R744 Mono ATW Alternative Product Application Support

Main characteristics
Table 1

MAIN CHARACTERISTICS AND PERFORMANCE DATA – MONOBLOC AIR SOURCE HEAT PUMP			
Product Description: Model Names:	**Ecodan R744 4kW QUHZ-W40VA**	**Ecodan R32 5kW PUZ-WM50VHA(-BS)**	**Ecodan R290 5kW PUZ-WZ50VAA(-BS)**
Ref Code (ODU Only)	493468	497740 (497741)	676732 (682515)
Refrigerant Type	CO2 (R744)	**R32**	**R290**
Nominal Capacity (kW)	4.32	**5**	**5**
Efficiency - SCOP (MCS)	35°C ~ 3.63 / 55°C ~ 2.91	**35°C ~ 4.57 / 55°C ~ 3.22**	**35°C ~ 4.62 / 55°C ~ 3.53**
Operating Ambient Temp Range (°C DB)	-15 to +35	**-20 to +35**	**-25 to +46**
Flow Temp Range (°C)	+9 to + 72	**+9 to +60**	**+9 to +75**
Water Flow Rate Range (L/Min)	3 to 8	**6.5 to 14.3**	**6.5 to 14.3**
Max DHW Storage Temp (°C)	70	**60**	70
Sound Power Level dB(A) **BS EN12102**	53	**61**	**56**

Outdoor Units and Cylinder size variance
Table 2

PUZ units have a larger footprint

ODU DIMENSIONS			
Model	**QUHZ- W40VA**	**5kW PUZ-WM50VHA**	**5kW PUZ-WZ50VAA**
Width (mm)	879	**950**	**1050**
Depth (mm)	320	**360**	**480**
Height (mm)	715	**943**	**1020**
Weight (Kg)	57	**71**	**89**
IDU DIMENSIONS			
Model	**EHPT20Q-VM2EA**	**EHPT20X-MHEDW**	**EHPT20X-MEHEW**
Width (mm)	595	595	**600**
Depth (mm)	680	680	**685**
Height (mm)	1700	**1740**	**1735**
Weight Empty /Full (Kg)	77 / 283	**90 / 296**	**81 / 287**

Ecodan System Comparison Cont.

Clearance requirements ODU
Table 3

PUZ units require greater clearances, R290 subject to additional 1m safety zone.
IDU: Clearance of thermal store and packaged units are the same.

Model Names	QUHZ	5kW PUZ-WM50VHA*1	5kW PUZ-WZ50VAA*1, 2
Front	200, 300	**500**	**350**
Rear	100	**300**	**100, 200, 300**
Left	150	**100,** 150	**100,** 150
Right	300	**100,** 150	**100,** 150

*1 If obstructed, refer to installation manuals for further guidance

*2 R290 subject to additional safety zone, refer to installation manuals for further guidance

Powering the system
Table 4

QUHZ: Indoor to outdoor
PUZ: Cylinder unit is powered via outdoor unit or FTC powered by independent source (Please refer to PAC-IF07(1-3)B-E / PAC-IF08(1-3)B-E installation manual for further information). Additional breaker required for immersion heater and wiring **(Table 5)**.

Model Names		QUHZ	EHPT20X-MHEDW	EHPT20X-MEHEW
Wiring No. × size (mm²)	Cylinder unit - Outdoor unit	3 × Min. 2.5	**3 × 1.5 (polar)**	**3 × 1.5 (polar)**
	Cylinder unit - Outdoor unit earth	4 × Min. 2.5	**1 × Min. 1.5**	**1 × Min. 1.5**
	Cylinder unit L - N	230 V AC	–	–
Circuit rating	Cylinder unit - Outdoor unit S1 - S2	230 V AC	230 V AC	230 V AC
	Cylinder unit - Outdoor unit S2 - S3	24 V DC	24 V DC	24 V DC

System Requirements
Table 5

Equipment	QUHZ-W40VA	THERMAL STORE	PUZ-WM50VHA	PAC-IF07(1-3)B-E	PUZ-WZ50VAA	PAC-IF08(1-3)B-E	IMMERSION HEATER
Recommended Primary Pipe Size (mm)	15		**22**		**22**		
Flow Rate Range (L/Min)	3.0 to 8.0		**6.5 to 14.3**		**6.5 to 14.3**		
Min. Space Heating Circuit Volume (L)		32	**7**		**7**		
Starting Current (A)	2		**2**		**2**		
Max Current (A)	12		**13**	**10**	**13**	**10**	**13**
MCB (A)		20	**16**	**16**	**16**	**16**	**16**
Min. Cable (mm²)	2.5	2.5	**1.5**	**1.5**	**1.5**	**1.5**	**2.5**

Installation requirements
See Water Quality and System Preparation

Key actions:
- Installation of G3 kit
  Balanced cold water mains – installation of inlet control group
- Flush system and refill with appropriate concentration of glycol
- Rebalance Heating system