SW200YKA(-BS) + ERSE-M*D

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	25.00 kW	25.00 kW
El input	6.25 kW	10.20 kW
COP	4.00	2.45
Indoor water flow rate	4.30 m³/h	2.69 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	45 dB(A)	45 dB(A)
Sound power level outdoor	78 dB(A)	78 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	164 %	129 %
Prated	17.30 kW	15.50 kW
SCOP	4.18	3.29
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	15.30 kW	13.70 kW
COP Tj = -7°C	2.53	1.83
Cdh	1.00	1.00
Pdh Tj = +2°C	9.30 kW	8.30 kW
COP Tj = +2°C	4.24	3.30
Cdh	0.99	0.99
Pdh Tj = +7°C	6.30 kW	5.90 kW
COP Tj = +7°C	5.22	4.27
Cdh	0.99	0.98

Pdh Tj = 12°C	7.70 kW	7.40 kW
COP Tj = 12°C	7.08	6.31
Cdh	0.99	0.98
Pdh Tj = Tbiv	15.30 kW	13.70 kW
COP Tj = Tbiv	2.53	1.83
Pdh Tj = TOL	10.50 kW	10.50 kW
COP Tj = TOL	1.52	1.60
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	3.11 kW	2.54 kW
Annual energy consumption Qhe	8410 kWh	9623 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	78 dB(A)	78 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	211 %	129 %
Prated	17.30 kW	15.50 kW
SCOP	5.36	3.78
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	17.30 kW	15.50 kW
COP Tj = +2°C	3.01	1.80
Cdh	0.99	0.99
Pdh Tj = +7°C	11.10 kW	10.00 kW
COP Tj = +7°C	4.70	3.00
Cdh	0.99	0.99
Pdh Tj = 12°C	7.60 kW	7.20 kW
COP Tj = 12°C	6.69	5.37
Cdh	0.99	0.99
Pdh Tj = Tbiv	15.30 kW	13.70 kW
COP Tj = Tbiv	2.53	1.74
Pdh Tj = TOL	10.50 kW	10.50 kW
COP Tj = TOL	1.52	1.52
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	4278 kWh	5449 kWh

Model: PUHZ-SW200YKA(-BS) + ERSE-YM*D

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	25.00 kW	25.00 kW
El input	6.25 kW	10.20 kW
COP	4.00	2.45
Indoor water flow rate	4.30 m³/h	2.69 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	45 dB(A)	45 dB(A)
Sound power level outdoor	78 dB(A)	78 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	164 %	129 %
Prated	17.30 kW	15.50 kW
SCOP	4.18	3.29
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	15.30 kW	13.70 kW
COP Tj = -7°C	2.53	1.83
Cdh	1.00	1.00
Pdh Tj = +2°C	9.30 kW	8.30 kW
COP Tj = +2°C	4.24	3.30
Cdh	0.99	0.99
Pdh Tj = +7°C	6.30 kW	5.90 kW
COP Tj = +7°C	5.22	4.27
Cdh	0.99	0.98

Pdh Tj = 12°C	7.70 kW	7.40 kW
COP Tj = 12°C	7.08	6.31
Cdh	0.99	0.98
Pdh Tj = Tbiv	15.30 kW	13.70 kW
COP Tj = Tbiv	2.53	1.83
Pdh Tj = TOL	10.50 kW	10.50 kW
COP Tj = TOL	1.52	1.60
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	3.11 kW	2.54 kW
Annual energy consumption Qhe	8410 kWh	9623 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	78 dB(A)	78 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	211 %	129 %
Prated	17.30 kW	15.50 kW
SCOP	5.36	3.78
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	17.30 kW	15.50 kW
COP Tj = +2°C	3.01	1.80
Cdh	0.99	0.99
Pdh Tj = +7°C	11.10 kW	10.00 kW
COP Tj = +7°C	4.70	3.00
Cdh	0.99	0.99
Pdh Tj = 12°C	7.60 kW	7.20 kW
COP Tj = 12°C	6.69	5.37
Cdh	0.99	0.99
Pdh Tj = Tbiv	15.30 kW	13.70 kW
COP Tj = Tbiv	2.53	1.74
Pdh Tj = TOL	10.50 kW	10.50 kW
COP Tj = TOL	1.52	1.52
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	4278 kWh	5449 kWh