

Number	086
Subject	Using Panasonic PAC-i Standard and Elite condensing units with existing pipe-work
Date	June 2013

This document has been prepared by Logicool Air Conditioning Distribution Limited and is based on existing Panasonic recommendations for using pipe sizes different to those advertised, and standard industry guidelines for retrofits.

**PAC-i**  
**STANDARD**

**PAC-i**  
**ELITE**

New Panasonic PAC-i condensing units launched 2013 with improved SEER's and greater system flexibility can also be used with different pipe sizes to those advertised.

If utilising existing pipe-work, the recommendations and notes below should be observed.

The new PAC-i Elite and PAC-i Standard systems are compatible with those installations that have been operating with R22 or R407C. Re-using existing pipework will not affect warranty but guidelines and good industry practice must be followed.



This allows installing the Panasonic Elite/Standard Outdoor Units, which operate with R410A, without having to change the piping installation.

The existing pipe-work needs to be clean, devoid of any contaminants and have traces of mineral oil lower than 3% of previous system capacity. Ensure that the system is run in test cooling for one hour to recover as much oil from the indoor unit and pipework as possible. It is also advised that the system is pressure tested to manufacturers' recommendations and a triple vacuum.

Please use the charts listed on the following pages to ensure that the pipe sizes and pipe lengths you are using are allowable for your project.

## Panasonic PAC-I Standard Inverter Models

Model	Liquid	1/4"				3/8"				1/2"			
	Gas	3/8"	1/2"	5/8"	3/4"	1/2"	5/8"	3/4"	7/8"	5/8"	3/4"	7/8"	1 1/8"
<b>U-60PEY1E5</b>			10	10		30 (1)	<b>50</b>						
<b>U-71PEY1E5</b>			10 <sup>(1)</sup>	10		30 (1/5)	<b>50</b> (5)			25 (6)			
<b>U-100PEY1E5</b>							<b>50</b> (4)	50 (4)		25 (7)	25 (7)		
<b>U-125PEY1E5</b>							<b>50</b> (4)	50 (4)		25 (7)	25 (7)		
<b>U-140PEY1E5</b>							<b>50</b> (4)	50 (4)		25 (7)	25 (7)		
<b>U-100PEY1E8</b>							<b>50</b> (4)	50 (4)		25 (7)	25 (7)		
<b>U-125PEY1E8</b>							<b>50</b> (4)	50 (4)		25 (7)	25 (7)		
<b>U-140PEY1E8</b>							<b>50</b> (4)	50 (4)		25 (7)	25 (7)		

(area in bold is nominal pipe sizing)

- 1) Cooling capacity reduced
- 2) Additional refrigerant charge of 20g/m if pipe run is over 30 metres
- 3) Additional refrigerant charge of 40g/m if pipe run is over 15 metres
- 4) Additional refrigerant charge of 50g/m if pipe run is over 30 metres
- 5) Additional refrigerant charge of 40g/m if pipe run is over 20 metres
- 6) Additional refrigerant charge of 80g/m if pipe run is over 10 metres
- 7) Additional refrigerant charge of 80g/m if pipe run is over 15 metres

### Additional Notes

- Remove P-Traps from existing pipework.
- Do not re-use existing pipework if there is evidence of previous compressor changes or burnt out driers present.
- Do not use Solvent based cleaners if flushing the system
- For twin and triple systems only the main pipe can be re-used and an official distribution pipe should be installed. Please contact Logicool to check the criteria.

## Panasonic PAC-I Elite Inverter Models

Model	Liquid	1/4"				3/8"					1/2"				5/8"	
	Gas	3/8"	1/2"	5/8"	3/4"	1/2"	5/8"	3/4"	7/8"	1 1/8"	5/8"	3/4"	7/8"	1 1/8"	7/8"	1 1/8"
<b>U-50PE1E5</b>			<b>40</b> <sup>(2)</sup>	40 <sup>(2)</sup>		20 <sup>(3)</sup>	20 <sup>(3)</sup>									
<b>U-60PE1E5</b>			10 <sup>(1)</sup>	10		30 <sup>(1)</sup>	<b>50</b> <sup>(4)</sup>									
<b>U-71PE1E5/8</b>			10 <sup>(1)</sup>	10		30 <sup>(1)</sup>	<b>50</b> <sup>(4)</sup>				25 <sup>(7)</sup>					
<b>U-100PE1E5/8</b>							<b>75</b> <sup>(4)</sup>	75 <sup>(4)</sup>			35 <sup>(7)</sup>	35 <sup>(7)</sup>				
<b>U-125PE1E5/8</b>							<b>75</b> <sup>(4)</sup>	75 <sup>(4)</sup>			35 <sup>(7)</sup>	35 <sup>(7)</sup>				
<b>U-140PE1E5/8</b>							<b>75</b> <sup>(4)</sup>	75 <sup>(4)</sup>			35 <sup>(7)</sup>	35 <sup>(7)</sup>				
<b>U-200PE1E8</b>									80	<b>100</b>			50	50		
<b>U-250PE1E8</b>													80	<b>100</b>	65	65

- 1) Cooling capacity reduced
- 2) Additional refrigerant charge of 20g/m if pipe run is over 30 metres
- 3) Additional refrigerant charge of 40g/m if pipe run is over 15 metres
- 4) Additional refrigerant charge of 50g/m if pipe run is over 30 metres
- 5) Additional refrigerant charge of 40g/m if pipe run is over 20 metres
- 6) Additional refrigerant charge of 80g/m if pipe run is over 10 metres
- 7) Additional refrigerant charge of 80g/m if pipe run is over 15 metres

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## Measurement Procedure for Renewal

Observe the following procedure when reusing the existing piping or carrying out renewal installation work.  
Flowchart of Existing Piping Measures Criteria for PE1 Type and PEY1 Type Outdoor Unit

