

Heating

Technical data



REDD Technical Data Sheet - FTC6 & R32



REDD Technical Data Sheet

The information contained within your design pack relates to the Ecodan heat pumps, cylinders plus accessories contained with this document. As such please use this document and the design(s) provided together.

Standard schematics for PUZ pre-plumbed systems and QUHZ systems plus, minimum cylinder installation space have also been included within this document.

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Outdoor unit outputs & capacities

QUHZ 4kW Ecodan with Thermal Store									Unit Information
Ambient Temperature °C	-7	-6	-5	-4	-3	-2	-1	0	Flow rate range (L/min): 3-7
Flow Temperature °C & Flow Rate L/min	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	Min water volume (L): 32
45 @ 6L/m (Delta T 10)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	Pipe Size (mm): 15 - 22 only
50 @ 4L/m (Delta T 20)	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	

5kW PUZ R32 Ecodan Monobloc									Unit Information
Ambient Temperature °C	-7	-6	-5	-4	-3	-2	-1	0	Flow rate range (L/min): 6.5-14.3
Flow Temperature °C	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	Min water volume (L): 7
35	5	5	5	5	5	5	5	5	Min Pipe Size (mm): 22
45	5	5	5	5	5	5	5	5	
55	4.4	4.47	4.53	4.6	4.67	4.73	4.8	4.87	

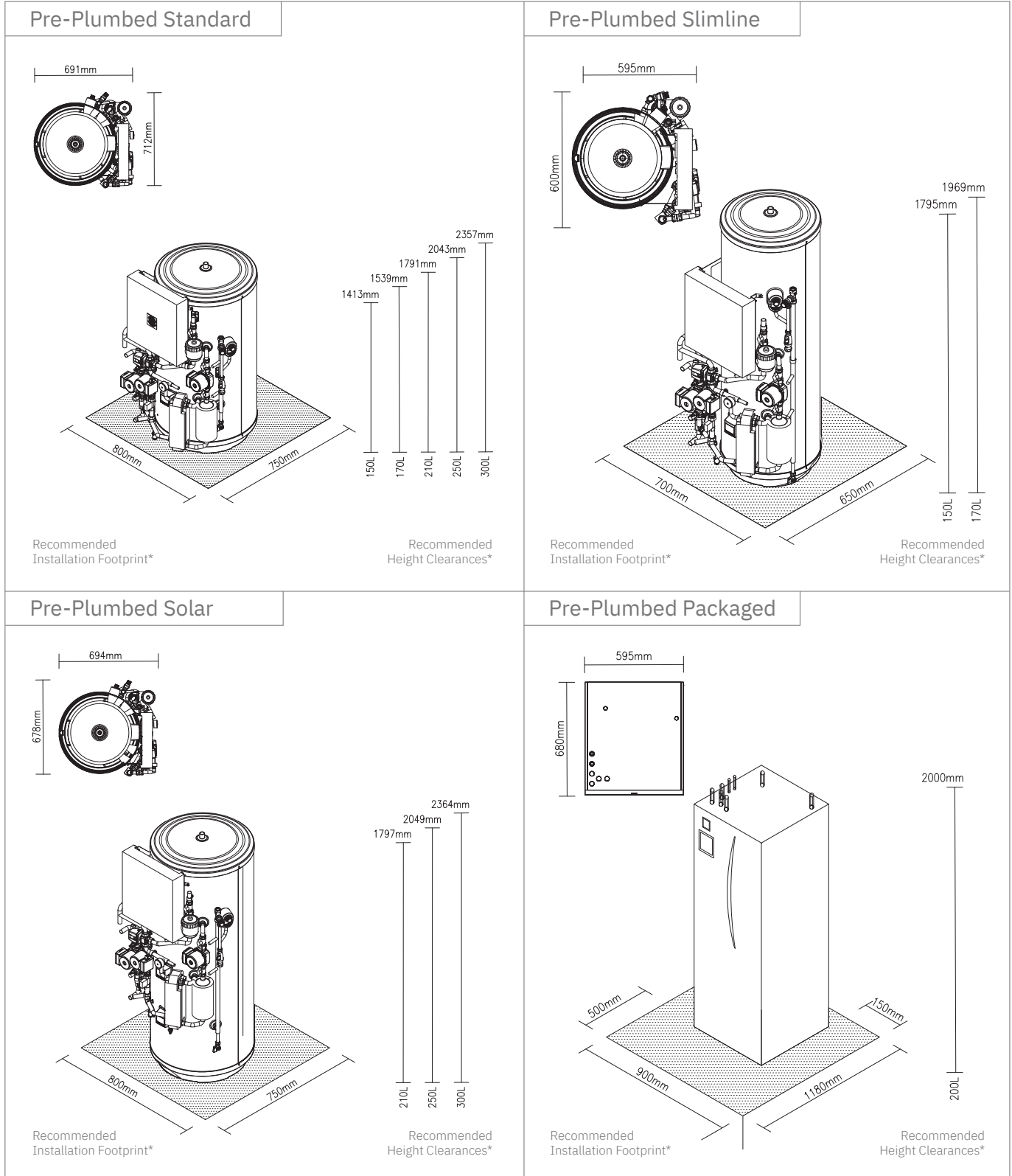
6kW PUZ R32 Ecodan Monobloc									Unit Information
Ambient Temperature °C	-7	-6	-5	-4	-3	-2	-1	0	Flow rate range (L/min): 8.6 - 17.2
Flow Temperature °C	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	Min water volume (L): 9
35	6	6	6	6	6	6	6	6	Min Pipe Size (mm): 22
45	6	6	6	6	6	6	6	6	
55	6	6	6	6	6	6	6	6	

8.5kW PUZ R32 Ecodan Monobloc									Unit Information
Ambient Temperature °C	-7	-6	-5	-4	-3	-2	-1	0	Flow rate range (L/min): 10.8-24.4
Flow Temperature °C	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	Min water volume (L): 12
35	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	Min Pipe Size (mm): 28
45	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	
55	8	8.06	8.11	8.17	8.22	8.28	8.33	8.39	

11.2kW PUZ R32 Ecodan Monobloc									Unit Information
Ambient Temperature °C	-7	-6	-5	-4	-3	-2	-1	0	Flow rate range (L/min): 14.4-32.1
Flow Temperature °C	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	Min water volume (L): 16
35	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	Min Pipe Size (mm): 28
45	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2	
55	10	10	10	10	10	10	10	10	

14kW PUZ R32 Ecodan Monobloc									Unit Information
Ambient Temperature °C	-7	-6	-5	-4	-3	-2	-1	0	Flow rate range (L/min): 17.9-40.1
Flow Temperature °C	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	kW Cap	Min water volume (L): 25
35	14	14	14	14	14	14	14	14	Min Pipe Size (mm): 28
45	14	14	14	14	14	14	14	14	
55	14	14	14	14	14	14	14	14	

Cylinder & thermal store space requirements



*Recommended figures are suggested minimum clearance for a practical installation, where site conditions do not permit represented allowances best practice and judgement should be followed. Clearances do not include onsite pipework, expansion vessels or ancillary equipment. Sufficient space MUST be left for the provision of discharge pipework as detailed in National and Local Building regulations.

i-Life2 Slim fan assisted radiator data

i-LIFE2 Slim 80-170 DLMV

Fan coil unit with variable speed fan motor



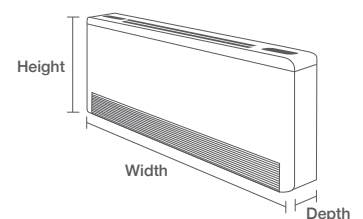
MODEL		i-LIFE2 Slim 80	i-LIFE2 Slim 170
Power supply	V/ph/Hz	230/1/50	230/1/50
Max power input	W	18	27
2 PIPES SYSTEM CONFIGURATION			
MAX SPEED			
Air flow	m³/h	125	277
Total capacity in cooling mode	(1) kW	0.76	1.75
Sensible capacity in cooling mode	(1) kW	0.66	1.53
Max water flow	(1) l/s	0.04	0.08
Max pressure drop	(1) kPa	6	5
Total capacity in heating mode	(2) kW	0.88	2.11
Water flow in heating	(2) l/s	0.04	0.10
Pressure drop in heating	(2) kPa	8	8
Sound Pressure	(3) dB(A)	41	42
Sound Power	(4) dB(A)	50	51
MED SPEED			
Air flow	m³/h	93	221
Total capacity in cooling mode	(1) kW	0.69	1.39
Sensible capacity in cooling mode	(1) kW	0.54	1.17
Max water flow	(1) l/s	0.03	0.07
Max pressure drop	(1) kPa	5	3
Total capacity in heating mode	(2) kW	0.78	1.65
Water flow in heating	(2) l/s	0.04	0.08
Pressure drop in heating	(2) kPa	6	5
Sound Pressure	(3) dB(A)	35	36
Sound Power	(4) dB(A)	44	45
MIN SPEED			
Air flow	m³/h	51	122
Total capacity in cooling mode	(1) kW	0.4	0.81
Sensible capacity in cooling mode	(1) kW	0.3	0.67
Max water flow	(1) l/s	0.02	0.04
Max pressure drop	(1) kPa	2	1
Total capacity in heating mode	(2) kW	0.5	1.06
Water flow in heating	(2) l/s	0.02	0.05
Pressure drop in heating	(2) kPa	3	2
Sound Pressure	(3) dB(A)	24	26
Sound Power	(4) dB(A)	33	35
SIZE AND WEIGHT			
Width - Depth - Height	(5) mm	737 - 131 - 579	937 - 131 - 579
Operating weight	(5) kg	17	20

Notes:

- Room temperature 27°C d.b./19°C w.b.; Chilled water (in/out) 7/12°C.
- Room temperature 20°C d.b.; Hot water (in/out) 45/40°C.
- Sound pressure level in free field on a reflective surface. 1m from fan front and 1m from ground.
Non-binding value obtained from sound power level.
- Sound power on the basis of measurements made in compliance with ISO 3741 and Eurovent 8/2.
- Unit in standard configuration/execution, without optional accessories.



i-LIFE2 Slim units are managed by a variable speed fan motor that continuously modulates the fan speed.



i-LIFE2 Slim

Weather compensation curves

Explanation of compensation curves

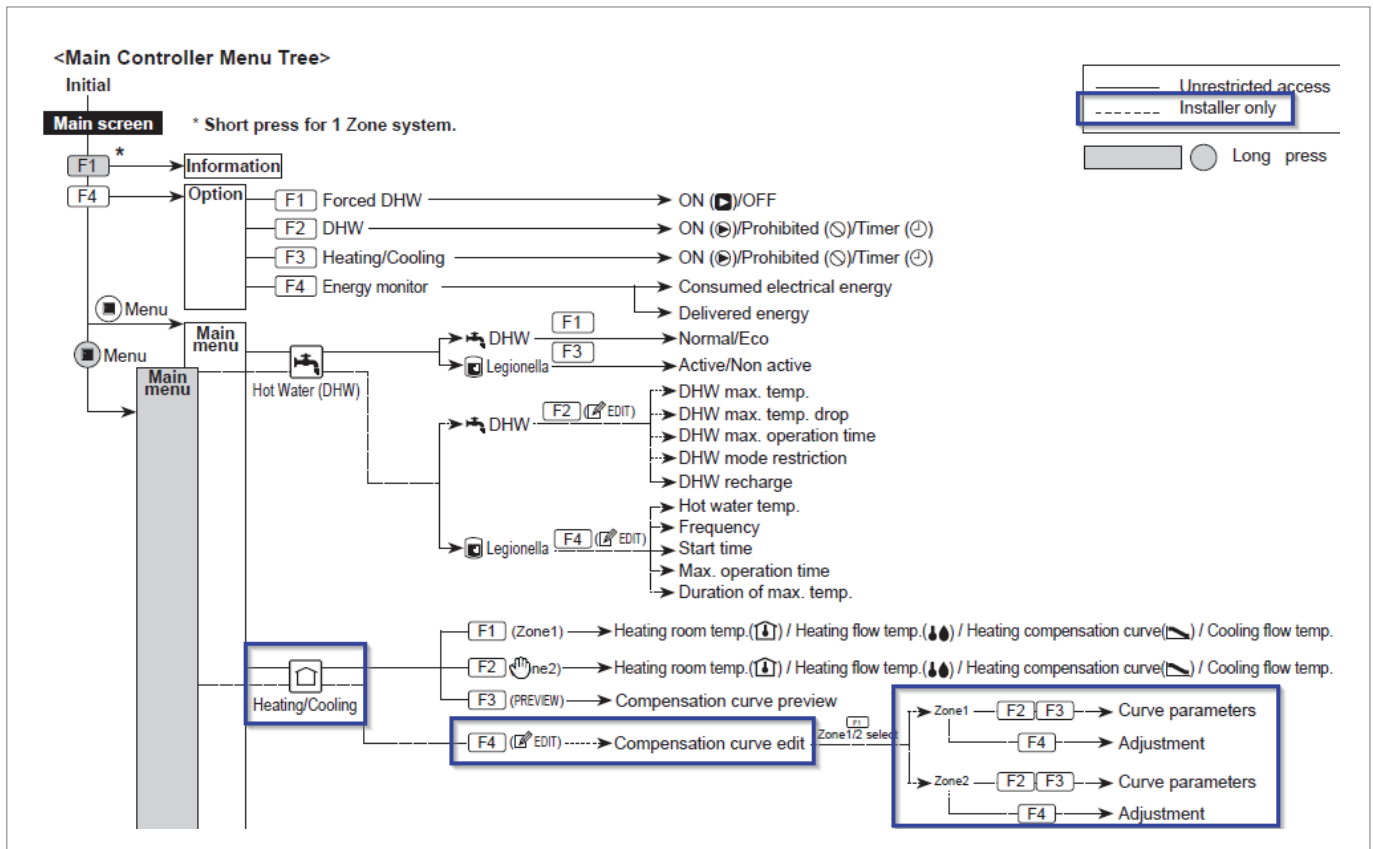
During late spring and summer, usually the demand for space heating is usually reduced. To prevent the heat pump from producing excessive flow temperatures and wasting energy the compensation curve mode should be used to maximise efficiency and reduce running costs.

The compensation curve is used to calculate the best flow temperature of the primary space heating circuit dependent on the outdoor temperature. The FTC6 uses information from both an outdoor temperature sensor (unit mounted) and a temperature sensor on the primary circuit supply to ensure the heat pump is not producing excessive flow temperatures if the weather conditions do not require it.

It is the installer who will set the compensation curve parameters depending on local conditions and type of space heating emitters used for the application. It should not be necessary for the curve to be altered after commissioning. However, if it is found after a reasonable operating period, the heat pump is not providing either enough heating or is overheating the dwelling, then the compensation curve can be altered. This can either be carried out by an installer or where the system is connected to our MELCloud App our aftersales customer care team can make the necessary adjustments.

To edit the weather compensation curve please access the “Heating Menu” from the main RC, then select “Compensation Curve Edit”, from here you will be able to adjust the compensation curve for both zone 1 and 2 separately or zone 1 only depending on system set up as illustrated below.

If you are unsure on how to set this curve please contact MEU-UK Residential Heating Pre-Sales on **01707 278 666 Option 3** or ecodan.technical@meuk.mee.com for support and guidance.



PUZ

Product information & installation schematics

PUZ Ecodan Monobloc Standalone Air Source Heat Pumps	8-12
EHPT15-30X-UKHCW FTC6 Pre-plumbed Standard Cylinder	13
Installation schematics	14-16

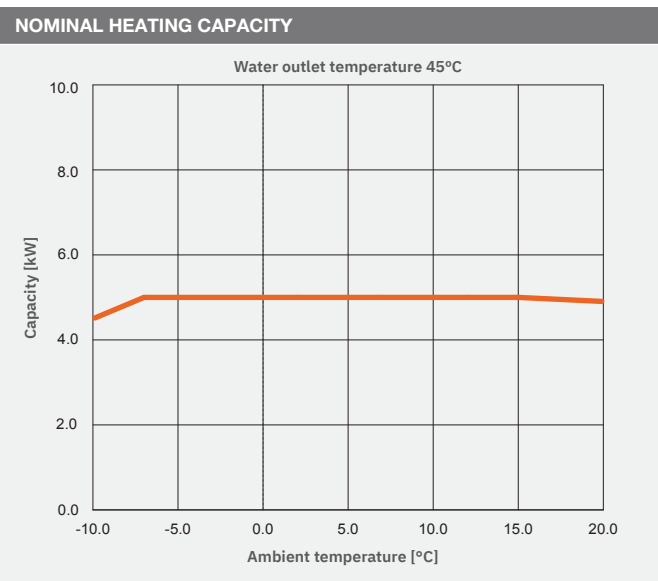
PUZ-WM50VHA(-BS)

Ecodan R32

Monobloc Air Source Heat Pump

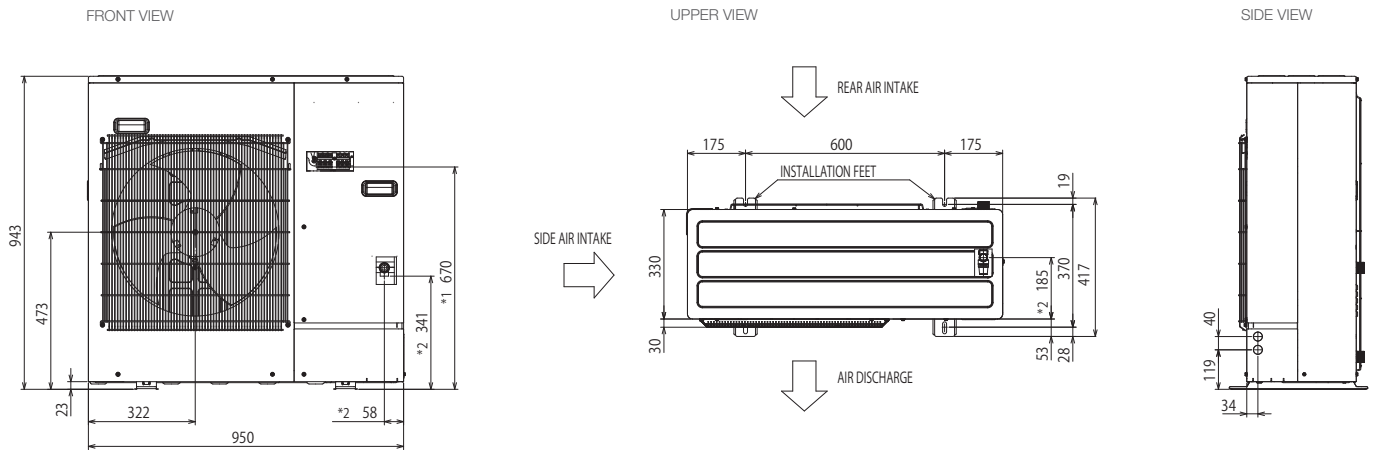


OUTDOOR UNIT		PUZ-WM50VHA(-BS)
HEAT PUMP SPACE HEATER - 55°C	ErP Rating	A++
	η_s	129%
	SCOP (MCS)	3.22
HEAT PUMP SPACE HEATER - 35°C	ErP Rating	A+++
	η_s	183%
	SCOP (MCS)	4.57
HEAT PUMP COMBINATION HEATER - Large Profile ¹	ErP Rating	A+
	η_{wh}	135%
HEATING ² (A-7/W35)	Capacity (kW)	5.0
	Power Input (kW)	1.67
	COP	3.00
OPERATING AMBIENT TEMPERATURE (°C DB)		-20 ~ +35
SOUND DATA ³	Pressure Level at 1m (dBA)	52
	Power Level (dBA) ⁴	61
WATER DATA	Pipework Size (mm)	22
	Flow Rate (l/min)	14
	Water Pressure Drop (kPa)	12.0
DIMENSIONS (mm)	Width	950
	Depth	330+30 ⁷
	Height	943
WEIGHT (kg)		71
ELECTRICAL DATA	Electrical Supply	220-240v, 50Hz
	Phase	Single
	Nominal Running Current [MAX] (A) ⁵	4.64 [13]
	Fuse Rating - MCB Sizes (A) ⁶	16
REFRIGERANT CHARGE (kg) / CO ₂ EQUIVALENT (t)	R32 (GWP 675)	2.0 / 1.35



- Notes:
- *1 Combination with E*PT20X Cylinder
 - *2 Under normal heating conditions at outdoor temp: -7°CDB / -8°CWB, outlet water temp 35°C, inlet water temp 30°C.
 - *3 Under normal heating conditions at outdoor temp: 7°CDB / 6°CWB, outlet water temp 55°C, inlet water temp 47°C as tested to BS EN14511.
 - *4 Sound power level tested to BS EN12102.
 - *5 Under nominal heating conditions at outdoor temp: 7°C, outlet water temp: 35°C.
 - *6 MCB Sizes BS EN60898-2 & BS EN60947-2.
 - *7 Grille.
- η_s is the seasonal space heating energy efficiency (SSHEE) η_{wh} is the water heating energy efficiency

PUZ-WM50VHA(-BS) DIMENSIONS



All dimensions (mm)

*1- INDICATION OF TERMINAL CONNECTION LOCATION.
*2- INDICATION OF PRESSURE RELIEF VALVE DRAIN PORT.

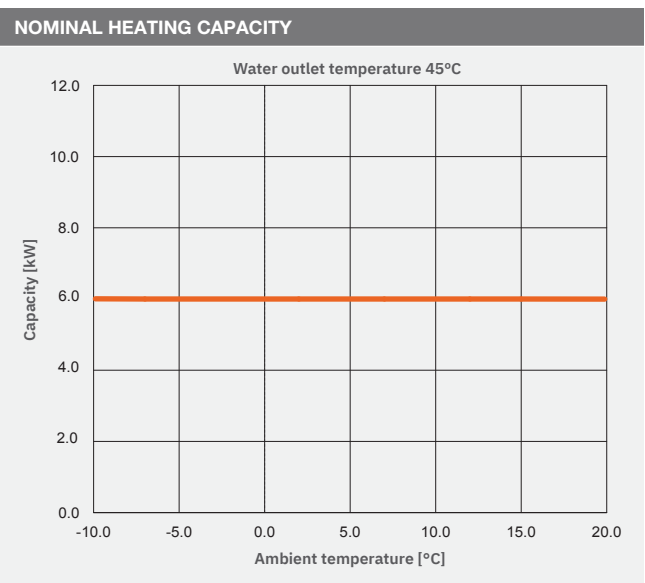
PUZ-WM60VAA(-BS)

Ecodan R32

Monobloc Air Source Heat Pump



OUTDOOR UNIT		PUZ-WM60VAA(-BS)
HEAT PUMP SPACE HEATER - 55°C	ErP Rating	A++
	η_s	142%
	SCOP (MCS)	3.56
HEAT PUMP SPACE HEATER - 35°C	ErP Rating	A+++
	η_s	190%
	SCOP (MCS)	4.76
HEAT PUMP COMBINATION HEATER - Large Profile ¹	ErP Rating	A+
	η_{wh}	145%
HEATING ² (A-7/W35)	Capacity (kW)	6.0
	Power Input (kW)	1.88
	COP	3.20
OPERATING AMBIENT TEMPERATURE (°C DB)		-20 ~ +35
SOUND DATA ³	Pressure Level at 1m (dBA)	45
	Power Level (dBA) ⁴	58
		22
WATER DATA	Pipework Size (mm)	22
	Flow Rate (l/min)	17
	Water Pressure Drop (kPa)	8.0
DIMENSIONS (mm)	Width	1050
	Depth	480
	Height	1020
WEIGHT (kg)		98
ELECTRICAL DATA	Electrical Supply	220-240v, 50Hz
	Phase	Single
	Nominal Running Current [MAX] (A) ⁵	5.68 [13]
	Fuse Rating - MCB Sizes (A) ⁶	16
REFRIGERANT CHARGE (kg) / CO ₂ EQUIVALENT (t)	R32 (GWP 675)	2.2 / 1.49

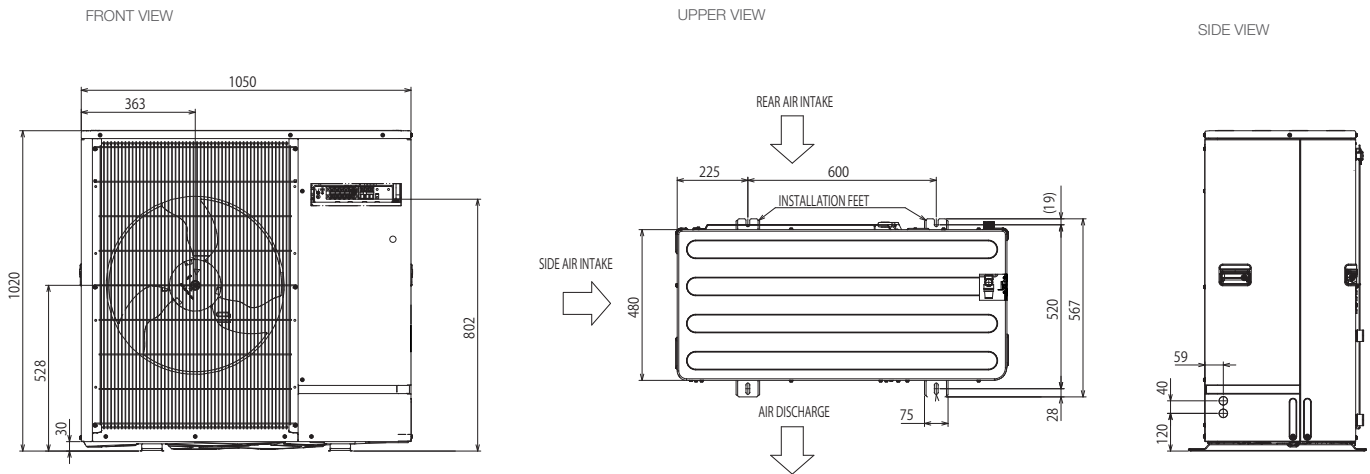


Notes:

- *1 Combination with E*PT20X Cylinder
- *2 Under normal heating conditions at outdoor temp: -7°CDB / -8°CWB, outlet water temp 35°C, inlet water temp 30°C.
- *3 Under normal heating conditions at outdoor temp: 7°CDB / 6°CWB, outlet water temp 55°C, inlet water temp 47°C as tested to BS EN14511.
- *4 Sound power level tested to BS EN12102.
- *5 Under nominal heating conditions at outdoor temp: 7°C, outlet water temp: 35°C.
- *6 MCB Sizes BS EN60898-2 & BS EN60947-2.

η_s is the seasonal space heating energy efficiency (SSHEE) η_{wh} is the water heating energy efficiency

PUZ-WM60VAA(-BS) DIMENSIONS



All dimensions (mm)

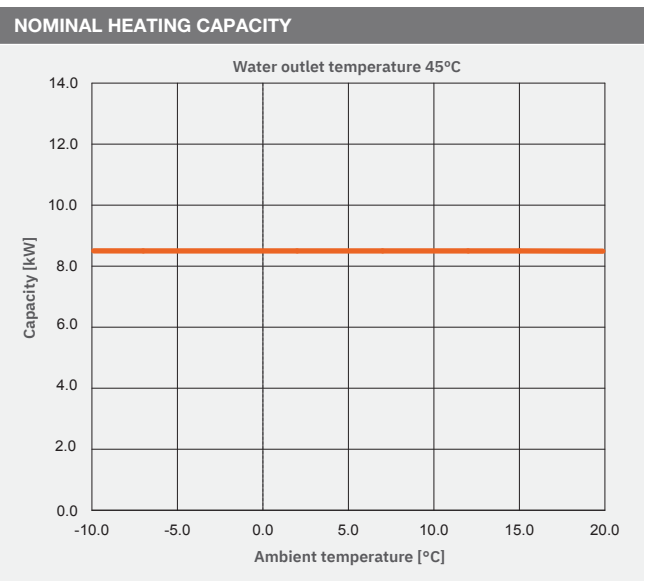
PUZ-WM85VAA(-BS)

Ecodan R32

Monobloc Air Source Heat Pump

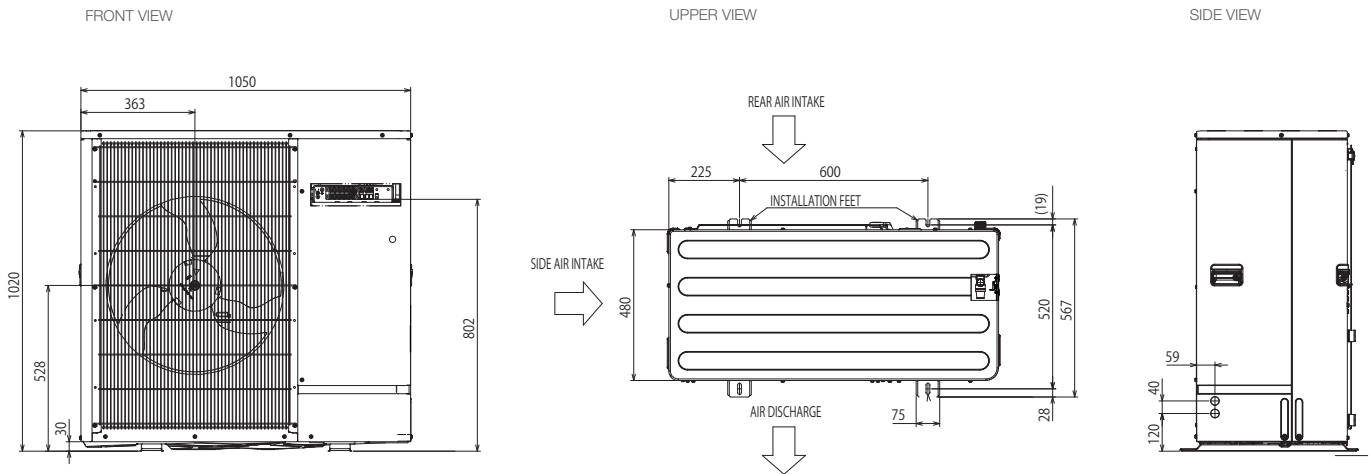


OUTDOOR UNIT		PUZ-WM85VAA(-BS)
HEAT PUMP SPACE HEATER - 55°C	ErP Rating	A++
	η_s	139%
	SCOP (MCS)	3.47
HEAT PUMP SPACE HEATER - 35°C	ErP Rating	A+++
	η_s	193%
	SCOP (MCS)	4.79
HEAT PUMP COMBINATION HEATER - Large Profile ¹	ErP Rating	A+
	η_{wh}	145%
HEATING ² (A-7/W35)	Capacity (kW)	8.5
	Power Input (kW)	3.27
	COP	2.60
OPERATING AMBIENT TEMPERATURE (°C DB)		-20 ~ +35
SOUND DATA ³	Pressure Level at 1m (dBA)	45
	Power Level (dBA) ⁴	58
	Pipework Size (mm)	28
WATER DATA	Flow Rate (l/min)	24
	Water Pressure Drop (kPa)	15.0
	DIMENSIONS (mm)	Width
	Depth	480
	Height	1020
WEIGHT (kg)		98
ELECTRICAL DATA	Electrical Supply	220-240v, 50Hz
	Phase	Single
	Nominal Running Current [MAX] (A) ⁵	9.1 [22]
	Fuse Rating - MCB Sizes (A) ⁶	25
REFRIGERANT CHARGE (kg) / CO ₂ EQUIVALENT (t)	R32 (GWP 675)	2.2 / 1.49



Notes:
¹ Combination with E-PT20X Cylinder
² Under normal heating conditions at outdoor temp: -7°CDB / -8°CWB, outlet water temp 35°C, inlet water temp 30°C.
³ Under normal heating conditions at outdoor temp: 7°CDB / 6°CWB, outlet water temp 55°C, inlet water temp 47°C as tested to BS EN14511.
⁴ Sound power level tested to BS EN12102.
⁵ Under nominal heating conditions at outdoor temp: 7°C, outlet water temp: 35°C.
⁶ MCB Sizes BS EN60898-2 & BS EN60947-2.
 η_s is the seasonal space heating energy efficiency (SSHEE) η_{wh} is the water heating energy efficiency

PUZ-WM85VAA(-BS) DIMENSIONS



All dimensions (mm)

PUZ-WM112VAA(-BS)

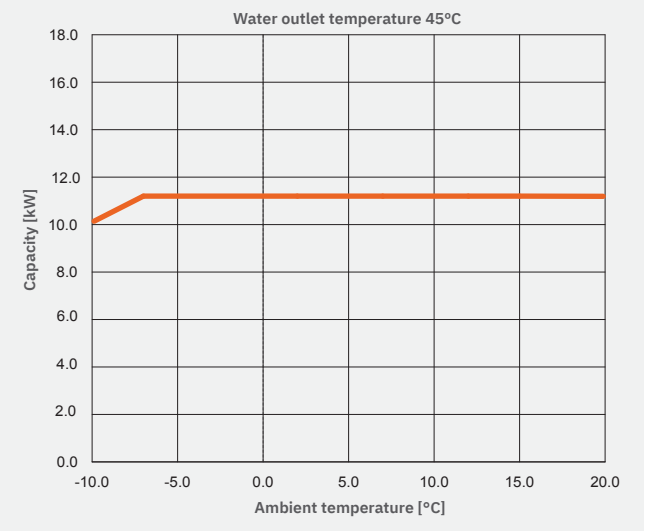
Ecodan R32

Monobloc Air Source Heat Pump



OUTDOOR UNIT		PUZ-WM112VAA(-BS)
HEAT PUMP SPACE HEATER - 55°C	ErP Rating	A++
	η_s	134%
	SCOP (MCS)	3.34
HEAT PUMP SPACE HEATER - 35°C	ErP Rating	A+++
	η_s	191%
	SCOP (MCS)	4.78
HEAT PUMP COMBINATION HEATER - Large Profile ¹	ErP Rating	A+
	η_{wh}	148%
HEATING ² (A-7/W35)	Capacity (kW)	11.2
	Power Input (kW)	3.73
	COP	3.00
	OPERATING AMBIENT TEMPERATURE (°C DB)	-25 ~ +35
SOUND DATA ³	Pressure Level at 1m (dBA)	45
	Power Level (dBA) ⁴	60
WATER DATA	Pipework Size (mm)	28
	Flow Rate (l/min)	32
	Water Pressure Drop (kPa)	24.0
	DIMENSIONS (mm)	Width 1050 Depth 480 Height 1020
WEIGHT (kg)		119
ELECTRICAL DATA	Electrical Supply	220-240v, 50Hz
	Phase	Single
	Nominal Running Current [MAX] (A) ⁵	10.9 [28]
	Fuse Rating - MCB Sizes (A) ⁶	32
REFRIGERANT CHARGE (kg) / CO ₂ EQUIVALENT (t)	R32 (GWP 675)	3.0 / 2.03

NOMINAL HEATING CAPACITY

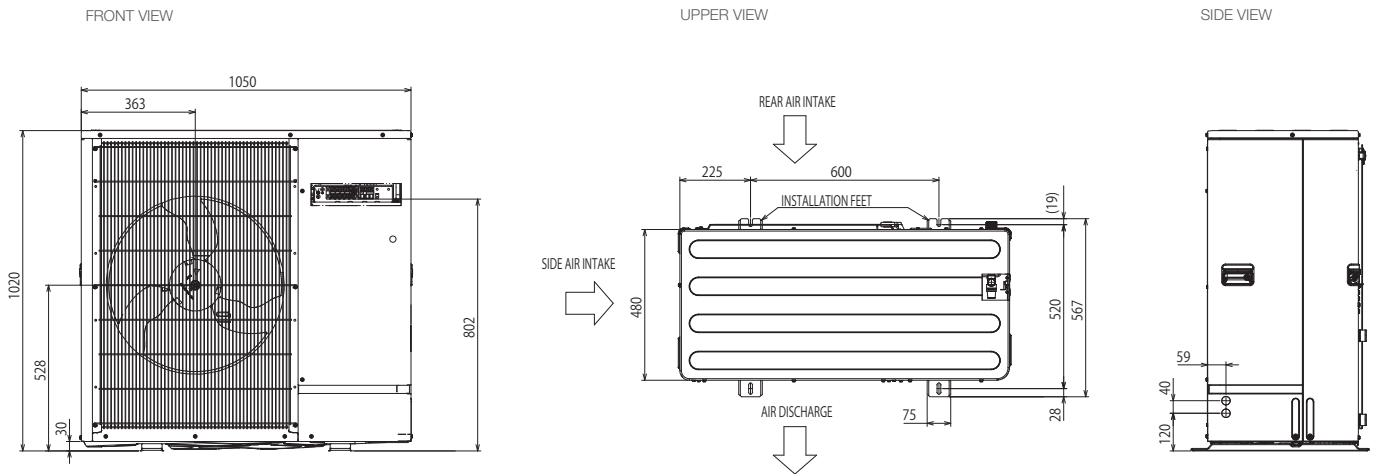


Notes:

- *1 Combination with E*PT20X Cylinder
- *2 Under normal heating conditions at outdoor temp: -7°CDB / -8°CWB, outlet water temp 35°C, inlet water temp 30°C.
- *3 Under normal heating conditions at outdoor temp: 7°CDB / 6°CWB, outlet water temp 55°C, inlet water temp 47°C as tested to BS EN14511.
- *4 Sound power level tested to BS EN12102.
- *5 Under nominal heating conditions at outdoor temp: 7°C, outlet water temp: 35°C.
- *6 MCB Sizes BS EN60898-2 & BS EN60947-2.

η_s is the seasonal space heating energy efficiency (SSHEE) η_{wh} is the water heating energy efficiency

PUZ-WM112VAA(-BS) DIMENSIONS



All dimensions (mm)

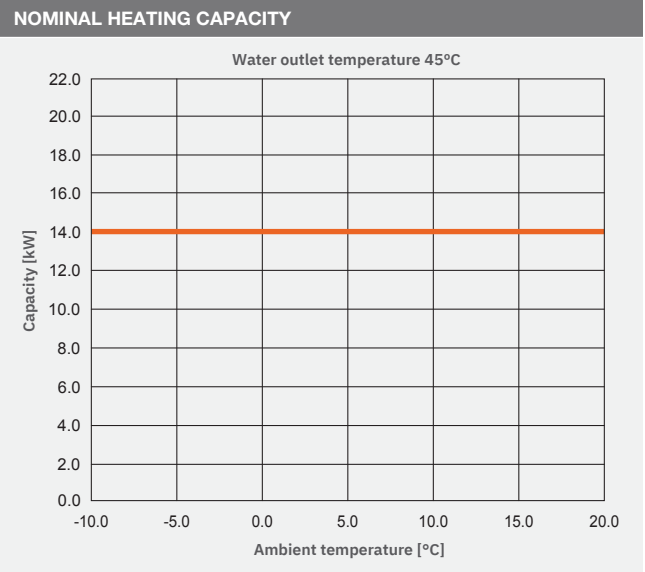
PUZ-HWM140VHA(-BS)

Ecodan R32

Monobloc Air Source Heat Pump



OUTDOOR UNIT		PUZ-HWM140VHA(-BS)
HEAT PUMP SPACE HEATER - 55°C	ErP Rating	A++
	η_s	131%
	SCOP (MCS)	3.35
HEAT PUMP SPACE HEATER - 35°C	ErP Rating	A+++
	η_s	176%
	SCOP (MCS)	4.48
HEAT PUMP COMBINATION HEATER - Large Profile ¹	ErP Rating	A+
	η_{wh}	130%
HEATING ² (A-7/W35)	Capacity (kW)	14
	Power Input (kW)	5.71
	GOP	2.45
OPERATING AMBIENT TEMPERATURE (°C DB)		-28 ~ +35
SOUND DATA ³	Pressure Level at 1m (dBA)	53
	Power Level (dBA) ⁴	67
WATER DATA	Pipework Size (mm)	28
	Flow Rate (l/min)	40.1
	Water Pressure Drop (kPa)	20
DIMENSIONS (mm)	Width	1020
	Depth	330 + 30*7
	Height	1350
WEIGHT (kg)		132
ELECTRICAL DATA	Electrical Supply	220-240v, 50Hz
	Phase	Single
	Nominal Running Current [MAX] (A) ⁵	TBC [35]
	Fuse Rating - MCB Sizes (A) ⁶	40
REFRIGERANT CHARGE (kg) / CO ₂ EQUIVALENT (t)	R32 (GWP 675)	3.3

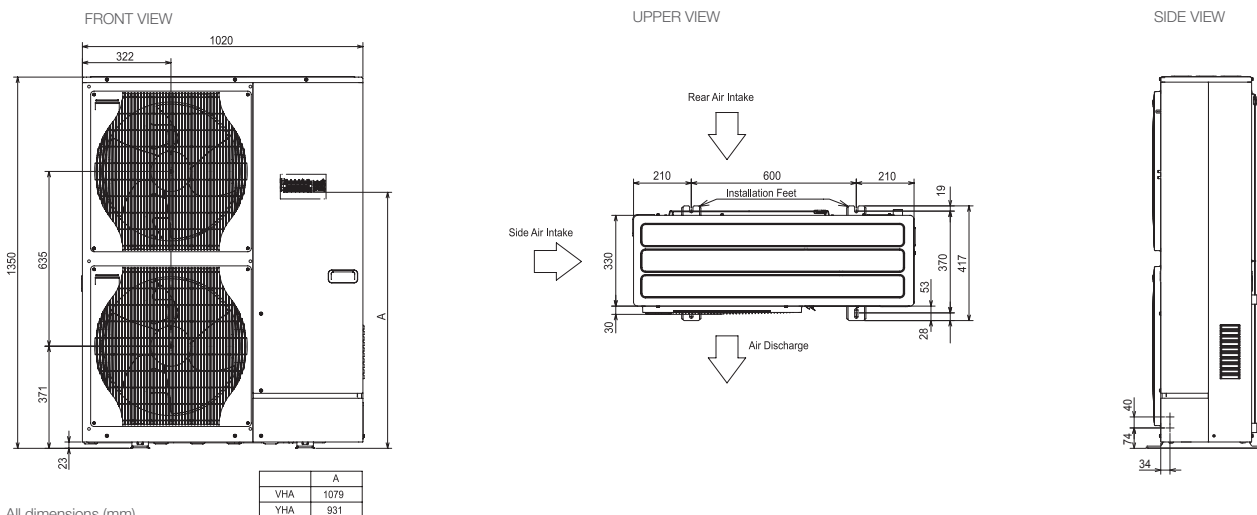


Notes:

- ¹ Combination with E*PT20X Cylinder
- ² Under normal heating conditions at outdoor temp: -7°CDB / -8°CWB, outlet water temp 35°C, inlet water temp 30°C.
- ³ Under normal heating conditions at outdoor temp: 7°CDB / 6°CWB, outlet water temp 55°C, inlet water temp 47°C as tested to BS EN14511. Low Noise mode accessory (reference PAC-SA89TA-EP) available for VHA chassis.
- ⁴ Sound power level tested to BS EN12102.
- ⁵ Under nominal heating conditions at outdoor temp: 7°C, outlet water temp: 35°C.
- ⁶ MCB Sizes BS EN60898-2 & BS EN60947-2.
- ⁷ Grille.

η_s is the seasonal space heating energy efficiency (SSHEE) η_{wh} is the water heating energy efficiency

PUZ-HWM140VHA(-BS) DIMENSIONS



EHPT15-30X-UKHDW

FTC6 Standard Pre-Plumbed Cylinder
For Ecodan R32 Monobloc Units

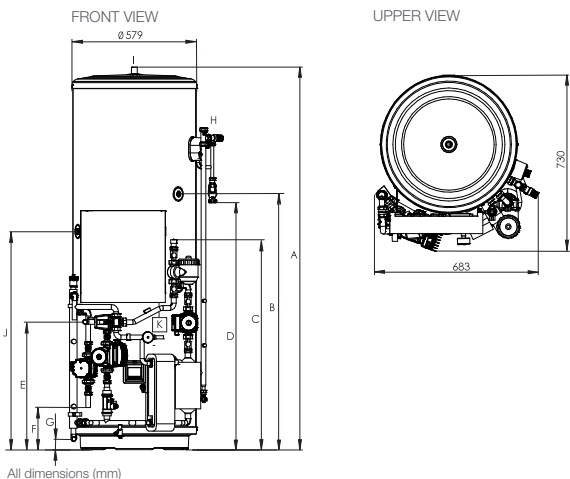


CYLINDER		EHPT15X-UKHDW	EHPT17X-UKHDW	EHPT21X-UKHDW	EHPT25X-UKHDW	EHPT30X-UKHDW
NOMINAL HOT WATER VOLUME (LITRES)		150	170	210	250	300
ErP RATING		B	B	C	C	C
HEAT LOSS (kWh/24hrs)		1.15	1.23	1.53	1.80	2.09
HEAT LOSS (W)		48	51	64	75	87
WATER		Flow Rate (l/min) - WM 50 / 60 / 85 / 112 / 140				
		14 / 17 / 24 / N/A / N/A	14 / 17 / 24 / N/A / N/A	14 / 17 / 24 / 32	N/A / N/A / 24 / 32	N/A / N/A / 24 / 32
		Primary Circuit Pump Grundfos UPMGEO 25-85				
		Heating Circuit Pump Grundfos UPM3 25-70				
		Sanitary Hot Water Pump Grundfos UPSO 15-60 CIL2				
		Connection Size (mm) Heating / DHW 22 / 22				
		Charge Pressure (MPa (Bar)) 0.35 (3.5)				
WATER SAFETY		Water Circuit Control Thermistor (°C) 80				
		DHW Cylinder DHW Expansion Vessel (Litres) 12				
		Control Thermistor (°C) 75				
		Over Temperature Cut-Out (°C) 80 ± 5				
		Temp and Pressure Relief Valve (°C) / (MPa (Bar)) 90 / 1.0 (10)				
		Expansion Relief Valve (Cold) (MPa (Bar)) 0.8 (8)				
DIMENSIONS (mm)		Width 683				
		Depth 730				
		Height 1130				
WEIGHT EMPTY / FULL (kg)		56 / 206				
CYLINDER MATERIAL		Cylinder Material Stainless Steel				
		Insulation Type CFC / HCFC-free flame-retardant expanded Polyurethane				
		Insulation Thickness (mm) 60				
		GWP of Insulation 3.1				
		ODP of Insulation 0				
ELECTRICAL DATA		Control Board - Electrical Supply 220-240v, 50Hz				
		Phase Single				
		Fuse Rating - MCB Sizes (A) ¹ 16				
		Immersion Heater Electrical Supply 220-240v, 50Hz				
		Phase Single				
		Capacity (kW) 3				
		Max Running Current (A) 13				
		Fuse Rating - MCB Sizes (A) ¹ 16				

MECHANICAL ZONES DHW and 1 Heating Zone²
 OPTIONAL SIMPLIFIED WIRELESS ROOM THERMOSTAT AND WIRELESS RECEIVER PAR-WT50-E Controller and PAR-WR51-E Receiver

¹ MCB Sizes BS EN60898-2 & BS EN60947-2 ² Optional 2 zone accessory pack available
 Notes: Cylinder includes: Flow Temperature Controller with Main Controller and Temperature Sensors, Magnetic & Cyclonic Filter, Pumps & Valves for Zone 1 and DHW use, Flow Sensor, Plate Heat Exchanger, Scale Trap, 3kW Immersion Heater and Expansion Vessel.

EHPT15-30X-UKHDW DIMENSIONS



Letter	Pipe Description	Connection size/type
A	Overall Height	
B	Secondary return tapping	22mm O/D copper
C	Heat pump flow connection	22mm compression
D	Tundish outlet connection	22mm O/D copper
E	Heat pump return connection	22mm O/D copper
F	Heating circuit flow connection	22mm O/D copper
G	Heating circuit return connection	22mm compression
H	Cold water inlet connection	22mm compression
I	Hot water outlet connection	22mm compression / 3/4" BSP M
J	THW5A sensor pocket	
K	Wi-Fi adapter	included, installer to locate and mount

Capacity	150	170	210	250	300
A	1130	1256	1505	1762	2074
B	-	-	1050	1175	1385
C	990	990	990	990	990
D	505	630	880	1136	1450
E	585	585	585	585	585
F	195	196	195	195	195
G	50	50	50	50	50
J	675	816	925	1005	1193
K	Installer to locate and mount				

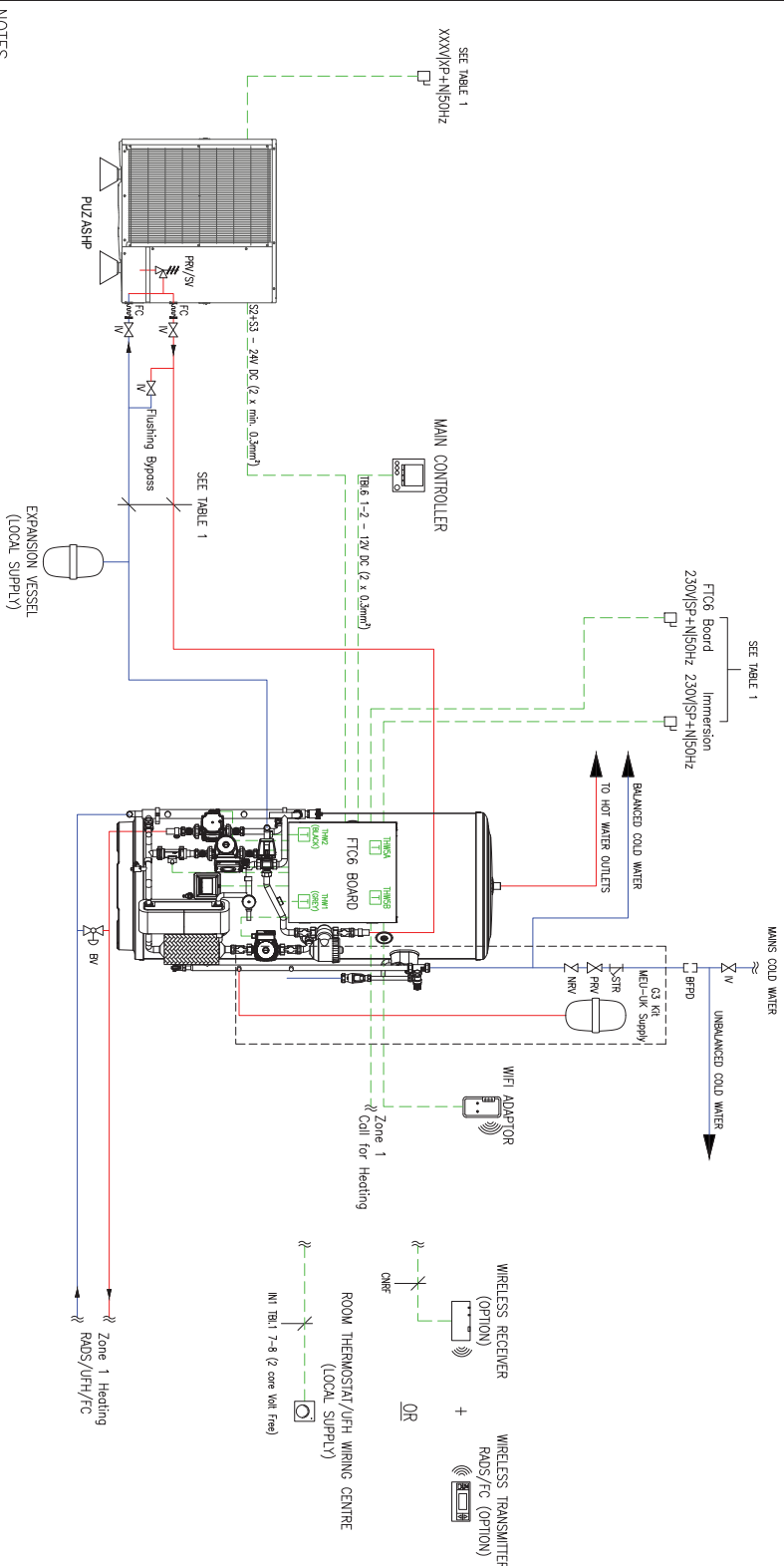
All dimensions (mm)

Heating Technical data

DRAWING NUMBER MEU-UK/FT06/WXXXX/PP/1Z		REVISION 1
Configuration Settings (from default)		
DIP SWITCH SETTING	FUNCTION	INDEPENDENT POWER SUPPLIES
SWR-3 (OUTDOOR)	ON	

TABLE 1

EQUIPMENT	RECOMMENDED PRIMARY FLOW RATE (l/min)	FLOW RATE RANGE (l/min)	MIN. SPACE HEATING CAPACITY VOL. (l)	STARTING CURRENT (A)	MAX CURRENT (A)	MOB (A)	MIN. CABLE (mm ²)
PUZ-WMS01A	22	6.5-14.3	7	2	13	16	1.5
PUZ-WMS01A	22	6.8-17.2	9	2	13	16	2.5
PUZ-WMS01A	28	10.8-24.4	12	2	22	25	2.5
PUZ-WM120A	35	14.4-32.1	16	2	28	32	4
PUZ-HM1400A	35	17.9-40.1	20	2	35	40	6
PUZ-HM1401A	35	17.9-40.1	20	2	13	16	1.5
FT06 BOARD					10	16	1.5
IMMERSION H.					13	16	1.5 HIGH-V-F



- NOTES
- After removing the air, automatic air vent(s) must be closed.
 - The Ecoban 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, drip tray or drain socket set can be used.
 - Flexible connections shall be used to connect the Ecoban unit to the primary pipe work.
 - 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.
 - BS50/2013 - Water Treatment for Closed Heating & Cooling Systems, CIBSE Commissioning Code W - Water distribution systems.
 - BS50/2013 - 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 contractor should make the necessary arrangements to ensure the design of the system meets the requirement of the application and comply with all current building regulations.
 - All electrical work must be carried out in accordance with the current version of BS7671.
 - A back flow prevention device may include check valves, a water meter or an additional PRV.
 - If a device that prevents backflow is installed on the cold water supply to the PRV then a means of accommodating expansion due to local warming of the pipe is recommended to be fitted between the device and PRV.

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LEGEND

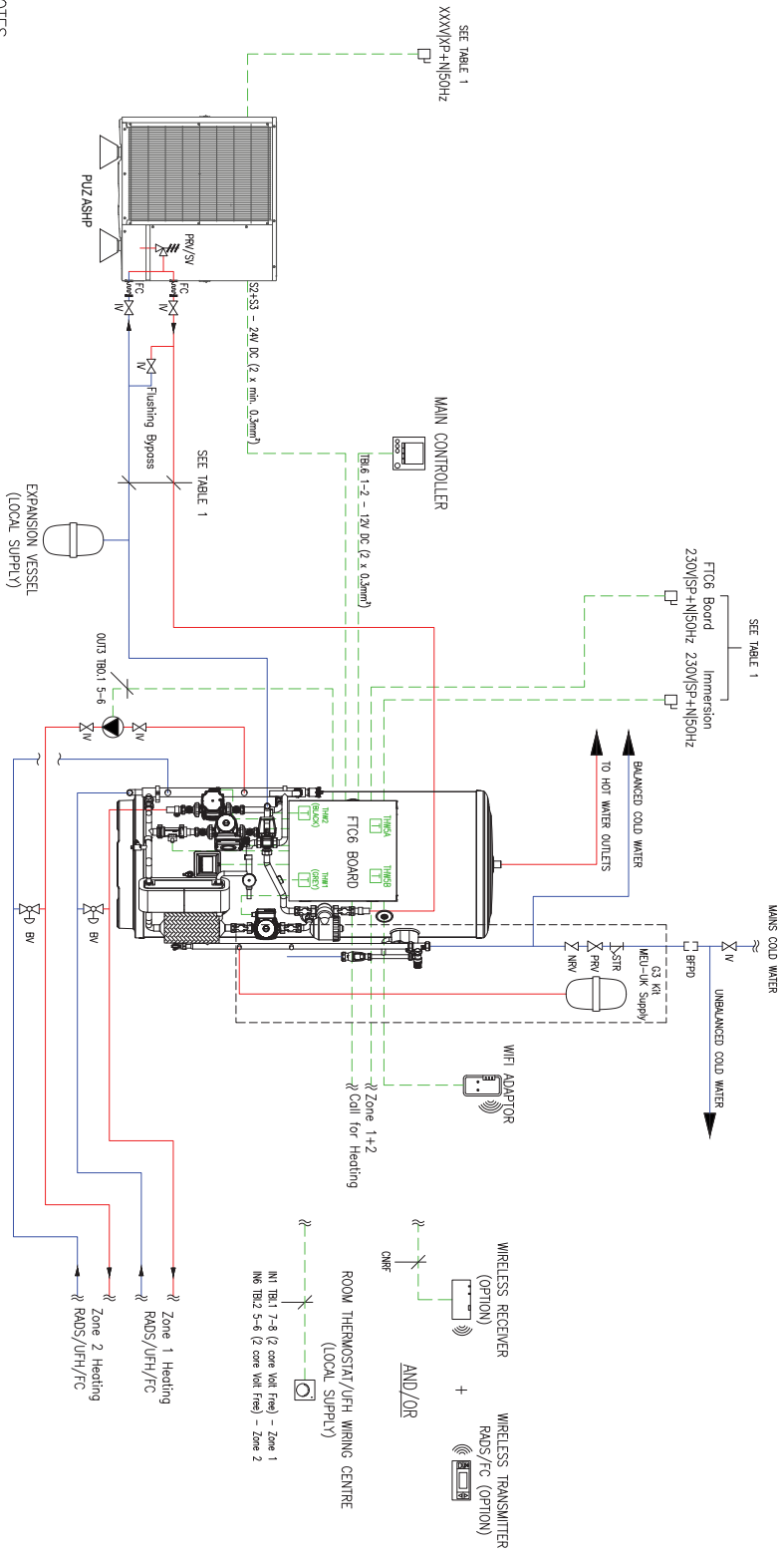
- AW AUTOMATIC AIR VENT (After removing the air automatic air vent must be closed)
- IV ISOLATING VALVE
- DOC DRAIN OFF COCK
- NRV NON RETURN VALVE
- DRV DOUBLE REGULATING VALVE
- PRV/SV PRESSURE RELIEF VALVE/SHEEY VALVE
- STR STR STRAINER
- BV BYPASS VALVE
- FC FLEXIBLE CONNECTION
- PRV PRESSURE REDUCING VALVE
- PS PRESSURE GAUGE
- P PUMP
- TS TEMPERATURE SENSOR
- FT FILTER/STRAINER
- FS FLOW SENSOR
- SCALE TYPE
- BRPO BACK FLOW PREVENTION DEVICE

REVISION: 1
DATE: 1 JULY 2020
DRAWING NUMBER: MEU-UK/FT06/WXXXX/PP/1Z

Heating Technical data

DIP SWITCH SETTING	FUNCTION
SW1-6 (F100)	2-ZONE VALVE ON/OFF CONTROL
SW2-3 (OUTDOOR)	INDEPENDENT POWER SUPPLY (ON)
Wiring Changes	
EQUIPMENT	TERMINAL
ZONE 1 PUMP	OUT13 TB04 3-4

EQUIPMENT	RECOMMENDED PRIMARY PIPE WORK (mm)	FLOW RATE RANGE (L/MIN)	MIN. SPACE HEATING CIRCUIT VOL. (V)	STARTING CURRENT (A)	MAX CURRENT (A)	MBE (A)	MIN. CABLE (mm ²)
PJZ-M650HA	22	6.5-14.3	7	2	13	16	1.5
PJZ-M650VA	22	6.6-17.2	9	2	13	16	1.5
PJZ-M850VA	28	10.8-24.4	12	2	22	25	2.5
PJZ-M1120VA	35	14.4-32.1	16	2	28	32	4
PJZ-M1410VA	35	17.9-40.1	20	2	35	40	6
PJZ-M1610VA	35	17.9-40.1	20	2	35	40	6
FT06 BOARD					10	16	1.5
IMMERSION H.					13	16	1.5 (H05VV-F Shilded)



- NOTES**
- After removing the air, automatic air vent(s) must be closed.
 - The cold air 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, drip tray or drain socket set can be used.
 - Flexible connections shall be used to connect the cold air unit to the primary pipe work.
 - 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 practice guidelines, such as, but not limited to: BSRIA Guide BS29/2010 - Water System Commissioning, BSRIA Guide BS29/2011 - Pre-Commissioning of Pipework Systems, BSRIA Guide BS50/2013 - 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 contractor should make the necessary arrangements to ensure the design of the system meets the requirements of the application and comply with all current building regulations.
 - All electrical work must be carried out in accordance with the current version of BS7671.
 - A back flow prevention device may include check valves, a water meter or an additional PRV.
 - If a device that prevents backflow is installed on the cold water supply to the PRV then a means of accommodating expansion due to local warming of the pipe is recommended to be fitted between the device and PRV.

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LEGEND

- AV AUTOMATIC AIR VENT (After removing the air, automatic air vent(s) must be closed)
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- DOC DOC DRAIN OFF COCK
- NRV NON RETURN VALVE
- DRV DOUBLE REGULATING VALVE
- PRV/SV PRESSURE RELIEF VALVE/SAFETY VALVE
- STR STR STRAINER
- BV BYPASS VALVE
- FC FLEXIBLE CONNECTION
- PRV PRESSURE REDUCING VALVE
- PG PRESSURE GAUGE
- P PUMP
- TEMPERATURE SENSOR
- FTI FILTER/STRAINER
- FS FLOW SENSOR
- SCALE TRIP
- BRPD BACK FLOW PREVENTION DEVICE

CLIENT

PROJECT

FT06 Pre-Plumbed 2 x Heating

MECHANICAL SERVICES

MITSUBISHI ELECTRIC

DATE

ORIGINAL SIZE: DATE: JULY 2020

SCALE: NTS

REVISION

1

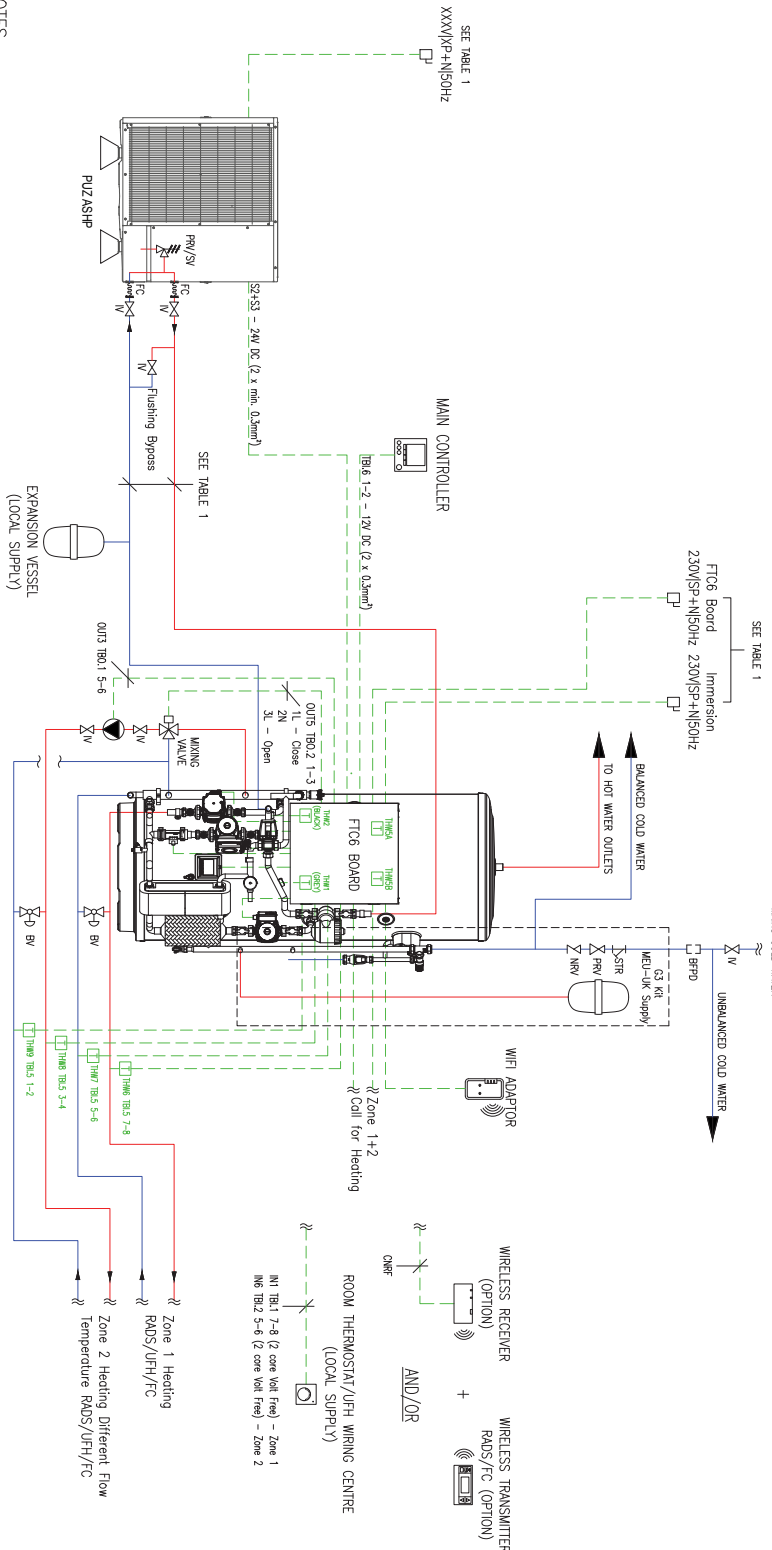
Heating Technical data

Configuration Settings (from default)	FUNCTION
DIP SWITCH	WITH MAINS TANK
SW2-6 (F703)	ON
SW2-7 (F703)	ON
SW2-8 (AUTO/DOSE)	ON
SW2-9 (AUTO/DOSE)	ON

DRAWING NUMBER	REVISION
MEU-UK/FTC6/MWXXX/PP/22M	1

TABLE 1

EQUIPMENT	RECOMMENDED PRIMARY PIPE WORK (mm)	FLOW RATE RANGE (L/MIN)	MIN. SPACE HEATING CIRCUIT VOL. (V)	STARTING CURRENT (A)	MAX CURRENT (A)	MBP (A)	MIN. CABLE (mm ²)
PUZ-M650HA	22	6.5-14.3	7	2	13	16	1.5
PUZ-M650VA	22	6.6-17.2	9	2	13	16	2.5
PUZ-M850VA	28	10.8-24.4	12	2	22	25	2.5
PUZ-MH120VA	35	14.4-32.1	16	2	28	32	4
PUZ-MH140VA	35	17.9-40.1	20	2	35	40	6
PUZ-MH140HA	35	17.9-40.1	20	2	35	40	1.5
FTC6 BOARD					10	16	1.5
IMMERSION H.					13	16	1.5 (HIGHER-F SHIPPED)



- NOTES**
- After removing the air, automatic air vent(s) must be closed.
 - The cold air 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, drip tray or drain socket set can be used.
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LEGEND

- AV AUTOMATIC AIR VENT (After removing the air, automatic air vent(s) must be closed)
- IV ISOLATING VALVE
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- BV BYPASS VALVE
- FC FLEXIBLE CONNECTION
- PRV PRESSURE REDUCING VALVE
- PG PRESSURE GAUGE
- P PUMP
- TS TEMPERATURE SENSOR
- FT FILTER/STRAINER
- FS FLOW SENSOR
- SCALE TRIP
- BRP BACK FLOW PREVENTION DEVICE

PROJECT
FTC6 Pre-Plumbed 2 x Heating Mixed

CLIENT
MITSUBISHI ELECTRIC

REV DESCRIPTION

REV	DESCRIPTION	ISSUED	DATE
1			

SCALE
N/S ORIGINAL SIZE DATE: JULY 2020

DESIGNED BY
D. CASANO

CHECKED BY
R. DALY

REVISION
MEU-UK/FTC6/MWXXX/PP/22M 1

QUHZ

Product information & installation schematics

QUHZ Ecodan Monobloc 4kW Air Source Heat Pump with Thermal Store	18
Installation schematics	19
Vertical height restriction	20



QUHZ-W40VA / EHPT20Q-VM2EA

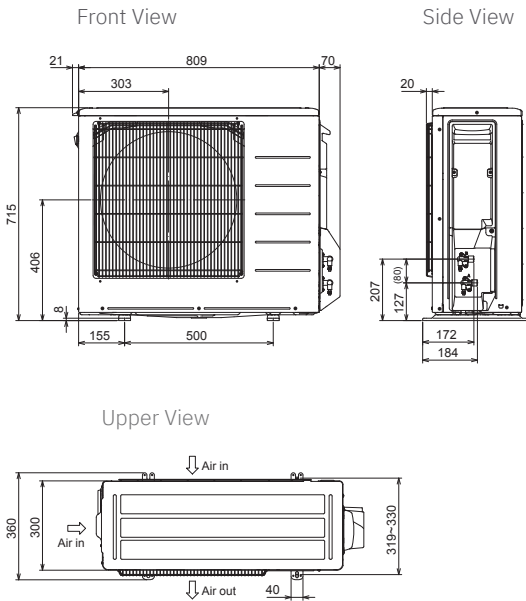
Ecodan Monobloc 4kW Air Source Heat Pump with Thermal Store

OUTDOOR UNIT		QUHZ-W40VA	THERMAL STORE		EHPT20Q-VM2EA
HEAT PUMP COMBINATION HEATER - 55°C	ErP Rating	A+	NOMINAL THERMAL STORE WATER VOLUME (LITRES)		200
	η_s	117%	WATER TEMPERATURE RANGE		DHW Mode (°C) 40-70°C
	SCOP	2.90	Space Heating Mode (°C)		25-60°C
HEAT PUMP COMBINATION HEATER - Large Profile*1	ErP Rating	A	MECHANICAL ZONES		DHW and 1 Heating Zone (2 Zone capability with 3rd party 2-port valves)
	η_{wh}	129%	OPERATING AMBIENT TEMPERATURE (°C DB)		0 ~ +35°C (RH<80%)
	COP	3.00	SOUND PRESSURE LEVEL AT 1M (dBA)		30
HEATING*2 (A-3/W55)	Capacity (kW)	4.32	SOUND POWER LEVEL (dBA)*4		40
	Power Input (kW)	2.18	STANDING HEAT LOSS (kWh/24hours)		1.63
	COP	1.98	WATER DATA		Primary Pump Grundfos Solar PML 25-145 180
OPERATING AMBIENT TEMPERATURE (°C DB)		-15 ~ +35°C	Sanitary Hot Water Pump		Grundfos Solar PML 25-145 180
SOUND PRESSURE LEVEL AT 1M (dBA)*3		43	Connection Size (mm) Heating / DHW		22 / 22
SOUND POWER LEVEL (dBA)*4		53	Primary Expansion Vessel (Litres)		18
WATER DATA	Pipework Size (mm)	15	Charge Pressure (MPa (Bar))		0.1 (1)
	Flow Rate (l/min)	3 to 8	Pressure relief valve (Mpa (Bar))		0.3 (3) - 2 No. devices
DISTANCE BETWEEN OUTDOOR UNIT AND THERMAL STORE (M) DIMENSIONS (mm)	Height Difference	5	Flow sensor (supplied)		Min. flow 1.3 L/min
	Piping Length	15	Manual reset thermostat		85°C
DIMENSIONS	Width	809+70*5	DIMENSIONS (mm)		Width 595
	Depth	300+20*5	Depth		680
	Height	715	Height		1600
WEIGHT (kg)		57	WEIGHT EMPTY / FULL (kg)		77 / 283
ELECTRICAL DATA	Powered from indoor unit		ELECTRICAL DATA		Electrical Supply 220-240V, 50Hz
			Phase		Single
			Maximum Running Current (A)		15
				Fuse Rating - MCB Sizes (A)*6 20	
				OPTIONAL SIMPLIFIED WIRELESS ROOM THERMOSTAT AND WIRELESS RECEIVER PAR-WT50-E Controller and PAR-WR51-E Receiver	

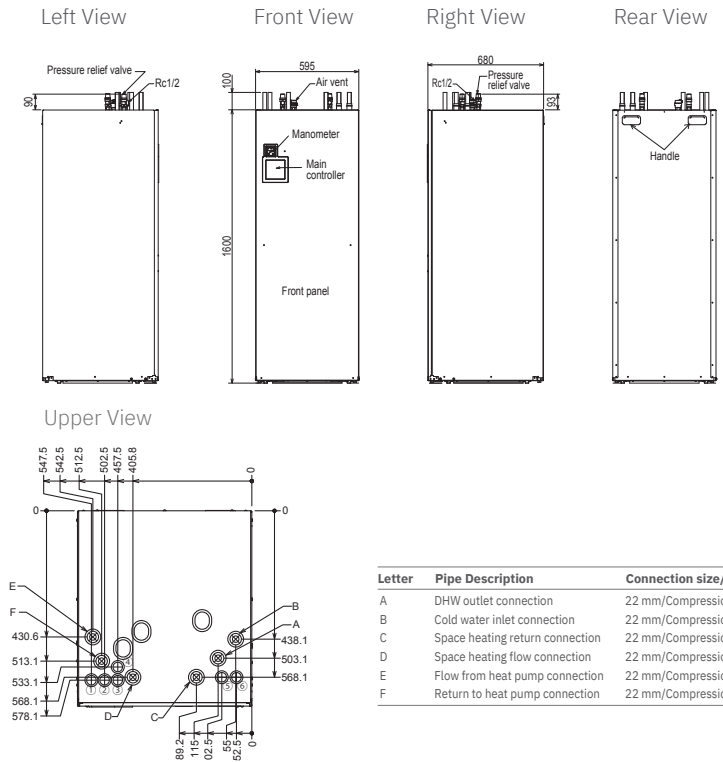
*1 Combination with EHPT20Q-VM2EA Thermal Store. *2 Under normal heating conditions at outdoor temp: -3°CDB / -4°CWB, outlet water temp 55°C, inlet water temp 47°C. *3 Under normal heating conditions at outdoor temp: 7°CDB / 6°CWB, outlet water temp 55°C, inlet water temp 47°C as tested to BS EN14511. *4 Sound power level tested to BS EN12102. *5 Grille or pipe cover. *6 MCB Sizes BS EN60898-2 & BS EN60947-2. η_s is the seasonal space heating energy efficiency (SSHEE) η_{wh} is the water heating energy efficiency.

DIMENSIONS

QUHZ-W40VA



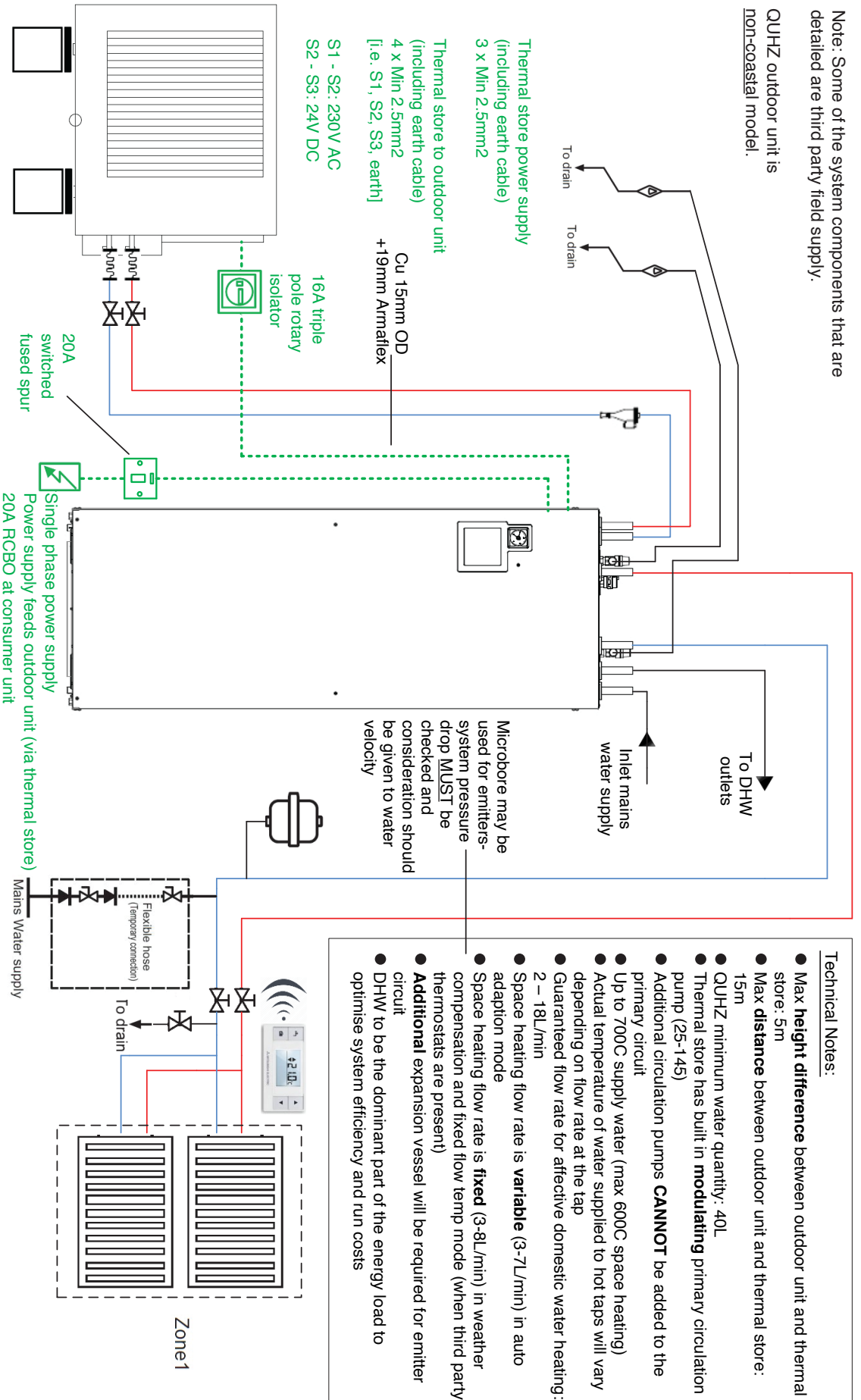
EHPT20Q-VM2EA



Letter	Pipe Description	Connection size/type
A	DHW outlet connection	22 mm/Compression
B	Cold water inlet connection	22 mm/Compression
C	Space heating return connection	22 mm/Compression
D	Space heating flow connection	22 mm/Compression
E	Flow from heat pump connection	22 mm/Compression
F	Return to heat pump connection	22 mm/Compression

Note: Some of the system components that are detailed are third party field supply.

QUHZ outdoor unit is non-coastal model.



Technical Notes:

- Max **height difference** between outdoor unit and thermal store: 5m
- Max **distance** between outdoor unit and thermal store: 15m
- QUHZ minimum water quantity: 40L
- Thermal store has built in **modulating** primary circulation pump (25-145)
- Additional circulation pumps **CANNOT** be added to the primary circuit
- Up to 700C supply water (max 600C space heating)
- Actual temperature of water supplied to hot taps will vary depending on flow rate at the tap
- Guaranteed flow rate for affective domestic water heating: 2 – 18L/min
- Space heating flow rate is **variable** (3-7L/min) in auto adaption mode
- Space heating flow rate is **fixed** (3-8L/min) in weather compensation and fixed flow temp mode (when third party thermostats are present)
- **Additional** expansion vessel will be required for emitter circuit
- DHW to be the dominant part of the energy load to optimise system efficiency and run costs



Project: N/A

Scale: NTS @ A4

Date: 10/05/16

Client: N/A

Title: Ecodan QUHZ system

1 x heating (no booster heater)

Drawing number: QUHZW40/20Q/01

Revision: 1

Key:

- Expansion vessel
- Magnetic filter
- Isolating valve
- Tundish
- Flexible hose

QUHZ and thermal store only

Vertical height restriction

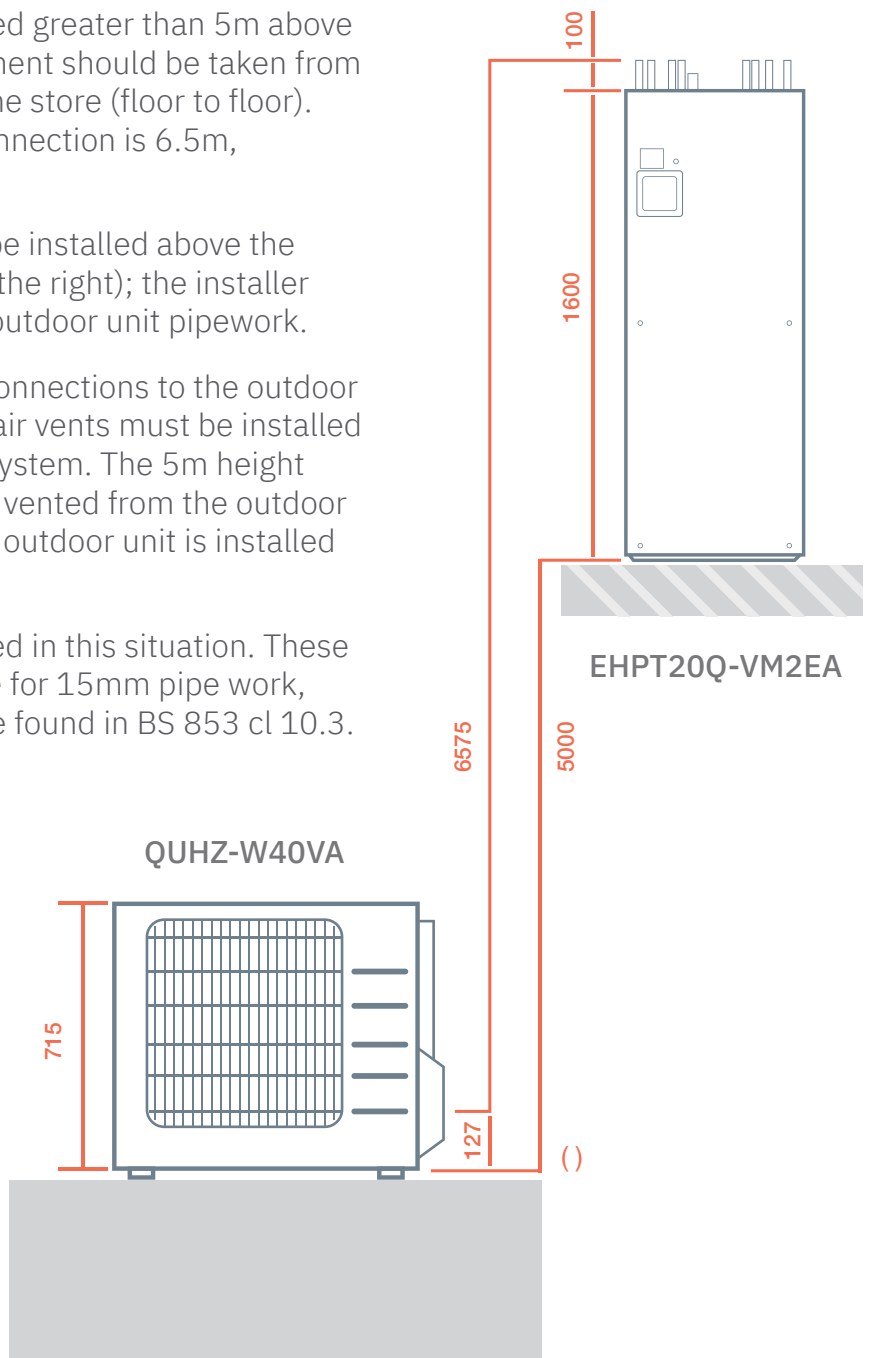
The thermal store cannot be installed greater than 5m above the outdoor unit. The 5m measurement should be taken from the base of the unit to the base of the store (floor to floor). The distance from connection to connection is 6.5m, as seen in the picture to the right.

In instances where the QUHZ is to be installed above the thermal store (reverse of picture to the right); the installer must discharge all the air from the outdoor unit pipework.

There are manual air vents on the connections to the outdoor unit (see picture below). Automatic air vents must be installed at the highest point of the primary system. The 5m height restriction does not apply if all air is vented from the outdoor unit pipework, only when the QUHZ outdoor unit is installed higher than the thermal store.

Anti-vacuum valves must be installed in this situation. These need to be WRAS approved suitable for 15mm pipe work, details of valve requirements can be found in BS 853 cl 10.3.

QUHZ Manual air vents





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Note: The fuse rating is for guidance only. Please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A (GWP:2088), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R1234ze (GWP:7) or R1234yf (GWP:4). *These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).

Effective as of December 2020

