



Cooling or Heating

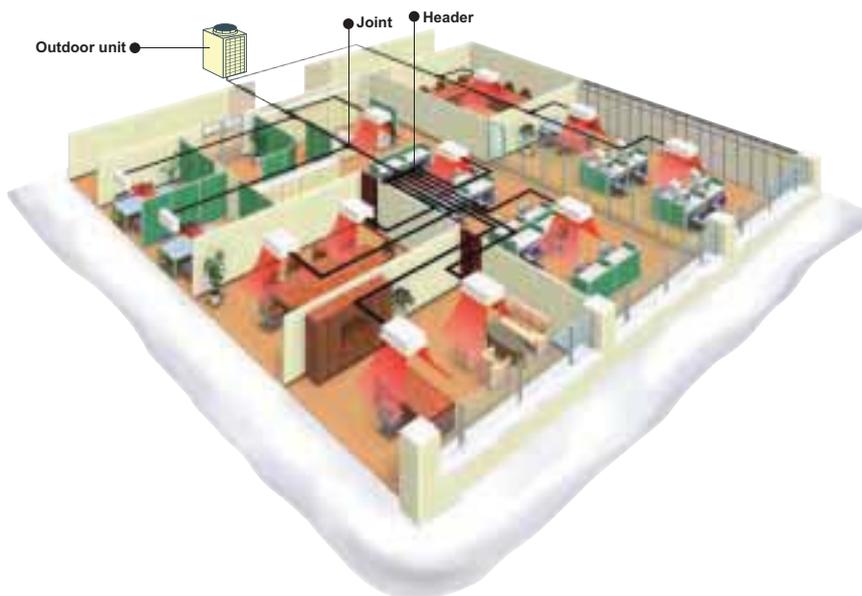
ZUBADAN series — PUHY-HP YHM-A(-BS)
PUHY-HP YSHM-A(-BS)

Bringing a year round comfort solutions to extreme climates

CITY MULTI ZUBADAN series combines the ultimate in application flexibility and powerful cooling and heating capabilities to deliver precise comfort even in the coldest days of the year down to -25°C.

The technology behind this is a Flash Injection circuit which provides optimum amount of refrigerant to the system via a compressor through a specially designed injection port to ensure a particularly stable operation. With this, ZUBADAN can provide a full heating performance even at -15°C and continuous heating for up to 250 minutes in one continuous cycle, ensuring a phenomenal heating performance at low temperatures.

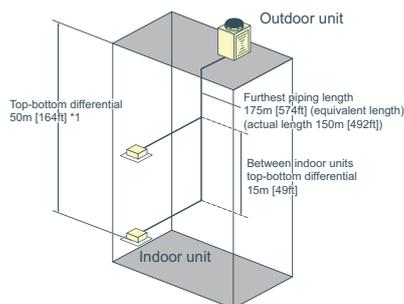
Installation image



System Pipe Lengths

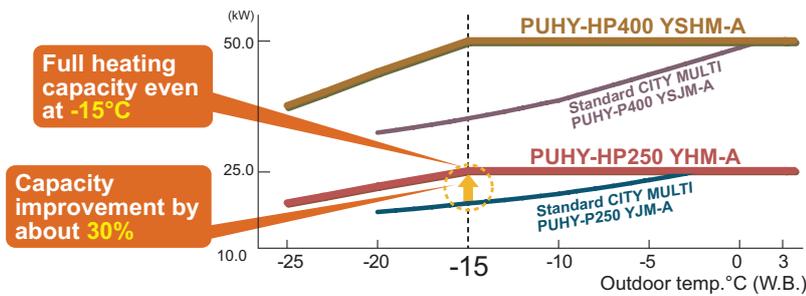
[8-10HP]

Refrigerant Piping Lengths	Maximum meters [Feet]
Total length.....	300 [984]
Maximum allowable length.....	150 (175equivalent) [492 (574)]
Farthest indoor from first branch.....	40 [131]
Vertical differentials between units	Maximum meters [Feet]
Indoor/outdoor (outdoor higher).....	50 [164]
Indoor/outdoor (outdoor lower).....	40 [131]
Indoor/indoor.....	15 [49]



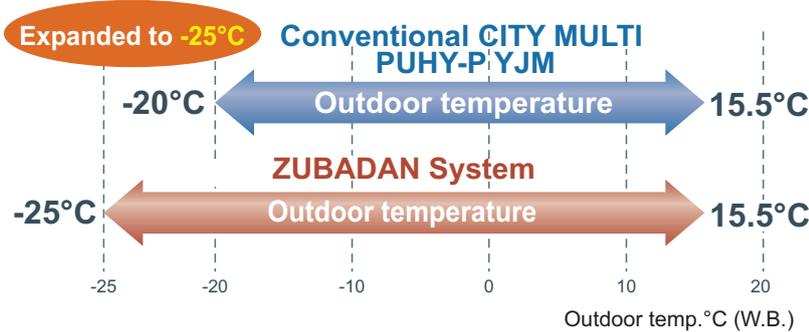
*1 When the outdoor unit is installed below the indoor unit, top-bottom differential is 40m [131 ft].

Stable Heating Performance even at -15°C

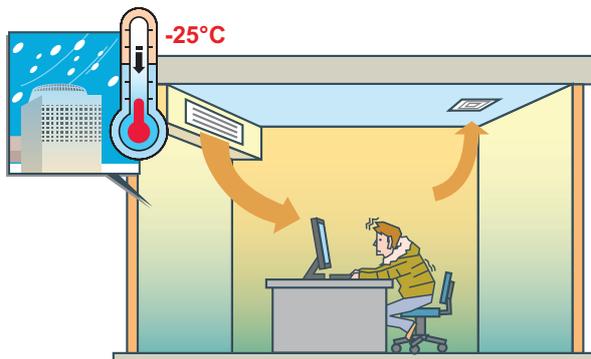


Using an industry first 'Flash-injection Circuit', the ZUBADAN System is able to provide FULL heating performance in ambient temperatures as low as -15°C.

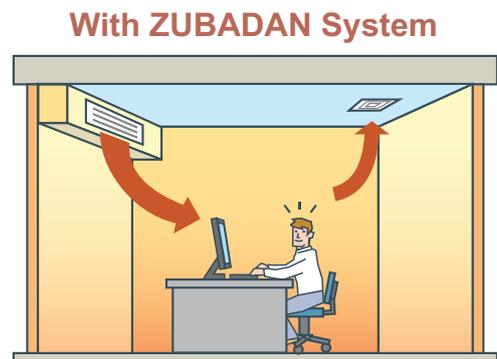
Expanded Heating Operation down to -25°C



...furthermore, from a previous LOWEST operating ambient temperature of -20°C, the ZUBADAN System pushes the boundaries of technology to give heating in ambient temperatures as low as -25°C.



Previously, heating performance drops off when the temperature falls below -20°C!



...however, even at such temperatures, the new ZUBADAN System has no trouble keeping the occupants nice and toasty!

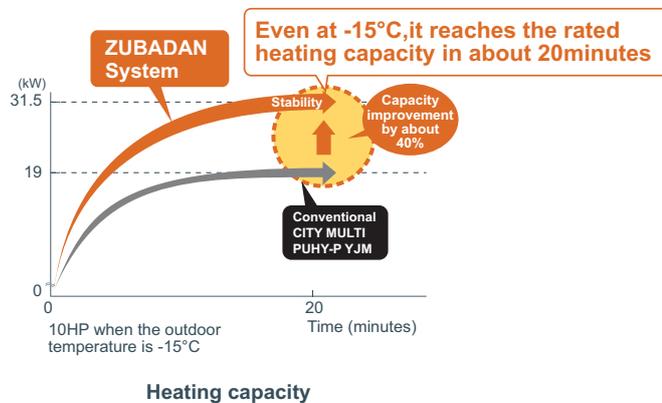


High Static Pressure Setting

High Static Pressure Setting up to 60Pa is available. With our new ZUBADAN model, high static pressure setting up to 60Pa is available by setting the dip switch (0Pa at factory setting) making it ideal and flexible for any type of application.

Shorter Warm-up in about 20 Min.

With its new improved startup performance, the ZUBADAN system achieves full heating capacity even when outdoor temperature is as low as -15°C. Heating capacity, about 20 minutes after startup is improved by 40% compared to the conventional model; ensuring occupants an immediate comfortable air solution.



Reliable and Long Product Life Cycle

Backup Function (HP400 and HP500 models)

ZUBADAN system ensures an exceptionally high level of reliability by utilizing a new backup function, which can be easily operated in the case of a malfunction from an indoor unit remote controller.



Rotation Function (HP400 and HP500 models)

Running outdoor units alternatively using its newly developed 'Rotation Function', the system is able to ensure an optimum product life cycle for both of its component units.



Maximum Stable Operation

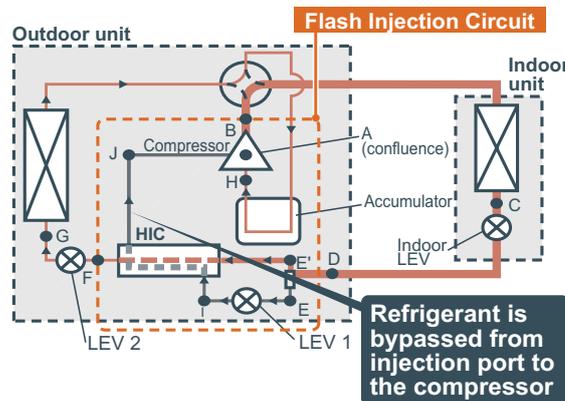
By utilizing our advanced Flash Injection Circuit, the system can not only provide continuous heating for up to 250 minutes in one continuous cycle, but also significantly lessens defrost time to give an exceptionally stable heating operation.

Heating up to 250 min. straight

Reduced Defrosting time

Startup Comfort

One of the key factors of the units newly designed Flash Injection Circuit is that the optimal amount of refrigerant can be provided to the system via the compressor through a specially designed injection port to ensure a particularly stable operation. In simple terms, the system allows a quick startup time and continuous heating; even in low ambient conditions.

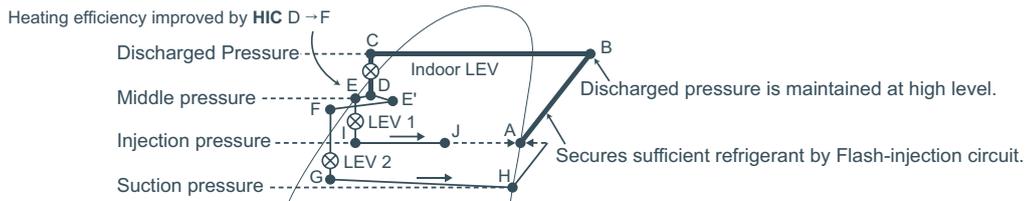


Note: Heat Interchange Circuit (HIC)
 Heating efficiency is improved by enhancing the recollection of heat at the outdoor unit with the low temperature refrigerant from the HIC.

Constant Comfort

With its new highly effective defrost feature (which prevents automatic defrosting when it is not required), the ZUBADAN System can deliver conditioned heating operation up to 250 minutes in one continuous cycle!

Heating capacity is maintained by the Flash-injection circuit.



[Pressure Enthalpy diagram showing HIC]



OUTDOOR UNIT ZUBADAN (Heat Pump) Series(Y) PUHY-HP Y(S)HM-A(-BS)



► Specifications

Set name	PUHY-HP200YHM-A(-BS)		PUHY-HP250YHM-A(-BS)		PUHY-HP400YSHM-A(-BS)		PUHY-HP500YSHM-A(-BS)		
Power source	3-phase 4-wire 380-400-415V 50/60Hz								
Cooling capacity (Nominal)	*1 kW	22.4	28.0	45.0	56.0				
	*1 BTU/h	76,400	95,500	153,500	191,100				
	Power input kW	6.40	9.06	12.86	18.16				
	Current input A	10.8-10.2-9.8	15.2-14.5-14.0	21.7-20.6-19.8	30.6-29.1-28.0				
	EER kW/kW	3.50	3.09	3.49	3.08				
Temp. range of cooling	Indoor	W.B. 15 ~ 24°C (59 ~ 75°F)							
	Outdoor	D.B. - 5 ~ 43°C (23 ~ 109°F)							
Heating capacity (Nominal)	*2 kW	25.0	31.5	50.0	63.0				
	*2 BTU/h	85,300	107,500	170,600	215,000				
	Power input kW	6.52	8.94	13.35	18.04				
	Current input A	11.0-10.4-10.0	15.0-14.3-13.8	22.5-21.4-20.6	30.4-28.9-27.8				
	COP kW/kW	3.83	3.52	3.74	3.49				
Temp. range of heating	Indoor	D.B. 15 ~ 27°C (59 ~ 81°F)							
	Outdoor	W.B. -25 ~ 15.5°C (-13 ~ 60°F)							
Indoor unit connectable	Total capacity	50 ~ 130% of outdoor unit capacity							
	Model/Quantity	P15~P250 / 1~17		P15 ~ P250 / 1 ~ 21		P15 ~ P250 / 1 ~ 34		P15 ~ P250 / 1 ~ 43	
Sound pressure level (measured in anechoic room)	dB<A>	56		57		59		60	
Diameter of refrigerant pipe	Liquid pipe mm(in.)	ø12.7 (ø1/2) Brazed		ø12.7 (ø1/2) Brazed		ø15.88 (ø5/8) Brazed		ø15.88 (ø5/8) Brazed	
	Gas pipe mm(in.)	ø19.05 (ø3/4) Brazed		ø22.2 (ø7/8) Brazed		ø28.58 (ø1-1/8) Brazed		ø28.58 (ø1-1/8) Brazed	
Model		-							
External finish		Pre-coated galvanized steel sheets <MUNSELL 5Y 8/1 or similar>				Pre-coated galvanized steel sheets <MUNSELL 5Y 8/1 or similar>			
External dimension H x W x D	mm	1,710 (without legs 1,650) x 920 x 760		1,710 (without legs 1,650) x 920 x 760		1,710 (without legs 1,650) x 920 x 760		1,710 (without legs 1,650) x 920 x 760	
	in.	67-3/8 (without legs 65) x 36-1/4 x 29-15/16		67-3/8 (without legs 65) x 36-1/4 x 29-15/16		67-3/8 (without legs 65) x 36-1/4 x 29-15/16		67-3/8 (without legs 65) x 36-1/4 x 29-15/16	
Net weight	kg(lbs)	220 (486)		220 (486)		220 (486)		220 (486)	
Heat exchanger		Salt-resistant cross fin & copper tube							
Compressor	Type	Inverter scroll hermetic compressor							
	Starting method	Inverter							
	Motor output kW	5.3	6.7	5.3	5.3	6.7	6.7		
FAN	*3 Air flow rate m ³ /min	225	225	225	225	225	225		
	L/s	3,750	3,750	3,750	3,750	3,750	3,750		
	cfm	7,945	7,945	7,945	7,945	7,945	7,945		
	Type x Quantity	Propeller fan x 1		Propeller fan x 1		Propeller fan x 1		Propeller fan x 1	
	Motor output kW	0.92 x 1		0.92 x 1		0.92 x 1		0.92 x 1	
External static press.	0 Pa (0 mmH ₂ O)		0 Pa (0 mmH ₂ O)		0 Pa (0 mmH ₂ O)		0 Pa (0 mmH ₂ O)		
Protection devices	High pressure protection	High pressure sensor, High pressure switch at 4.15 MPa (601 psi)				High pressure sensor, High pressure switch at 4.15 MPa (601 psi)			
	Inverter circuit (COMP./FAN)	Over-heat protection, Over-current protection				Over-heat protection, Over-current protection			
	Compressor	Over-heat protection							
Refrigerant	Type x Original charge	R410A x 9.0kg (20 lbs)		R410A x 9.0kg (20 lbs)		R410A x 9.0kg (20 lbs)		R410A x 9.0kg (20 lbs)	
Pipe between unit distributor	Liquid pipe mm(in.)	-		-		ø9.52 (ø3/8) Brazed		ø9.52 (ø3/8) Brazed	
	Gas pipe mm(in.)	-		-		ø19.05 (ø3/4) Brazed		ø22.2 (ø7/8) Brazed	
Optional parts	Joint : CMY-Y102SS-G2 Header : CMY-Y104/108/1010-G				Outdoor Twinning kit : CMY-Y100VBK2 Joint : CMY-Y102SS/LS-G2, CMY-Y202S-G2 Header : CMY-Y104/108/1010-G				

Notes:

*1,*2 Nominal conditions

	Indoor	Outdoor	Pipe length	Level difference
Cooling	27°C DB/19°C WB (81°F DB/66°F WB)	35°C DB(95°F DB)	7.5m (24-9/16ft.)	0m (0ft.)
Heating	20°C DB(68°F DB)	7°C DB/6°C WB(45°F DB/43°F WB)	7.5m (24-9/16ft.)	0m (0ft.)

*3 External static pressure option is available (30Pa, 60Pa / 3.1mmH₂O, 6.1mmH₂O).

*Nominal condition *1,*2 are subject to JIS B8615-1.

*Due to continuing improvement, above specification may be subject to change without notice.