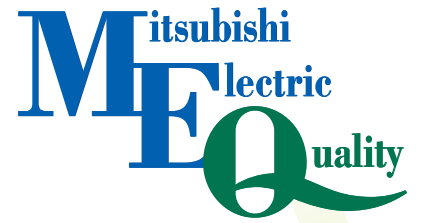


Changes for the Better

AIR TO WATER HEAT PUMP SYSTEMS



ecodan
Renewable Heating Technology
DATA BOOK

for a greener tomorrow



Zubadan

Model Name			PUHZ-SHW80VHA(-BS)	PUHZ-SHW112VHA(-BS)	PUHZ-SHW112YHA(-BS)
Power supply (phase, cycle, voltage)			1φ, 230V, 50Hz	1φ, 230V, 50Hz	3φ, 400V, 50Hz
	Max. current	A	29.5	35.0	13.0
Breaker size			A	32	40
Outer casing			Galvanized plate	Galvanized plate	Galvanized plate
External finish			Munsell 3Y 7.8/1.1	Munsell 3Y 7.8/1.1	Munsell 3Y 7.8/1.1
Refrigerant control			Linear expansion valve	Linear expansion valve	Linear expansion valve
Compressor			Hermetic scroll	Hermetic scroll	Hermetic scroll
	Model		ANB33FJRMT	ANB33FJRMT	ANB33FJQMT
	Motor output	kW	2.5	2.5	2.5
	Start type		Inverter	Inverter	Inverter
	Protection devices		HP switch LP switch Discharge thermo Comp. Surface thermo	HP switch LP switch Discharge thermo Comp. Surface thermo	HP switch LP switch Discharge thermo Comp. Surface thermo
	Oil (Model)	L	1.40 (FVC68D)	1.40 (FVC68D)	1.40 (FVC68D)
Crankcase heater			W	-	-
Heat exchanger		Air	Plate fin coil	Plate fin coil	Plate fin coil
		Water	-	-	-
Fan	Fan(drive) x No.		Propeller fan ×2	Propeller fan ×2	Propeller fan ×2
	Fan motor output	kW	0.074 ×2	0.074 ×2	0.074 ×2
	Air flow	m ³ /min (CFM)	100 (3,530)	100 (3,530)	100 (3,530)
Defrost method			Reverse cycle	Reverse cycle	Reverse cycle
Noise level (SPL)	Heating	dB(A)	51	52	52
	Cooling	dB(A)	50	51	51
Noise level (PWL)	Heating	dB(A)	69	70	70
Dimensions	Width	mm(in)	950 (37-3/8)	950 (37-3/8)	950 (37-3/8)
	Depth	mm(in)	330+30 (13+1-3/16)	330+30 (13+1-3/16)	330+30 (13+1-3/16)
	Height	mm(in)	1350 (53-1/8)	1350 (53-1/8)	1350 (53-1/8)
Weight		kg(lbs)	120 (265)	120 (265)	134 (296)
Refrigerant (GWP)			R410A (1975)	R410A (1975)	R410A (1975)
	Quantity	kg(lbs)	5.5 (12.1)	5.5 (12.1)	5.5 (12.1)
Pipe size O.D.	Liquid	mm(in)	9.52 (3/8)	9.52 (3/8)	9.52 (3/8)
	Gas	mm(in)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)
Connection method			Flared	Flared	Flared
Between the indoor & outdoor unit	Height difference	m	Max. 30	Max. 30	Max. 30
	Piping length	m	2 to 75	2 to 75	2 to 75
Guaranteed operating range (Outdoor)	Heating	°C	-28 (*1) to +21	-28 (*1) to +21	-28 (*1) to +21
	DHW	°C	-28 (*1) to +35	-28 (*1) to +35	-28 (*1) to +35
	Cooling *2	°C	-15 to +46	-15 to +46	-15 to +46
Outlet water temp. (Max in heating, Min in cooling)	Heating	°C	+60	+60	+60
	Cooling	°C	+5	+5	+5
Nominal return water temperature range	Heating	°C	+10 to +59	+10 to +59	+10 to +59
	Cooling	°C	+8 to +28	+8 to +28	+8 to +28
Water flow rate range		L/min	10.2 to 22.9	14.4 to 32.1	14.4 to 32.1

*1 Service reference number from "R2" (before "R2" : -25°C)

*2 Optional air protection guide is required where ambient temperature is lower than -5°C.

The temperature is 10°C when the unit is connected with Cylinder unit or Hydrobox.

For more details, refer to "Cylinder unit / Hydrobox".

Model Name			PUHZ-SHW140YHA(-BS)	PUHZ-SHW230YKA2
Power supply (phase, cycle, voltage)			3φ, 400V, 50Hz	3φ, 400V, 50Hz
	Max. current	A	13.0	26.0
Breaker size			16	32
Outer casing			Galvanized plate	Galvanized plate
External finish			Munsell 3Y 7.8/1.1	Munsell 3Y 7.8/1.1
Refrigerant control			Linear expansion valve	Linear expansion valve
Compressor			Hermetic scroll	Hermetic scroll
	Model		ANB33FJQMT	ANB66FJNMT
	Motor output	kW	2.5	4.7
Start type			Inverter	Inverter
Protection devices			HP switch LP switch Discharge thermo Comp. Surface thermo	HP switch LP switch Discharge thermo Comp. Surface thermo Orver current detection
	Oil (Model)	L	1.40 (FVC68D)	1.70 (FV50S)
Crankcase heater			W	-
Heat exchanger		Air	Plate fin coil	Plate fin coil
		Water	-	-
Fan	Fan(drive) x No.		Propeller fan ×2	Propeller fan ×2
	Fan motor output	kW	0.074 ×2	0.150 ×2
	Air flow	m ³ /min(CFM)	100 (3,530)	140 (4,940)
Defrost method			Reverse cycle	Reverse cycle
Noise level (SPL)	Heating	dB(A)	52	59
	Cooling	dB(A)	51	58
Noise level (PWL)	Heating	dB(A)	70	75
Dimensions	Width	mm(in)	950 (37-3/8)	1050 (41-5/16)
	Depth	mm(in)	330+30 (13+1-3/16)	330+30 (13+1-3/16)
	Height	mm(in)	1350 (53-1/8)	1338 (52-11/16)
Weight		kg(lbs)	134 (296)	149 (328)
Refrigerant (GWP)			R410A (1975)	R410A (1975)
	Quantity	kg(lbs)	5.5 (12.1)	7.7 (17.0)
Pipe size O.D.	Liquid	mm(in)	9.52 (3/8)	12.7 (1/2)
	Gas	mm(in)	15.88 (5/8)	25.4 (1)
Connection method			Flared	Flared
Between the indoor & outdoor unit	Height difference	m	Max. 30	Max. 30
	Piping length	m	2 to 75	2 to 80
Guaranteed operating range (Outdoor)	Heating	°C	-28 (*1) to +21	-25 to +21
	DHW	°C	-28 (*1) to +35	-25 to +35
	Cooling *2	°C	-15 to +46	-5 to +46
Outlet water temp. (Max in heating, Min in cooling)	Heating	°C	+60	+60
	Cooling	°C	+5	+5
Nominal return water temperature range	Heating	°C	+10 to +59	+10 to +59
	Cooling	°C	+8 to +28	+8 to +28
Water flow rate range		L/min	17.9 to 40.1	28.7 to 65.9

*1 Service reference number from "R2" (before "R2" : -25°C)

*2 Optional air protection guide is required where ambient temperature is lower than -5°C.
The temperature is 10°C when the unit is connected with Cylinder unit or Hydrobox.
For more details, refer to "Cylinder unit / Hydrobox".

Model Name			PUHZ-SHW80VAA(-BS)	PUHZ-SHW80YAA(-BS)
Power supply (phase, cycle, voltage)			1φ, 230V, 50Hz	3φ, 400V, 50Hz
	Max. current	A	22.0	13.0
Breaker size			25.0	16.0
Outer casing			Galvanized plate	Galvanized plate
External finish			Munsell: N8.75 Munsell N2.75 (FRONT PANEL)	Munsell: N8.75 Munsell N2.75 (FRONT PANEL)
Refrigerant control			Linear expansion valve	Linear expansion valve
Compressor			Hermetic scroll	Hermetic scroll
	Model		DNK28FBAMT	DNK28FBBMT
	Motor output	kW	2.2	2.2
Start type			Inverter	Inverter
Protection devices			HP switch LP switch Discharge thermo Overcurrent detection Comp. surface thermo	HP switch LP switch Discharge thermo Overcurrent detection Comp. surface thermo
	Oil (Model)	L	1.00 (FVC68D)	1.00 (FVC68D)
Crankcase heater			W	-
Heat exchanger		Air	Plate fin coil	Plate fin coil
		Water	-	-
Fan	Fan(drive) x No.		Propeller fan x 1	Propeller fan x 1
	Fan motor output	kW	0.2	0.2
	Air flow	m ³ /min (CFM)	50 (1,760)	50 (1,760)
Defrost method			Reverse cycle	Reverse cycle
Noise level (SPL)	Heating	dB(A)	45	45
	Cooling	dB(A)	48	48
Noise level (PWL)	Heating	dB(A)	59	59
Dimensions	Width	mm(in)	1050 (41-5/16)	1050 (41-5/16)
	Depth	mm(in)	480 (18-7/8)	480 (18-7/8)
	Height	mm(in)	1020 (40-3/16)	1020 (40-3/16)
Weight		kg(lbs)	116 (256)	128 (282)
Refrigerant (GWP)			R410A (1975)	R410A (1975)
	Quantity	kg(lbs)	4.6 (10.1)	4.6 (10.1)
Pipe size O.D.	Liquid	mm(in)	9.52 (3/8)	9.52 (3/8)
	Gas	mm(in)	15.88 (5/8)	15.88 (5/8)
Connection method			Flared	Flared
Between the indoor & outdoor unit	Height difference	m	Max. 30	Max. 30
	Piping length	m	2 to 75	2 to 75
Guaranteed operating range (Outdoor)	Heating	°C	-28 to +21	-28 to +21
	DHW	°C	-28 to +35	-28 to +35
	Cooling*	°C	-15 to +46	-15 to +46
Outlet water temp. (Max in heating, Min in cooling)	Heating	°C	+60	+60
	Cooling	°C	+5	+5
Nominal return water temperature range	Heating	°C	+5 to +59	+5 to +59
	Cooling	°C	+8 to +28	+8 to +28
Water flow rate range		L/min	10.2 to 22.9	10.2 to 22.9

* Optional air protection guide is required where ambient temperature is lower than -5°C.
 The temperature is 10°C when the unit is connected with Cylinder unit or Hydrobox.
 For more details, refer to "Cylinder unit / Hydrobox".

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Model name		PUHZ-SHW80VHA(-BS)	PUHZ-SHW112VHA(-BS)	
Nominal water flow rate (Heating mode)		L/min	22.9	32.1
Heating (A7/W35)	Capacity	kW	8.00	11.20
	COP		4.65	4.46
	Power input	kW	1.72	2.51
Heating (A2/W35)	Capacity	kW	8.00	11.20
	COP		3.55	3.34
	Power input	kW	2.25	3.35
Pressure difference (water circuit)		kPa	-	-
Heating pump input (based on EN14511)		kW	-	-
Nominal water flow rate (Cooling mode)		L/min	20.4	28.7
Cooling (A35/W7)	Capacity	kW	7.10	10.00
	EER (COP)		3.31	2.83
	Power input	kW	2.15	3.53
Cooling (A35/W18)	Capacity	kW	7.10	10.00
	EER (COP)		4.52	4.74
	Power input	kW	1.57	2.11
Pressure difference (water circuit)		kPa	-	-
Cooling pump input (based on EN14511)		kW	-	-
Recommended plate heat exchanger			ACH70-40	ACH70-40

The table shows performance data obtained when a plate heat exchanger is connected.

Model name		PUHZ-SHW112YHA(-BS)	PUHZ-SHW140YHA(-BS)	
Nominal water flow rate (Heating mode)		L/min	32.1	40.1
Heating (A7/W35)	Capacity	kW	11.20	14.00
	COP		4.46	4.22
	Power input	kW	2.51	3.32
Heating (A2/W35)	Capacity	kW	11.20	14.00
	COP		3.34	2.96
	Power input	kW	3.35	4.73
Pressure difference (water circuit)		kPa	-	-
Heating pump input (based on EN14511)		kW	-	-
Nominal water flow rate (Cooling mode)		L/min	28.7	35.8
Cooling (A35/W7)	Capacity	kW	10.00	12.50
	EER (COP)		2.83	2.17
	Power input	kW	3.53	5.76
Cooling (A35/W18)	Capacity	kW	10.00	12.50
	EER (COP)		4.74	4.26
	Power input	kW	2.11	2.93
Pressure difference (water circuit)		kPa	-	-
Cooling pump input (based on EN14511)		kW	-	-
Recommended plate heat exchanger			ACH70-40	ACH70-40

The table shows performance data obtained when a plate heat exchanger is connected.

Model name		PUHZ-SHW230YKA2	
Nominal water flow rate (Heating mode)		L/min	65.9
Heating (A7/W35)	Capacity	kW	23.00
	COP		3.65
	Power input	kW	6.31
Heating (A2/W35)	Capacity	kW	23.00
	COP		2.37
	Power input	kW	9.71
Pressure difference (water circuit)		kPa	-
Heating pump input (based on EN14511)		kW	-
Nominal water flow rate (Cooling mode)		L/min	57.3
Cooling (A35/W7)	Capacity	kW	20.00
	EER (COP)		2.22
	Power input	kW	9.01
Cooling (A35/W18)	Capacity	kW	20.00
	EER (COP)		3.55
	Power input	kW	5.63
Pressure difference (water circuit)		kPa	-
Cooling pump input (based on EN14511)		kW	-
Recommended plate heat exchanger		ACH70-40 x 2 Parallel connection	

The table shows performance data obtained when a plate heat exchanger is connected.

Model name		PUHZ-SHW80VAA(-BS)		PUHZ-SHW80YAA(-BS)	
Nominal water flow rate (Heating mode)		L/min	22.9	22.9	
Heating (A7/W35)	Capacity	kW	8.0	8.0	
	COP		4.65	4.65	
	Power input	kW	1.72	1.72	
Heating (A2/W35)	Capacity	kW	8.0	8.0	
	COP		3.55	3.55	
	Power input	kW	2.25	2.25	
Pressure difference (water circuit)		kPa	-	-	
Heating pump input (based on EN14511)		kW	-	-	
Nominal water flow rate (Cooling mode)		L/min	20.4	20.4	
Cooling (A35/W7)	Capacity	kW	7.1	7.1	
	EER (COP)		3.31	3.31	
	Power input	kW	2.15	2.15	
Cooling (A35/W18)	Capacity	kW	7.1	7.1	
	EER (COP)		4.52	4.52	
	Power input	kW	1.57	1.57	
Pressure difference (water circuit)		kPa	-	-	
Cooling pump input (based on EN14511)		kW	-	-	
Recommended plate heat exchanger		MWA2-38PA		MWA2-38PA	

The table shows performance data obtained when a plate heat exchanger is connected.