



# Power Inverter SERIES

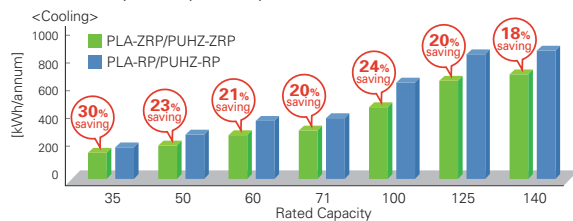
Our new Power Inverter Series is designed to achieve industry-leading seasonal energy-efficiency through use of new technologies and high-performance compressor. Installation is now even easier thanks to outdoor units with a side-flow configuration, a maximum piping length of 120m and pipe-replacement technologies.



## Industry-leading Energy Efficiency in New Seasonal Ratings

Industry-leading energy efficiency has been achieved through optimisation of a newly designed compressor and use of the latest energy-saving technologies. The new Power Inverter Series, designed to realise outstanding seasonal energy-efficiency, achieves high energy-efficiency rankings of A+ or A++ for both cooling and heating in most categories. Annual power consumption has been drastically reduced to realise savings in operating cost.

Annual electricity consumption comparison (PLA-ZRP/PUHZ-ZRP vs PLA-RP/PUHZ-RP)



\* Results are based on our own simulations. Actual power consumption may vary depending on how and where the units are used.

Energy Rank (Cooling/Heating)

Series		35	50	60	71	100
4-way ceiling cassette	PLA-ZRP BA	A++/A++	A++/A++	A++/A+	A++/A+	A++/A++
	PLA-RP BA	A++/A+	A+/A+	A+/A+	A++/A+	A++/A++
Wall-mounted	PKA-HAL/KAL	A+/A	A/A+	A++/A+	A++/A+	A++/A+
Ceiling-suspended	PCA-KAQ	A++/A+	A+/A+	A++/A+	A++/A+	A+/A
	PCA-HAQ	-	-	-	A+/A	-
Floor-standing	PSA-KA	-	-	-	A++/A+	A+/A+
Ceiling-concealed	PEAD-JAQ	A+/A+	A+/A+	A++/A+	A+/A	A+/A+

\* The ErP Directive (Lot 10) applies to air conditioners of rated capacity up to 12kW.

### ADVANCED ENERGY-SAVING TECHNOLOGIES

#### Highly efficient fan and grille for outdoor unit

The shapes of the fan and grille of the outdoor unit were redesigned, realising an increase in blowing capacity and more efficient heat exchange while maintaining the same operating noise level.

##### Outdoor unit fan opening increased <100-250>

The diameter of the opening for the fan in the outdoor unit has been increased from 490 to 550mm. Blowing capacity has been increased while maintaining the same fan rotation speed.



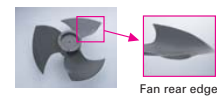
##### Grille shape changed <60-250>

The shape of the air outlet grille has been changed to reduce pressure loss. This has helped improve heat exchange performance.



##### Inflexed fan <100-250>

Adoption of a fan with improved ventilation characteristics and a newly designed rear edge that suppresses wind turbulence raises fan operation efficiency.



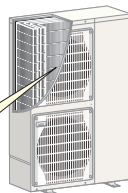
#### Highly efficient heat exchanger

A high density and increase in surface area have improved the heat-exchange efficiency of the heat exchanger.

##### High-density heat exchanger <100-250>

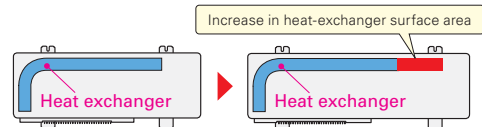
The pipe diameter for the RP100-140 has been changed from 9.52 to 7.94mm, the same fine pipe diameter as that used for RP200-250 units, resulting in a high-density heat exchanger.

2 lines, 52 columns  
↓  
2 lines, 64 columns  
(RP100-140)

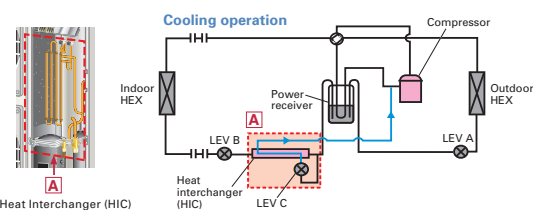


##### Heat-exchange surface area increased <100-250>

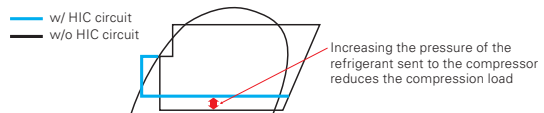
Heat exchanger size extended horizontally, increasing the surface area.



#### Heat Interchanger (HIC) Added <140>



A HIC circuit has been added to improve energy efficiency during cooling operation. Liquid refrigerant is rerouted, transformed into a gas state and injected back into the system to increase overall pressure of the refrigerant being sent to the compressor, thereby reducing the load on the compressor and raising efficiency.



## Side-flow Outdoor Units

All operating capacities have been unified to the side-flow configuration. Even for locations requiring large capacities, the small footprint of these outdoor units enable them to be used anywhere.



## Twin Rotary Compressor (PUAHZ-ZRP35/50/60/71)

Powerful yet high-efficiency rotary compressors that make use of Mitsubishi Electric technologies to achieve industry-leading energy efficiency under the new seasonal ratings. Annual power consumption has been significantly reduced compared to conventional units thanks to original Mitsubishi Electric technologies: "Poki-Poki Motors", "Heat Caulking Fixing Method", "Divisible Middle Plate" and "Flat Induction Pipe."

## DC Scroll Compressor (PUAHZ-ZRP100/125/140)

Our newly developed DC scroll compressor realises higher efficiency at partial load, which accounts for most of the operating time in both cooling and heating modes. The asymmetrically shaped scroll contributes to higher SEER and SCOP values and greatly reduces the annual power consumption. Compression efficiency is also improved through optimised compression and reduction of refrigerant pressure loss.

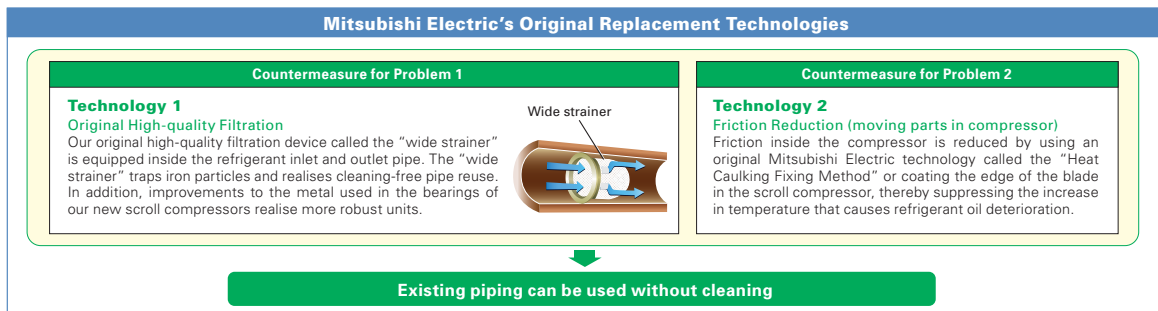
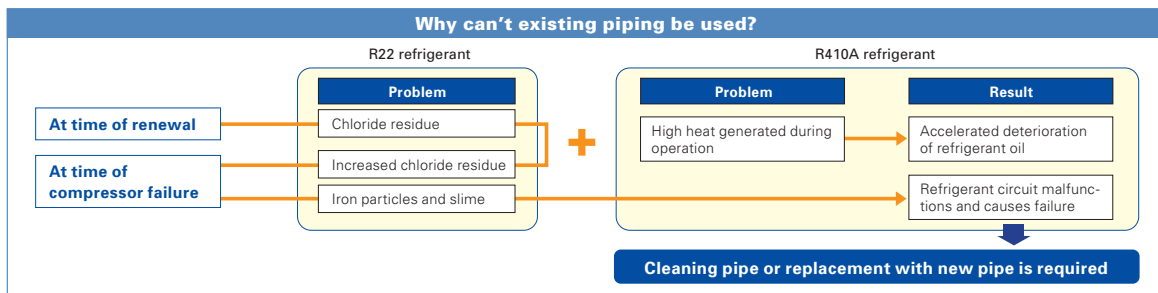


## Cleaning-free Pipe Reuse Technology

Ability to use existing piping reduces pipe waste and replacement time

### No Need to Clean at the Time of System Renewal

Chloride residue builds up in existing pipes and becomes a source of trouble. In addition, the iron particles and slime produced as a result of compressor failure lead to problems. To counter this, various original Mitsubishi Electric technologies have been combined to enable the introduction of "cleaning-free pipe reuse."



#### Cautions when using existing piping

- When removing an old air conditioning unit, please make sure to perform the pump-down process and recover the refrigerant and refrigerant oil.
- Check to ensure that the piping diameter and thickness match Mitsubishi Electric specifications.
- Check to ensure that the flare is compatible with R410A.

## 3-phase Power-supply Inverter (100-250)

Incorporation of a 3-phase power supply realises a dramatic reduction in operating current. This special technology is equipped in outdoor units to ensure compliance with electromagnetic compatibility regulations in Europe.

Operating current comparison (for combinations using 4-way ceiling cassettes)

Power Supply		PUHZ-ZRP100YKA	PUHZ-ZRP125YKA	PUHZ-ZRP140YKA
3-phase	Rated (cooling)	4.2	6.2	7.0
	Rated (heating)	4.2	5.9	7.5
	Max.	8.7	10.3	12.1
	Breaker size	16	16	16
Power Supply		PUHZ-ZRP100VKKA	PUHZ-ZRP125VKKA	PUHZ-ZRP140VKKA
1-phase	Rated (cooling)	11.9	17.6	19.9
	Rated (heating)	11.9	16.6	21.3
	Max.	27.2	27.3	29.1
	Breaker size	32	32	40

## Long Pipe Length

The additional refrigerant volume enables piping lengths of up to 100m (RP200/250), thereby making installation more flexible.

Model	Max. Pipe Length	Max. Height Difference
PUHZ-ZRP35/50	50m	30m
PUHZ-ZRP60/71	50m	30m
PUHZ-ZRP100/125/140	75m	30m
PUHZ-RP200/250	100m (120m*)	30m

When the total control/power cable length exceeds 80m, separate power sources are required for the indoor and outdoor units. (An optional power-supply terminal kit is needed for indoor units with no power-supply terminal block.)

\*Total piping length can be extended up to 120m in the case of a multi-system.