

The Renewable Solutions Provider
Making a World of Difference

Heating

Heating Only Heat Pumps For Small to Medium Applications
Ecodan PUHZ Cascade Systems



Project Number	
Client	One Manchester
Quote No.	
Project Name	Princess Road
System Ref/Prop No.	

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Ecodan Cascade Data Capture Form

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Project Number - Not allocated

Please complete as many fields as possible in order for MEUK to provide most suitable technical proposal

Project Name	Princess Road				
Client	One Manchester				
Heat Pump Design Outdoor Temperature	-2			°C	
Heat Pump Calculated Required Capacity	19.44			kW	
System Type	Heating & Hot Water				
	Maximum water storage temperature is 55C. If this is a commercial application please consider L8 regulations.				
Design Flow Temperature (Space Heating)	45			°C	
Heat Emitter Type (e.g. radiators and/or underfloor heating)	Rads				
Control System	Mitsubishi Electric				
Heating Zones	2 zone same flow temp				
Amount of DHW Required (Litres)	1000				
DHW Heat Pump Storage Temperature Required	55			°C	
Do you require all Ecodan units in the system to provide hot water?	Yes				
Monobloc/Split	Monobloc				
Driving Force of System	PRICE	Yes	FOOTPRINT		NOISE
Required Electrical Connection of Ecodan HP	SINGLE PHASE	No	THREE PHASE	Yes	
Is this a bivalent application?	No				

Full Address and Postcode	Princess Rd, Manchester M12 4SA
 MITSUBISHI Air Conditioning Heating	



Notes

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Project Design

Best unit to achieve driving force of system -	PUHZ-HW140YHA2
Number of Units Required to Meet Load -	2 #
Total Deliverable Capacity by Units -	28.0 kW
Approximate Minimum Deliverable Capacity -	4.2 kW
Nominal Flow Rate per Unit -	40.1 l/min
Minimum Flow Rate per Unit -	17.9 l/min
Recommended Pipe Size per Unit -	35 mm
Minimum Allowable Pipe Size per Unit -	28 mm
Approx. Low Loss Header Size -	54 mm

Notes

Pressure Drop per unit (based on max flow rate)	9.0 kPa
Minimum Primary Circuit Water Volume -	120 litres
Volume of water contained within units -	4 litres

To avoid cycling and to allow a reasonable buffer during unit inactivity
Please note a buffer vessel may be required to ensure minimum volume is reached
2 litres contained within each unit

How many units will provide hot water?

2

#

Hot water capacity	28.0 kW
Min hot water flow rate	35.8 l/min
Max Delta T	11
Max hot water flow rate	80.2 l/min
Min Delta T	5
Maximum flow temperature in hot water mode	60 °C
Hot water cylinder volume	1000 l
Approximate cylinder recovery time from cold	112 minutes

Information must be provided to third party cylinder manufacturer
Only 1 hot water cylinder can be used



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Electrical Information

Ecodan unit - PUHZ-HW140YHA2			
Number of units -	2 #		
Phase -	3		
Maximum Running Current per unit -	13 Amps		
Total Maximum Running Current for System -	26 Amps		
Breaker size -	16 Amps	per Ecodan outdoor unit	
FTC5 Power supply -	10 Amps		
No. of FTC5 power supplies -	3 #		
Immersion heater power supply - Please consider required power supply for your chosen immersion heater			
No. of FTC5 Master control boards required -	3	PAC-IF062B-E	
No. of FTC5 Slave control boards required -	0	PAC-SIF051B-E	
Pipe temp sensor pairs - PAC-TH011-E	3	0	of which are additional (ordered separately)
Hot water cylinder temp sensor - PAC-TH011TK-E	1		
Boiler thermistor pair - PAC-TH011HT-E	N/A		



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Technical Submission Requirements

The Ecodan outdoor unit must be installed on anti-vibration mounts. Rubber mounting blocks are recommended.

Adequate provision should be made to prevent condensate from collecting around the outdoor units. A soak away or drip tray can be used.

Flexible hoses shall be used to connect the Ecodan unit to the primary pipework.

There must be provision to measure the flow rate through each Ecodan outdoor unit. This can be achieved using mechanical commissioning sets or flow meters installed in the return pipework to each unit.

Adequate filtration must be used on the return pipework to each Ecodan outdoor unit. This can be either, magnetic filter (TF1 supplied by MEUK) or strainer with air dirt separator.

It is the responsibility of the installing contractor to provide adequate protection against freezing of pipe work. MEUK recommend 25% glycol dosage of the primary circuit. If the water circuit freezes and damages the equipment the warranty will become void.

All water systems should be designed, installed and commissioned in accordance with industry good practise guidelines; such as, but not limited to: BSRIA Guide BG2/2010 – Water System Commissioning, BSRIA Guide BG29/2011 – Pre-Commissioning of Pipework Systems, BSRIA Guide BG50/2013 – Water Treatment for Closed Heating & Cooling Systems, CIBSE Commissioning Code W – Water distribution systems.

Isolation valves and flushing bypass circuit are recommended for the outdoor unit. This is best practice and not required for warranty purposes.

The installing contractor should make the necessary arrangements to ensure the design of the system meet the requirement of the application and where possible follow industry guidelines and best practice.

This schematic must be used in conjunction with the corresponding technical submission document issued by Mitsubishi Electric.



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Version	Date	Notes
1.2	May-18	AA chassis added; prices updated; change log added.