

# Y Zubadan

## Heat pump outdoor units



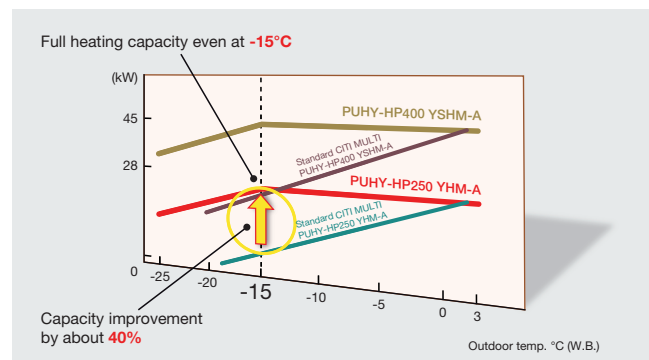
### Y ZUBADAN Series

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  $-25^{\circ}\text{C}$ . 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  $-15^{\circ}\text{C}$  and continuous heating for up to 250 minutes in one continuous cycle, ensuring a phenomenal heating performance at low temperatures.



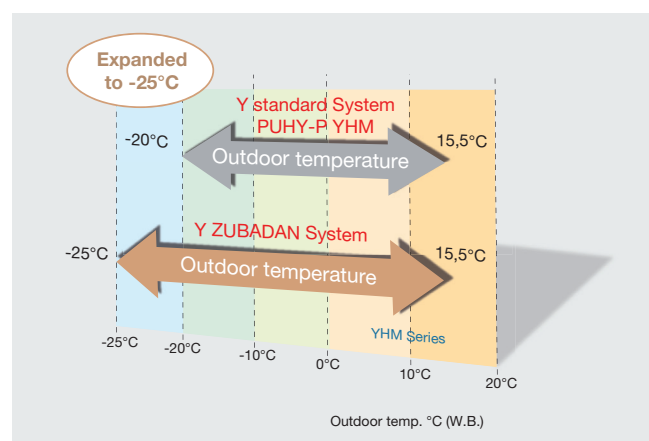
### Stable Heating Performance even at $-15^{\circ}\text{C}$

Using an industry first "Flash-injection Circuit", the ZUBADAN System is able to provide FULL heating performance in ambient temperatures as low as  $-15^{\circ}\text{C}$ .



### Expanded Heating Operation down to $-25^{\circ}\text{C}$

Furthermore, from a previous LOWEST operating ambient temperature of  $-20^{\circ}\text{C}$ , the ZUBADAN System pushes the boundaries of technology to give heating in ambient temperatures as low as  $-25^{\circ}\text{C}$ .



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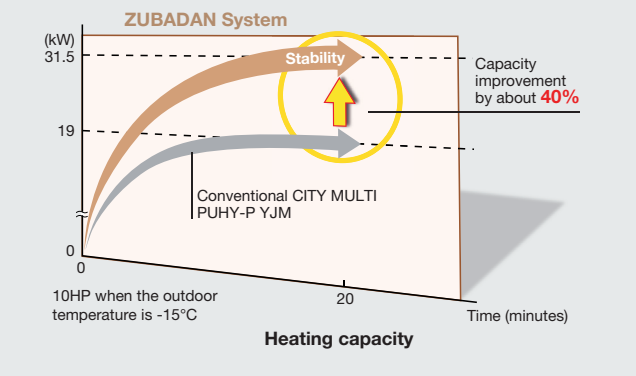
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### Shorter Warm-up in about 20 Min.

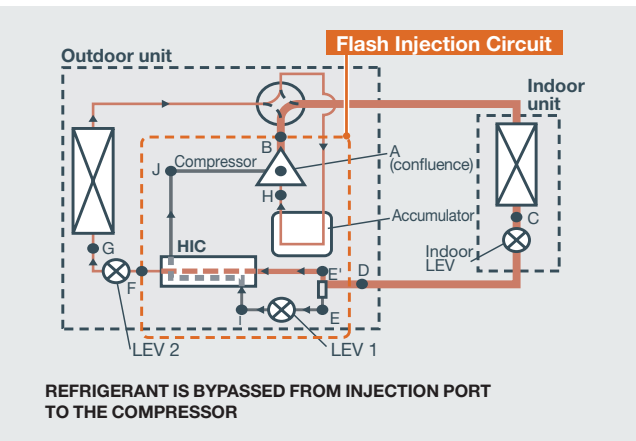
With its new improved startup performance, the ZUBADAN system achieves full heating capacity even when outdoor temperature is as low as  $-15^{\circ}\text{C}$ . Heating capacity, about 20 minutes after startup is improved by 40% compared to the conventional model; ensuring occupants an immediate comfortable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

**EVEN AT  $-15^{\circ}\text{C}$ , IT REACHES THE RATED HEATING CAPACITY IN ABOUT 20 MINUTES**



### Flash Injection Circuit

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.

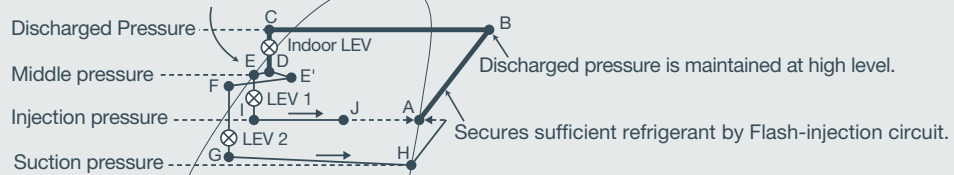


### Constant Comfort

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.**

Heating efficiency improved by HIC



**PRESSURE ENTHALPY DIAGRAM SHOWING HIC**

TECHNICAL SPECIFICATIONS

MODEL			PUHY-HP200YHM-A(-BS)		PUHY-HP250YHM-A(-BS)	
<b>HP</b>			8		10	
<b>Power</b>	Voltage/Freq./Phases	V/Hz/n°	3 phase 380-400-415V 50Hz			
<b>Cooling</b>	Nominal capacity <sup>1</sup>	kW	22.4		28.0	
	Power absorption	kW	6.40		9.06	
	EER		3.50		3.09	
	Operating temperature range	Indoor WB °C Outdoor DB °C	15.0~24.0 -5.0~43.0		15.0~24.0 -5.0~43.0	
<b>Heating</b>	Nominal capacity <sup>2</sup>	kW	25.0		31.5	
	Power absorption	kW	6.52		8.94	
	COP		3.83		3.52	
	Operating temperature range	Indoor DB °C Outdoor WB °C	15.0~27.0 -25.0~15.5		15.0~27.0 -25.0~15.5	
<b>Sound pressure<sup>3</sup></b>		dB(A)	56		57	
<b>Connectable indoor units</b>	Total capacity		50 to 130% of capacity of O.U.			
	Model/Quantity		P15~P250 / 1~17		P15~P250 / 1~21	
<b>External diameter of refrigerant connectors</b>	Liquid	mm	12.7		12.7	
	Gas	mm	19.05		22.2	
	Fan air flow rate	m <sup>3</sup> /min	225		225	
	External dimensions (HxLxW)	mm	1710x920x760*		1710x920x760*	
	Net weight	kg	220		220	
	R410A refrigerant charge quantity	kg	9.0		9.0	

TECHNICAL SPECIFICATIONS

MODEL			PUHY-HP400YSHM-A(-BS)		PUHY-HP500YSHM-A(-BS)		
<b>HP</b>			16		20		
<b>Power</b>	Voltage/Freq./Phases	V/Hz/n°	3 phase 380-400-415V 50Hz				
<b>Cooling</b>	Nominal capacity <sup>1</sup>	kW	45.0		56.0		
	Power absorption	kW	12.86		18.16		
	EER		3.49		3.08		
	Operating temperature range	Indoor WB °C Outdoor DB °C	15.0~24.0 -5.0~43.0		15.0~24.0 -5.0~43.0		
<b>Heating</b>	Nominal capacity <sup>2</sup>	kW	50.0		63.0		
	Power absorption	kW	13.35		18.04		
	COP		3.74		3.49		
	Operating temperature range	Indoor DB °C Outdoor WB °C	15.0~27.0 -25.0~15.5		15.0~27.0 -25.0~15.5		
<b>Sound pressure<sup>3</sup></b>		dB(A)	59		60		
<b>Connectable indoor units</b>	Total capacity		50 to 130% of capacity of O.U.				
	Model/Quantity		P15~P250 / 1~34		P15~P250 / 1~43		
<b>External diameter of refrigerant connectors</b>	Liquid	mm	15.88		15.88		
	Gas	mm	28.58		28.58		
<b>Model</b>			PUHY-HP200YHM-A	PUHY-HP200YHM-A	PUHY-HP250YHM-A	PUHY-HP250YHM-A	
	Fan air flow rate	m <sup>3</sup> /min	225	225	225	225	
	External dimensions (HxLxW)	mm	1710x920x760*	1710x920x760*	1710x920x760*	1710x920x760*	
	Net weight	kg	220	220	220	220	
	External diameter of refrigerant connectors	Liquid	mm	9.52	9.52	9.52	9.52
		Gas	mm	19.05	19.05	22.2	22.2
	R410A refrigerant charge quantity	kg	9.0	9.0	9.0	9.0	

\* Without removable support feet, A=1650 mm.

<sup>1</sup> Nominal cooling conditions: Indoor 27°C DB / 19°C WB, Outdoor 35°C DB, Piping length 7.5 m, vertical difference 0 m.

<sup>2</sup> Nominal heating conditions: Indoor 20°C DB, Outdoor 7°C DB / 6°C WB, Piping length 7.5 m, vertical difference 0 m.

<sup>3</sup> Values measured in anechoic chamber.