

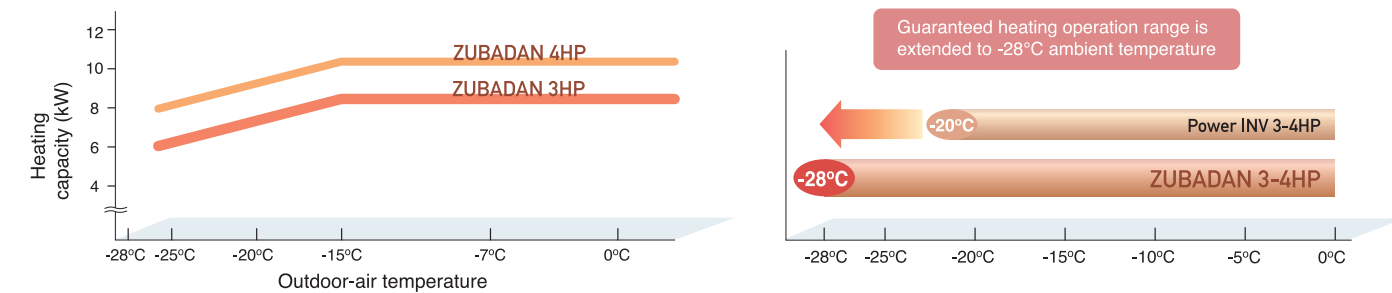
High-Power

Even at the very low ambient temperatures, our ZUBADAN can provide powerful heating.

- Our unique flash injection circuit enables the nominal capacity to be maintained down to -15°C.
- The guaranteed operating range of the heating mode is extended down to -28°C.

Improved Heating Performance

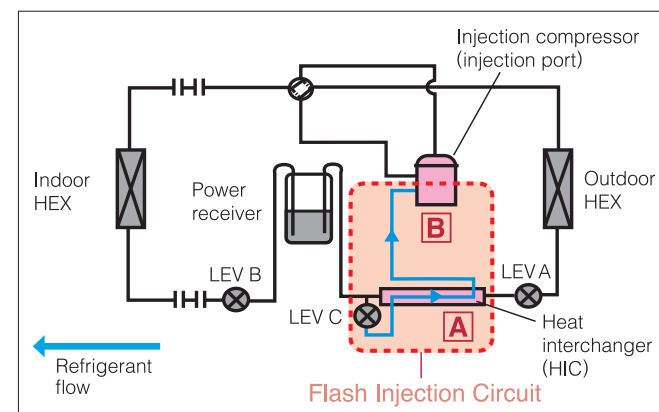
Mitsubishi Electric's unique "Flash Injection" circuit achieves remarkably high heating performance. This technology has resulted in an excellent heating capacity rating in outdoor temperatures as low as -15°C, and the guaranteed heating operation range of the heating mode has been extended to -28°C. Accordingly, the heat-pump units of the ZUBADAN Series are perfect for warming homes in the coldest regions.



Mitsubishi Electric's Flash Injection Technology The Key to High Heating Performance at Low Outdoor Temperatures

Flash Injection Circuit

ZUBADAN (SHW)



A Heat Interchanger (HIC)

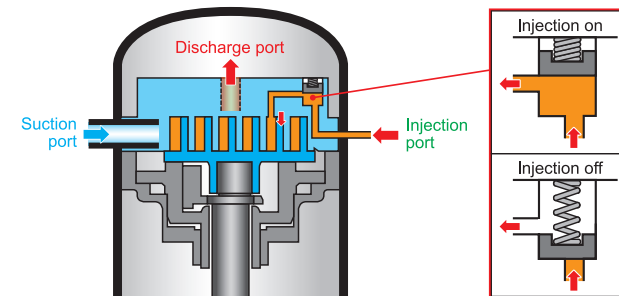
HIC cross-sectional view

- Refrigerant which has passed through LEV C (refrigerant pressure lowered)
- Refrigerant which hasn't passed through LEV C

- Purpose:** Transform liquid refrigerant into liquid-gas state
- Effect:** Injection circuit increases energy efficiency

The compressor is subjected to a heavy load when compressing liquid refrigerant, and the result is lower operation efficiency. The addition of HIC supports refrigerant heat exchange at two different pressure levels. The heat-exchange process transforms the injected liquid refrigerant into a gas liquid state, thereby decreasing the load on the compressor during the compression process.

B Injection Compressor



- Purpose:** To increase the volume of refrigerant being circulated
- Effect:** Improves heating capacity at low outdoor temperatures, and enables higher outlet temperature adjustment and higher defrost operation speed

Refrigerant passes from the HIC into the compressor through the injection port. Having two refrigerant inlets makes it possible to raise the volume of refrigerant being circulated when the outdoor temperature is low and at the start of heating operation.

Specifications

Outdoor unit

MODEL NAME	PUHZ-SW75VAA(-BS)	PUHZ-SW100VAA(-BS)	PUHZ-SW75YAA(-BS)	PUHZ-SW100YAA(-BS)	PUHZ-SHW80VAA(-BS)	PUHZ-SHW112VAA(-BS)	PUHZ-SHW80YAA(-BS)	PUHZ-SHW112YAA(-BS)		
POWER SUPPLY(Phase, cycle, voltage)	1φ, 230V, 50Hz		3φ, 400V, 50Hz		1φ, 230V, 50Hz					
MAX. Current	A	22.0	28.0	11.5	13.0	22.0	28.0	13.0		
Breaker size	A	25.0	32.0	16.0	16.0	25.0	32.0	16.0		
Dimensions	HxWxD									
Weight	empty(kg)									
Heating	Mid-temp (W35) average climate	P design(kw)	92	114	104	126	116	128	128	
		SCOP	7.1	10.0	7.1	10.0	9.0	12.7	9.0	12.7
		ηs	3.31	3.33	3.28	3.30	3.40	3.46	3.36	3.44
		RANK	129	130	128	129	133	135	132	135
		RANK	A++	A++	A++	A++	A++	A++	A++	A++
	Low-temp (W35) average climate	P design(kw)	7.2	10.6	7.2	10.6	9.6	13.9	9.6	13.9
		SCOP	4.12	4.25	4.07	4.21	4.31	4.34	4.26	4.31
		ηs	162	167	160	165	169	171	167	169
		RANK	A++	A++	A++	A++	A++	A++	A++	A++
		RANK	A++	A++	A++	A++	A++	A++	A++	A++
A7W35	Capacity(kW)	8.0	11.2	8.0	11.2	8.0	11.2	8.0	11.2	
	COP	4.40	4.46	4.40	4.46	4.65	4.46	4.65	4.46	
	Capacity(kW)	7.5	10.0	7.5	10.0	8.0	11.2	8.0	11.2	
	COP	3.40	3.32	3.40	3.32	3.55	3.22	3.55	3.22	
A2W35	ηwh	104	103	104	103	103	103	103	103	
	RANK	A	A	A	A	A	A	A	A	
DHW	Capacity(kW)	7.1	10.0	7.1	10.0	7.1	10.0	7.1	10.0	
	COP	2.70	2.83	2.70	2.83	3.31	2.83	3.31	2.83	
Cooling	Capacity(kW)	7.1	10.0	7.1	10.0	7.1	10.0	7.1	10.0	
	COP	4.43	4.47	4.43	4.47	4.52	4.74	4.52	4.74	
Sound pressure level (SPL)	Heating	43	47	43	47	45	47	45	47	
	Heating	58	60	58	60	59	60	59	60	
Sound power level (PWL)	Heating	dB(A)	58	60	58	60	59	60	59	60
		Diaper	9.52 / 15.88							
		Liquid(mm)/Gas(mm)	9.52 / 15.88							
		Max.Length(m)	30							
Piping	Chargeless(m)	10	10	10	10	30	30	30	30	
	Max.Length(m)	30								
	Refrigerant	R410A(GWP2088)	R410A(GWP2088)	R410A(GWP2088)	R410A(GWP2088)	R410A(GWP2088)	R410A(GWP2088)	R410A(GWP2088)	R410A(GWP2088)	
	Chargeless(kg)	3.0	4.2	3.0	4.2	4.6	4.6	4.6	4.6	
	CO ₂ equivalent(t)	6.27	8.77	6.27	8.77	9.61	9.61	9.61	9.61	
Guaranteed operating range	MAX.(kg)	4.8	6.0	4.8	6.0	6.0	6.0	6.0	6.0	
	CO ₂ equivalent(t)	10.03	12.53	10.03	12.53	12.53	12.53	12.53	12.53	
	Heating(°C)	-20 to +24	-20 to +24	-20 to +24	-20 to +24	-20 to +24	-20 to +24	-20 to +24	-20 to +24	
	DHW(°C)	-20 to +35	-20 to +35	-20 to +35	-20 to +35	-28 to +35	-28 to +35	-28 to +35	-28 to +35	
Cooling(°C)	-15 to +46	-15 to +46	-15 to +46	-15 to +46	-15 to +46	-15 to +46	-15 to +46	-15 to +46		

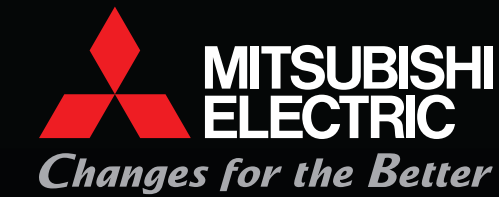
Dimension and required space

Height	Depth	Width	m3
1020	480	1050	0.51

Required space in front of the unit is just 350mm. The installation space required is the same as current model.



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for a greener tomorrow

Air-to-water Heat Pump Systems



10th anniversary
 ecodan

ecodan
 Renewable Heating Technology

Mitsubishi Electric
MEQ Quality

“ecodan” can heat rooms and supply domestic hot water, providing greater comfort and energy savings.

“ecodan” – economic, eco conscious next generation heating system

Both energy-saving and safe for the environment, the Mitsubishi Electric ecodan incorporates a highly efficient heat pump system that captures “the heat in the air”, a renewable energy resource. Equipped with advanced inverter control, meticulous temperature control assures comfortable heating, and its space-saving “All-in-one” indoor unit is easy to install. These energy-saving, high comfort and simple installation characteristics have drawn the ecodan heating system into the spotlight centre stage.

INDOOR UNIT

Hydro box, Cylinder unit



Reversible Hydro box, Reversible Cylinder unit



OUTDOOR UNIT

Packaged type	Small capacity (Under 5kW)*	Medium capacity (7.5kW-14kW)*	Large capacity (≥16kW)*
ZUBADAN		PUHZ-HW112/140	
POWER INVERTER	PUHZ-W50	PUHZ-W85, PUHZ-W112	
Split type	Small capacity (Under 5kW)*	Medium capacity (7.5kW-14kW)*	Large capacity (≥16kW)*
ZUBADAN		NEW PUHZ-SHW80/112AA, PUHZ-SHW80/112/140	PUHZ-SHW230
POWER INVERTER	PUHZ-SW50	NEW PUHZ-SW75/100AA, PUHZ-SW75, PUHZ-SW100/120	PUHZ-SW160/200
Eco Inverter	SUHZ-SW45		
ATA/ATW Hybrid system	Small capacity (Under 5kW)*	Medium capacity (7.5kW-14kW)*	Large capacity (≥16kW)*
Mr.SLIM+		PUHZ-FRP71	
PUMY + ecodan		PUMY-P112/125/140	

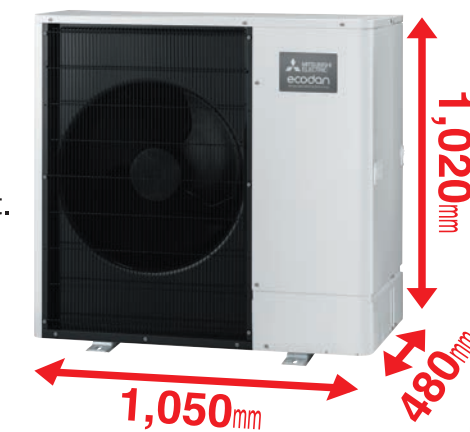
*Rated capacity is at conditions A2W35, (according to EN14511)

Dedicated Heat Pump for Residence.

Stylish and compact

The stylish design and compact size harmonises residential application.

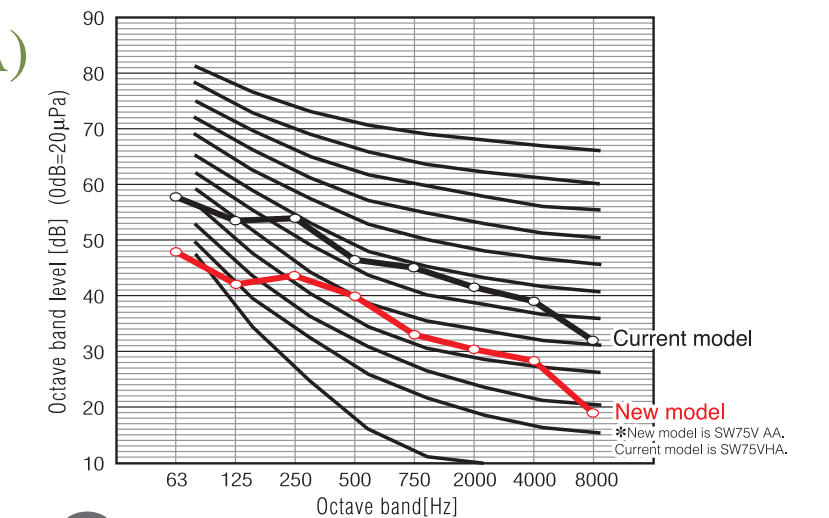
- Simple and elegant design by rounding left and right corners of the unit.
- Concealing the fan by matching the panel and the grille in dark colour.
- Unified shape and safety by setting the fan whole backwards and matching the grille on the same level of the front panel.



Compact but low noise

Noise reduction-10dB(A)

10dB(A) less in PWL comparing with the current models (of 3-4HP).



High performance

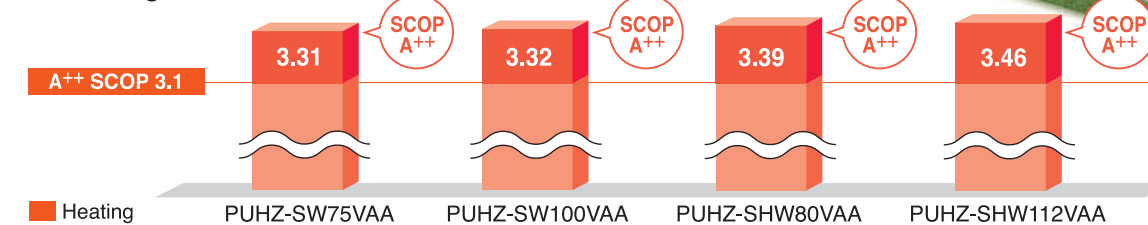
New compressor

- Compact
- High performance

* for PUHZ-SW100V/YAA, PUHZ-SHW80V/YAA, PUHZ-SHW112V/YAA

ErP Lot 1 Compliant with highest seasonal space heating energy efficiency class A++

Powerful heating yet annually high energy efficiency, achieving rank A++.



Higher reliability

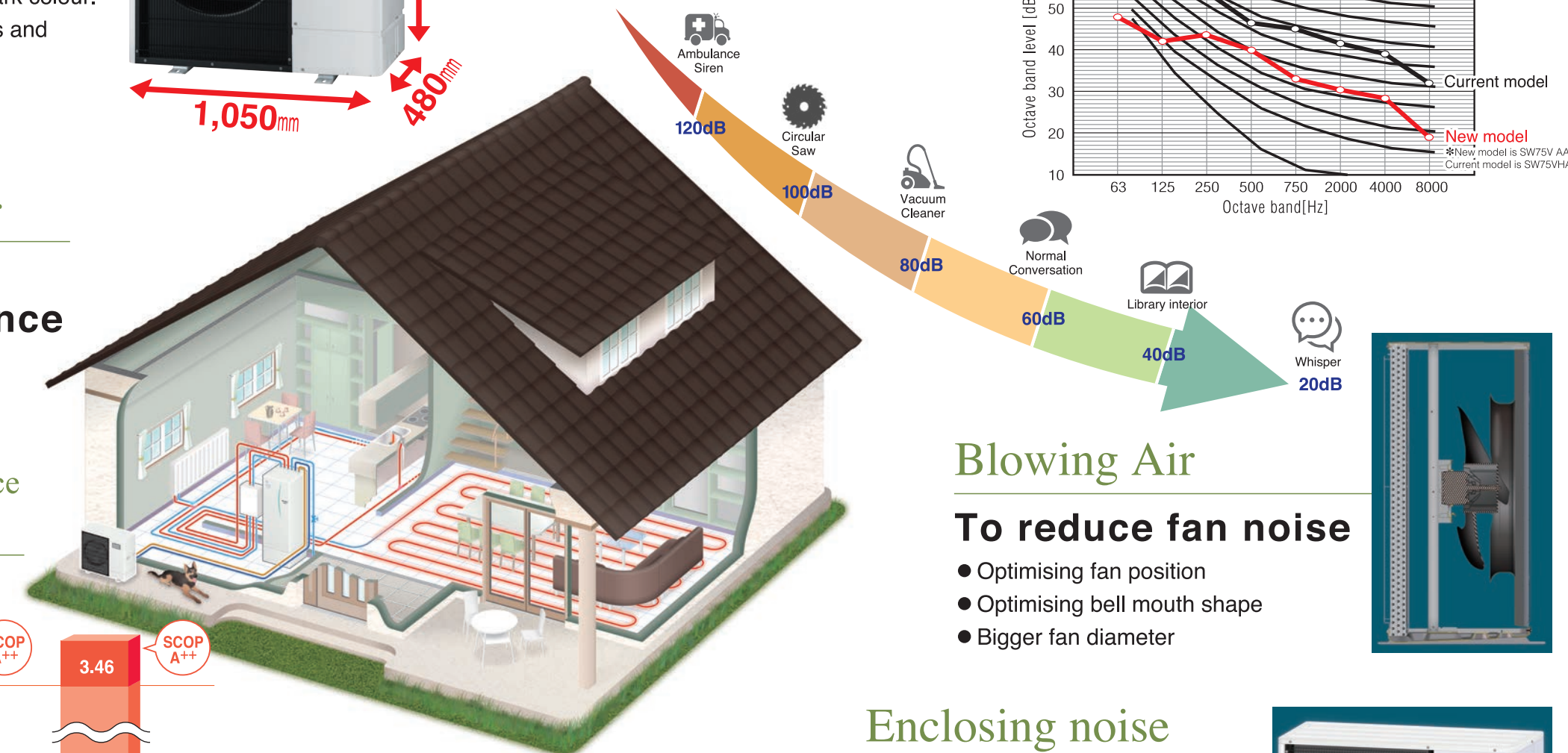
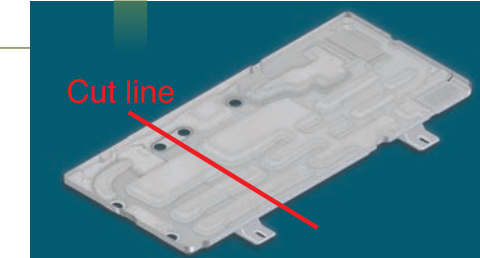
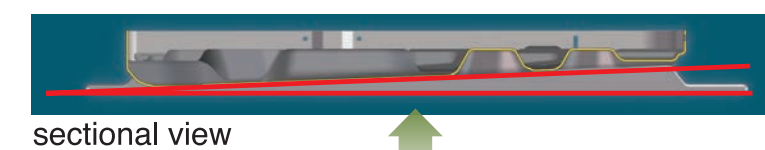
New base design

Improving drainage

- Optimising the base structure to improve drainage.
- A slope of the base achieves smooth and faster drainage.

Optimizing defrost control and operation.

Optimizing outdoor unit heat exchanger to avoid ice-forming.



Blowing Air

To reduce fan noise

- Optimising fan position
- Optimising bell mouth shape
- Bigger fan diameter

Enclosing noise

Shutting out noise from compressor

- The structure of double enclosing Primary : enclosing a compressor (the structure is patented.) Secondary : enclosing machine room.

Avoiding vibration and resonance

- Dedicated soft rubber mount for the compressor to avoid vibration.
- Optimising piping structure to avoid vibration and resonance.

