

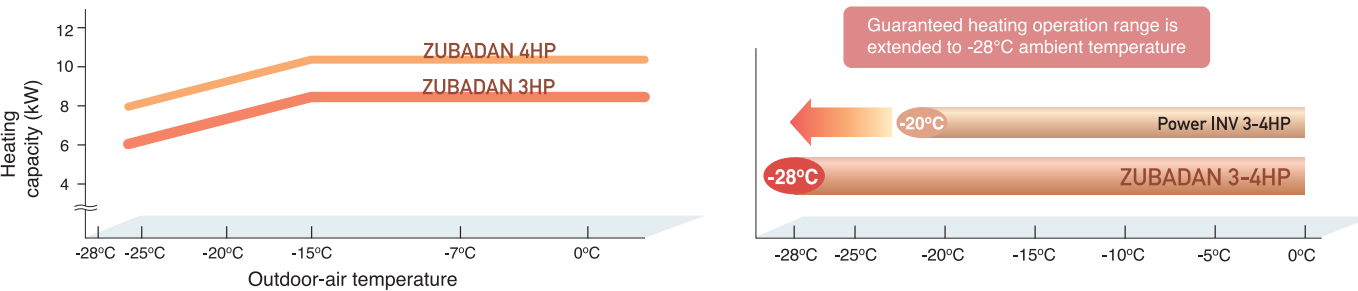
Hi-Power

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

- Our unique flash injection circuit enables the nomal capacity to be maintained to -15°C.
- The quaranteed operating range of the heating mode is extended 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 of regions.

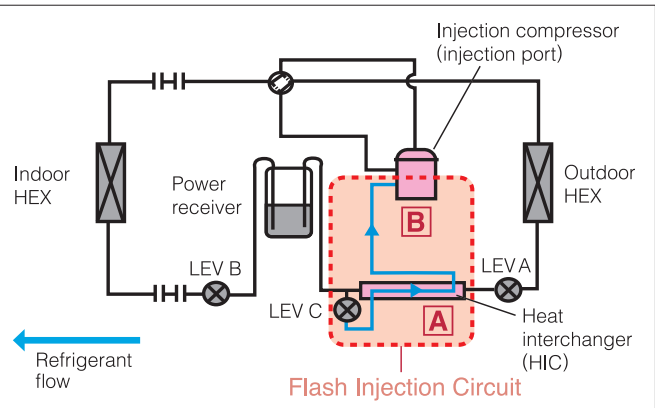


Mitsubishi Electric's Flash Injection Technology

The Key to High Heating Performance at Low Outdoor Temperatures

Flash Injection Circuit

ZUBADAN



A Heat Interchanger (HIC)

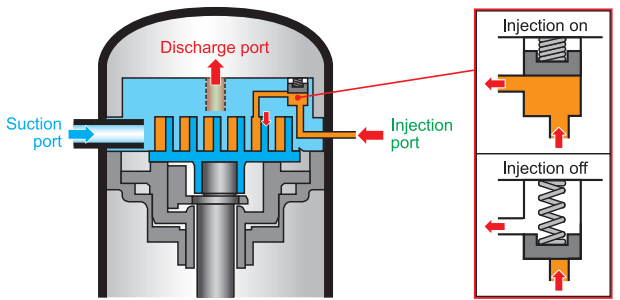
HIC cross-sectional view

- 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		3φ, 400V, 50Hz	
MAX. Current	A	22.0	28.0	11.5	13.0	22.0	29.0	13.0
Braker size	A	25.0	32.0	16.0	16.0	25.0	32.0	16.0
Dimensions	HxWxD	1020 x 1050 x 480						
Heating	Net(kg)	92	114	104	126	116	116	128
	Gross(kg)	107	129	119	131	131	131	143
	P desing(kW)	7.1	10.0	7.1	10.0	9.0	12.7	9.0
	SCOP	3.31	3.32	3.28	3.30	3.39	3.46	3.36
	ηs	129	130	129	130	133	135	133
	RANK	A++	A++	A++	A++	A++	A++	A++
	A7W35 Capacity(kW)	8.0	11.2	8.0	11.2	8.0	11.2	8.0
	A2W35 COP	Under study	4.46	4.40	4.46	4.65	4.46	4.65
	A2W35 Capacity(kW)	7.5	10.0	7.5	10	8.0	11.2	8
	A2W35 COP	3.4	3.32	3.40	3.32	3.55	3.22	3.55
DHW	ηwh	104	103	104	103	103	103	103
	RANK	A	A	A	A	A	A	A
Cooling	A35W7 Capacity(kW)	7.1	10.0	7.1	10	7.1	10.0	7.1
	A35W7 COP	2.7	2.83	2.70	2.83	3.31	2.83	3.31
	A35W18 Capacity(kW)	7.1	10.0	7.1	10	7.1	10.0	7.1
	A35W18 COP	4.4	4.47	4.43	4.47	4.52	4.74	4.52
Outlet water temp	Heating(°C)	+60	+60	+60	+60	+60	+60	+60
	Heating(kg/min)	22.9	32.1	22.9	32.1	22.9	32.1	32.1
Water Flow rate	LoH(kg/min)	14.3	20.1	14.3	20.1	14.3	20.1	14.3
	Cooling(kg/min)	20.4	28.7	20.4	28.7	20.4	28.7	20.4
Sound pressure level (SPL)	Heating	43	47	43	47	45	47	45
	Heating	43	47	43	47	45	47	45
PIPing	Diameter	9.52 / 15.88						
	Max.Length(m)	40	75	40	75	75	75	75
	Chargeless(m)	10	10	10	10	30	30	30
	Max.Length(m)	30						
Refrigerant		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
	CO ₂ equivalent(t)	6.27	8.77	6.27	8.77	9.61	9.61	9.61
	MAX.(kg)	4.8	6.0	4.8	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
Guaranteed operating range	Heating(°C)	-20 to +24	-20 to +24	-20 to +24	-20 to +24	-28 to +24	-28 to +24	-28 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
	Cooling(°C)	-15 to +46	-15 to +46	-15 to +46	-15 to +46	-15 to +46	-15 to +46	-15 to +46

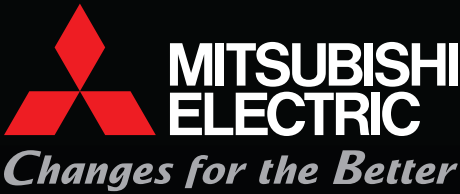
Dimension and required space

Height	Depth	Width	m3
1020	480	1050	0.51

Required space in front of the unit is just 350mm. It realizes the same installation space with current model.



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Air-to-water Heat Pump Systems

10th anniversary
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Renewable Heating Technology

Mitsubishi Electric
MEQ quality

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