MITSUBISHI ELECTRIC

2023

Product Catalogue

Market leading solutions to **cool**, **heat**,
ventilate & **control** the nation's buildings

M&E Edition

les.mitsubishielectric.co.uk

Welcome to **Mitsubishi Electric**

Mitsubishi Electric is a market leader in providing solutions to cool, heat, ventilate and control our buildings.

As a major manufacturer of some of these pivotal technologies, we hold the UK's energy challenges close to our heart. We want to help the nation achieve its climate goals; we want to help individuals and businesses reduce the energy consumption of their buildings, whilst also helping to reduce their annual running costs.

At Mitsubishi Electric, we are constantly evolving and today our areas of expertise go way beyond the advanced air conditioning systems that formed the foundation of our business. Here in the UK, we provide advanced solutions that cool, heat, ventilate and control buildings in the most energy efficient and cost-effective ways possible. Through technical expertise, experience and an innovative product range, we enable buildings everywhere to significantly improve energy efficiency, reduce running costs and adhere to increasingly tough legislation. **We also provide a variety of additional services and benefits to our customers which include:**

- Product training and technical support
- CPD guides and presentations
- Apps and tools
- Contractor Partner Programme
- Design and consultancy services

Working towards a better use of energy in buildings

Mitsubishi Electric's global framework for realising a sustainable planet - **Environmental Sustainability Vision 2050** - is translated in the UK into our **Green Gateway philosophy**, which is central to the way we do business. With this initiative, we are seeking to use our position as a manufacturer of key technologies to increase awareness and improve energy use in the built environment.

By constantly challenging everyone involved to combat the issues we all face and encouraging constructive dialogue throughout the industry, we aim to help everyone address their energy use and to work towards a more sustainable future. Working within the construction industry in this way we are continually developing energy efficient cooling, heating and ventilation solutions - all managed by the most advanced control systems available.

Environmental Sustainability Vision 2 0 5 0

Green Gateway

Contents

MITSUBISHI ELECTRIC

Commercial Heat Pumps & Chillers

A new generation of energy saving
and innovative technology

Contents

Commercial Heat Pumps & Chillers

The Innovative **Commercial Heat Pump & Chiller Range**

Mitsubishi Electric has developed a range of heat pumps and chillers specifically designed for heating and cooling commercial buildings.

The Ecodan® range provides renewable heating, challenging traditional heating solutions, whilst meeting the energy and carbon reduction demands of today and beyond. At the same time the e-Series modular chiller range provides a low-carbon, flexible and cost effective option, allowing up to six individual units to be connected together to provide a system capacity from 150kW to 1,080kW, in either cooling only or heat pump options.

In 2015 Mitsubishi Electric purchased Climaveneta, enhancing our product line up and marking our full scale entry into the chiller market.

Climaveneta is a strong European brand, supported by 45 years of customer trust and high quality production. Its range of energy-saving, low-noise and innovative heat pump and chiller technology further expands the application and customisation capabilities we are now able to offer.

Through our technical expertise, long experience and innovative product range, we enable building operators everywhere to significantly improve energy efficiency, reduce running costs and adhere to increasingly tough legislation.

We believe that global climate challenges need local solutions. Our aim is to help individuals and businesses reduce the energy consumption of their buildings and their running costs.

ecodan® Renewable Heating Technology

e-series

CLIMAVENETA

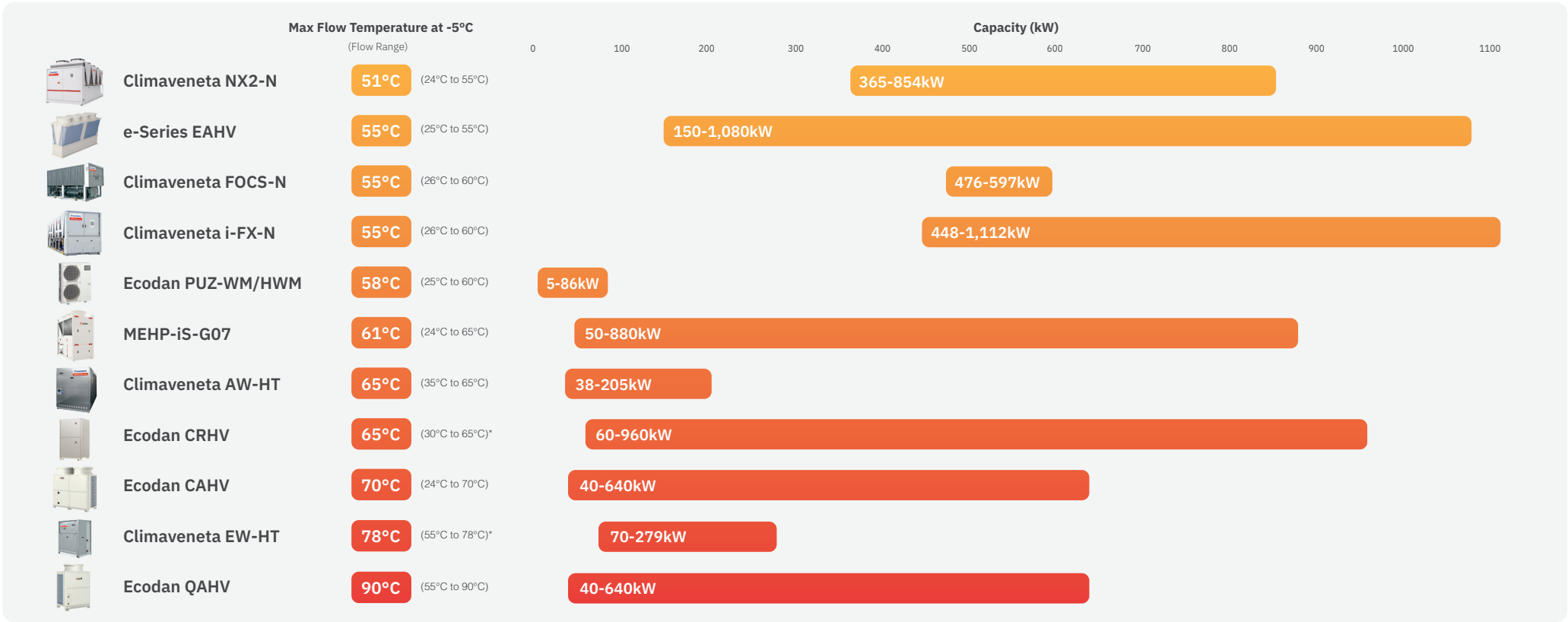
Our Commercial Heating range at a glance

The range of heat pumps on the market is now wider than it ever has been. This means it's possible to select exactly the right equipment for the specific application. Our commercial heat pumps fall into three broad ranges:

Mitsubishi Electric - Modular heat pumps manufactured to the highest quality standard, and suitable for a range of different applications.

Climaveneta - Commercial heat pumps that use a wide range of low and lower GWP refrigerants, alongside the latest fixed speed/inverter scroll and screw compressors.

Ecodan - A range of renewable heat pumps that efficiently and reliably generate sustainable space heating and hot water all year round.



Notes: * Water source

ecodan®

Hydrodan EHWT17D-MHEDW R32 Water to Water Heat Pump

Certificate Number: 037-0101-22
Product (Type): Heat Pumps (Water/Water)
Product Reference: EHWT17D-MHEDW

The **Ecodan Hydrodan** is a water to water heat pump, designed to produce heating and hot water in residential apartments, and connect to a 5th generation ambient temperature heat network deployed throughout the building. The use of these networks helps to reduce overheating in apartments and also produces negligible distribution losses. The local heat network can be maintained at ambient temperature by a Mitsubishi Electric commercial heat pump, environmental source or connected to a district heat network.

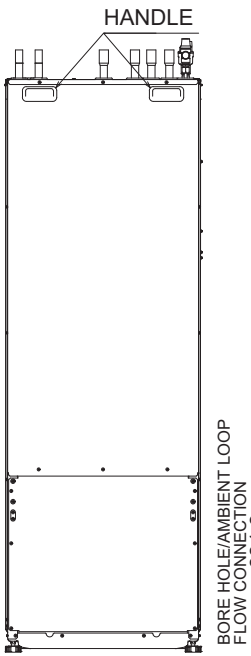
Key Features & Benefits

- Removable heat pump module - simple for repairs
- Highly efficient heating and hot water production - low running costs for owners
- Low quantity R32 refrigerant - low environmental impact
- PIC valve network control - simple pressure balancing and flow control
- Ultra-low noise output - no disturbance for owners

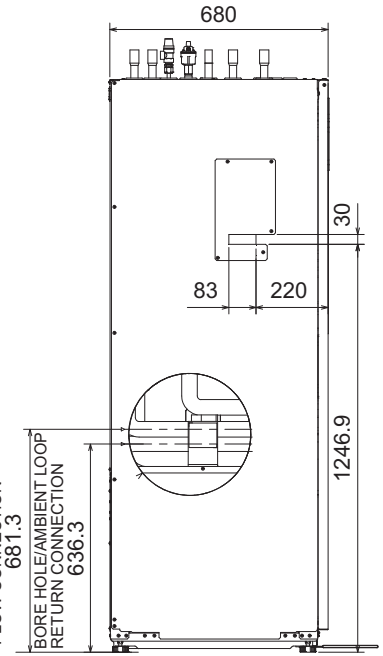
R32

MODEL				EHWT17D-MHEDW
CAPACITY INFORMATION	L20 / W35	Heating Capacity (min-max)	kW	1.2 - 8.0
		Power Input (min-max)	kW	0.3 - 1.0
		COP (Nom.)	-	9.2
	L20 / W45	Heating Capacity (min-max)	kW	1.1 - 7.5
		Power Input (min-max)	kW	0.5 - 1.3
		COP (Nom.)	-	6.3
	L20 / W55 (DHW)	Heating Capacity (DHW)	kW	6.3
		Power Input (DHW)	kW	1.3
		COP (DHW)	-	5.0
	L25 / W35	Heating Capacity (min-max)	kW	1.5 - 9.3
		Power Input (min-max)	kW	0.2 - 1.0
		COP (Nom.)	-	11.3
	L25 / W45	Heating Capacity (min-max)	kW	1.3 - 8.5
		Power Input (min-max)	kW	0.4 - 1.3
		COP (Nom.)	-	7.8
	L25 / W55 (DHW)	Heating Capacity (DHW)	kW	6.8
		Power Input (DHW)	kW	1.5
		COP (DHW)	-	5.4
	Heating Circuit Flow Rate (min - max)		l/min	7.1 - 27.7
LOOP INFORMATION		Control Type	-	PICV + Actuator
		Inlet Temperature Range (min - max)	°C	10 - 30
		Flow Rate (min - max)	l/min	7.2 - 24
		Maximum Loop Pressure Rating	bar	10
		Pipe Connection Size	mm	28
ELECTRICAL INFORMATION		Voltage/Phase/Frequency	v/ph/Hz	230v/1ph/50Hz
		Fuse Rating - Heat Pump/Immersion Heater	A	16/20
		Number of Connections	-	2
		Immersion Rating (Tank)	kW	3
		Start up Current	A	3.1
GENERAL INFORMATION		Unit Dimensions (WxDxH)	mm	595 x 680 x 1750
		Compressor Type	-	Rotary compressor
		Domestic Hot Water Tank Volume (net)	l	170
		Weight (empty)	kg	166
		Weight (full)	kg	345
		Refrigerant	-	R32
		Volume of Refrigerant	kg	0.9
		Heating Temperature Range	°C	20 - 60
		Hot Water Temperature Range	°C	40 - 60
		Internal Water Volume Loop Side / Heating Side	l	3.16 / 5.47
		Sound Power Level	dBA	38
		Sound Pressure Level @1m	dBA	27

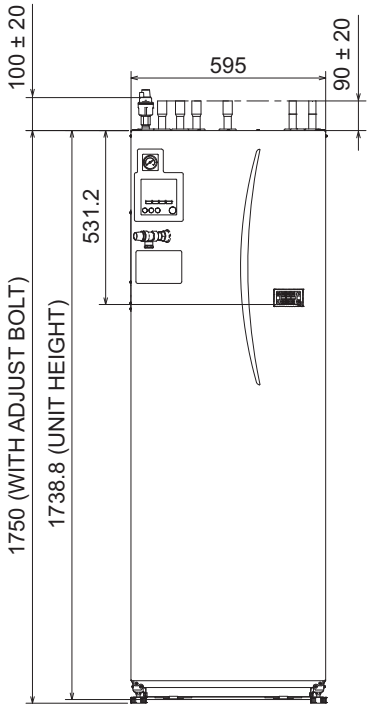
Rear View



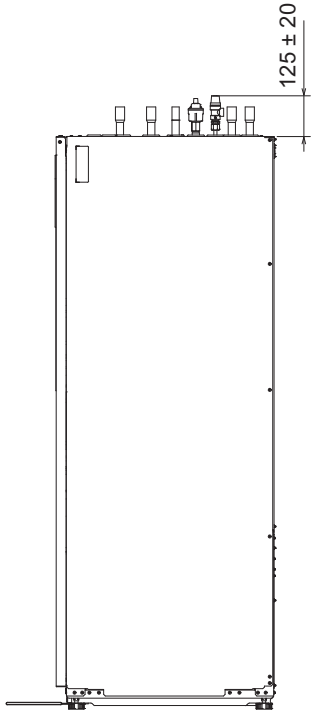
Left Side View



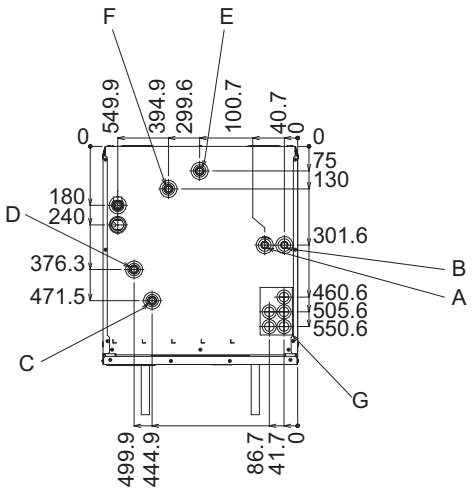
Front View



Right Side View



Upper View



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	28 mm/Compression
D	Space heating flow connection	28 mm/Compression
E	Ambient loop return connection	28 mm/Compression
F	Ambient loop flow connection	28 mm/Compression
G	Electrical cable inlets 	For inlets 1 and 2 , run low-voltage wires including external input wires and thermistor wires. For inlets 3 , 4 and 5 , run high-voltage wires including power cable, and external output wires. *For a wireless receiver (option) cable and ecodan Wi-Fi interface (option) cable, use inlet 1 .

e-series

EAHV R32 Modular Air Source Heat Pump

(150 to 1,080kW)

The R32 e-Series **EAHV** range allows for up to 6 individual units to be connected together to provide a system capacity from 150kW to 1,080kW. Using this modular approach reduces space requirements and simplifies lifting and installation.

Key Features & Benefits

- Highly efficient inverter scroll compressors
- Modular to maximise space saving
- Y-shaped heat exchangers allow for a greater surface area, maximising efficiency, whilst also keeping the units much narrower than conventional heat pumps

R32

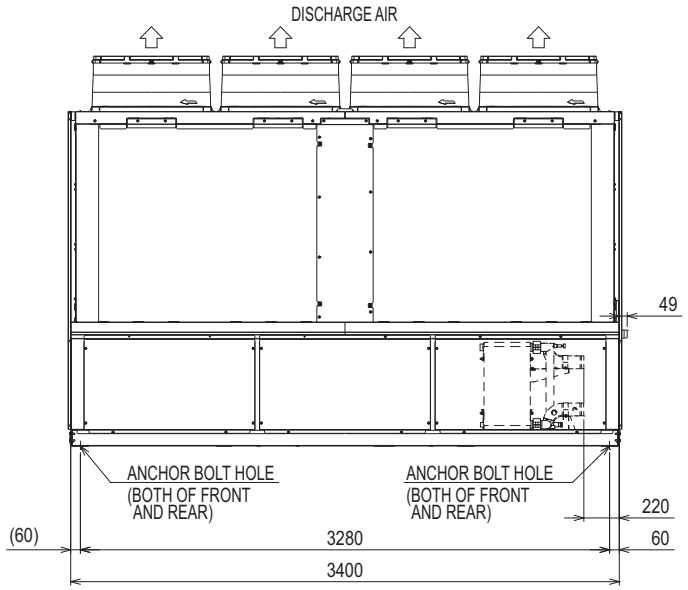
MODEL			EAHV-M1500YCL-N	EAHV-M1800YCL-N
POWER SOURCE			3-phase 4-wire 380-400-415v 50/60Hz	3-phase 4-wire 380-400-415v 50/60Hz
COOLING CAPACITY*1		kW	150	180
	Power Input	kW	44.73	57.02
	EER		3.35	3.16
	IPLV*6		6.42	6.31
	Water Flow Rate	m^3/h	25.8	31.0
COOLING CAPACITY (EN14511)*2		kW	149.18	178.80
	Power Input	kW	45.55	58.22
	EER		3.28	3.07
	Eurovent Efficiency Class		A	B
	SEER		5.52	5.36
	Performance ($\eta_{s,c}$)	%	217.8	211.4
	Water Flow Rate	m^3/h	25.8	31.0
HEATING CAPACITY*3		kW	150	180
	Power Input	kW	42.61	53.09
	COP		3.52	3.39
	Water Flow Rate	m^3/h	25.8	31.0
HEATING CAPACITY (EN14511)*4		kW	150.82	181.20
	Power Input	kW	43.43	54.29
	COP		3.47	3.34
	SCOP Low/Medium		3.31/2.88	3.31/2.88
	Water Flow Rate	m^3/h	25.8	31.0
CURRENT INPUT	Cooling Current 380-400-415V*1	A	76 - 72 - 69	96 - 91 - 88
	Heating Current 380-400-415V*3	A	72 - 68 - 66	90 - 85 - 82
	Maximum Current	A	120	120
WATER PRESSURE DROP*1		kPa	55	78
TEMP RANGE	Cooling	°C	Outlet water 4~30	Outlet water 4~30
	Heating	°C	Outlet water 25~55	Outlet water 25~55
	Outdoor (Cooling)	°C	-15~52	-15~52
	Outdoor (Heating)	°C	-20~43	-20~43
CIRCULATING WATER VOLUME RANGE		m^3/h	12.9~43.0	12.9~43.0
SOUND PRESSURE LEVEL (Measured in anechoic room) at 1m*1		dB (A)	65	67
SOUND POWER LEVEL (Measured in anechoic room)*1		dB (A)	83	85
DIAMETER OF WATER PIPE (Standard piping)	Inlet	mm (in)	65A (2 1/2B) housing type joint	65A (2 1/2B) housing type joint
	Outlet	mm (in)	65A (2 1/2B) housing type joint	65A (2 1/2B) housing type joint
DIAMETER OF WATER PIPE (Inside header piping)	Inlet	mm (in)	150A (6B) housing type joint	150A (6B) housing type joint
	Outlet	mm (in)	150A (6B) housing type joint	150A (6B) housing type joint
EXTERNAL FINISH			Polyester powder coating steel plate	Polyester powder coating steel plate
EXTERNAL DIMENSION	W x D x H	mm	3400 x 1080 x 2350	3400 x 1080 x 2350
NET WEIGHT	Standard Piping	kg (lbs)	1280 (2822)	1280 (2822)
	Inside Header Piping	kg (lbs)	1307 (2881)	1307 (2881)
DESIGN PRESSURE	R32	MPa	4.15	4.15
	Water	MPa	1.0	1.0
HEAT EXCHANGER	Water Side		Stainless steel plate and copper brazing	Stainless steel plate and copper brazing
	Air Side		Salt-resistant cross fin & aluminium tube	Salt-resistant cross fin & aluminium tube
COMPRESSOR	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Starting Method		Inverter	Inverter
	Quantity		4	4
	Motor Output	kW	11.5 x 4	11.5 x 4
FAN	Air Flow Rate	m^3/min	270 x 4	270 x 4
		L/s	4500 x 4	4500 x 4
		cfm	9534 x 4	9534 x 4
	Type, Quantity		Propeller fan x 4	Propeller fan x 4
	Starting Method		Inverter	Inverter
	Motor Output	kW	0.92 x 4	0.92 x 4
	External Static Pressure	Pa	20	20
REFRIGERANT	Type x Charge		R32 x 11.5 (kg) x 4*5	R32 x 11.5 (kg) x 4*5
	Control		LEV	LEV

Notes:

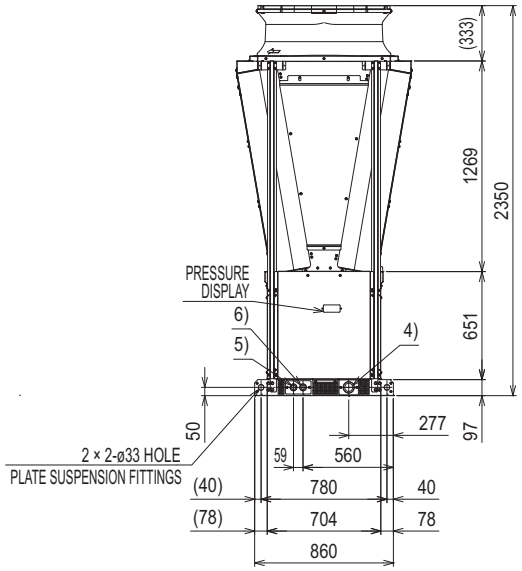
1. Under normal cooling conditions at outdoor temp 35°CDB/24°CWB (95°FDB / 75.2°FWB) outlet water temp 7°C (44.6°F) inlet water temp 12°C (53.6°F). Pump input is not included in cooling capacity and power input.
2. Under normal cooling conditions at outdoor temp 35°CDB/24°CWB (95°FDB/75.2°FWB) outlet water temp 7°C (44.6°F) inlet water temp 12°C (53.6°F). Pump input is included in cooling capacity and power input based on EN14511.
3. Under normal heating conditions at outdoor temp 7°CDB/6°CWB (44.6°FDB/42.8°FWB) outlet water temp 45°C (113°F) inlet water temp 40°C (104°F). Pump input is not included in heating capacity and power input.
4. Under normal heating conditions at outdoor temp 7°CDB/6°CWB (44.6°FDB/42.8°FWB) outlet water temp 45°C (113°F) inlet water temp 40°C (104°F). Pump input is included in heating capacity and power input based on EN14511.
5. Amount of factory-charged refrigerant is 3 (kg) × 4. Please add the refrigerant at the field.
6. IPLV is calculated in accordance with AHRI 550-590.

*Please don't use the steel material for the water piping.
*Please always make water circulate, or pull the circulation water out completely when not in use.
*Please do not use groundwater or well water in direct.
*The water circuit must be closed circuit.
*Due to continuous improvement, the above specifications may be subject to change without notice.
*This model doesn't equip with a pump.

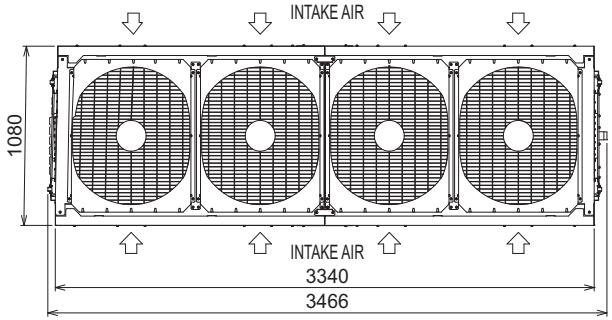
Front View



Side View



Upper View



MEHP-iS-G07 R32 Modular Air Source Heat Pump

(50 to 880kW)

Mitsubishi Electric's new **MEHP-iS-G07** heat pump range is manufactured to the highest quality standards. Featuring a compact design and modular expansion capabilities, it is suitable for many different applications, from comfort to industrial applications.

Key Features & Benefits

- Hot water up to 65ºC
- Best-in-class for low noise levels
- Compact design and modular expansion
- New Smart Coordinated Defrost
- Exceptional performance at part load operating conditions

R32

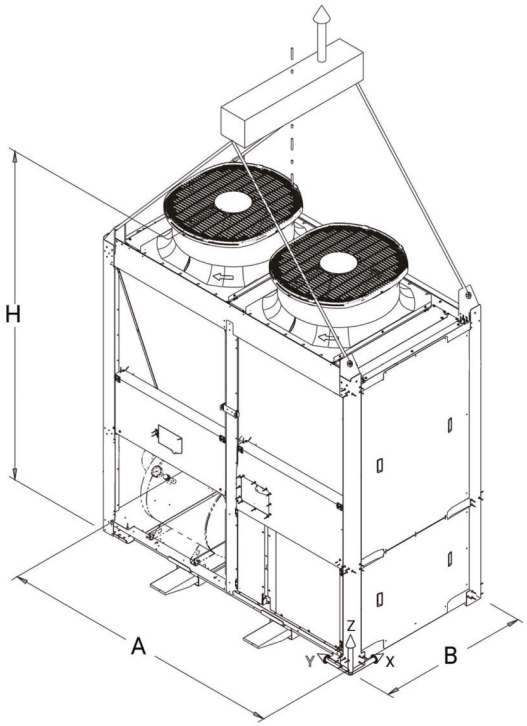
MODEL		0051	0061	0071	0082	0092	0102	0112
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
COOLING CAPACITY*1	kW	48.10	53.11	60.09	68.39	74.18	85.99	93.98
TOTAL POWER INPUT*1	kW	17.0	19.95	25.48	24.91	30.10	31.86	37.61
EER *1	kW/kW	2.829	2.668	2.357	2.747	2.465	2.696	2.500
COOLING ONLY (EN14511 VALUE)								
COOLING CAPACITY*1*2	kW	48.0	53.0	60.0	68.3	74.1	85.9	93.8
EER*1*2	kW/kW	3.81	2.64	2.34	2.73	2.45	2.68	2.48
HEATING ONLY (GROSS VALUE)								
TOTAL HEATING CAPACITY*3	kW	49.92	59.86	69.87	79.89	89.85	100.1	110.1
TOTAL POWER INPUT*3	kW	14.39	17.65	21.98	23.95	28.53	29.65	34.19
COP*3	kW/kW	3.465	3.403	3.177	3.343	3.151	3.382	3.216
HEATING ONLY (EN14511 VALUE)								
TOTAL HEATING CAPACITY*3*2	kW	50.0	60.0	70.0	80.0	90.0	100.3	110.3
COP*3*2	kW/kW	3.44	3.38	3.15	3.32	3.12	3.35	3.18
COOLING WITH PARTIAL RECOVERY								
COOLING CAPACITY*4	kW	49.9	55.1	62.34	70.95	76.96	89.22	97.5
TOTAL POWER INPUT*4	kW	16.44	19.28	24.62	24.09	29.10	30.81	36.36
DESUPERHEATER HEATING CAPACITY*4	kW	14.39	17.02	21.96	20.98	25.61	26.76	31.89
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN COOLING								
WATER FLOW*1	l/s	2.30	2.54	2.874	3.27	3.547	4.112	4.494
PRESSURE DROP AT THE HEAT EXCHANGER*1	kPa	14.4	17.6	22.5	17.2	20.2	20.8	24.9
HEAT EXCHANGER USER SIDE IN HEATING	l							
WATER FLOW*3	/s	2.41	2.889	3.373	3.856	4.337	4.832	5.311
PRESSURE DROP AT THE HEAT EXCHANGER*3	kPa	15.8	22.7	31.0	23.9	30.2	28.7	34.7
PARTIAL RECOVERY USER SIDE IN REFRIGERATION								
WATER FLOW*4	l/s	0.695	0.822	1.06	1.012	1.236	1.292	1.539
PRESSURE DROP AT THE HEAT EXCHANGER*4	kPa	11.1	15.5	25.7	11.6	17.3	13.3	18.8
REFRIGERANT CIRCUIT								
COMPRESSORS NR.	No.	1	1	1	2	2	2	2
NO. CIRCUITS	No.	1	1	1	1	1	1	1
REGULATION		Stepless	Stepless	Stepless	Stepless	Stepless	Stepless	Stepless
MIN. CAPACITY STEP	%	27	27	27	22	22	20	20
REFRIGERANT		R32	R32	R32	R32	R32	R32	R32
THEORETICAL REFRIGERANT CHARGE	kg	12.0	12.0	12.0	18.0	18.0	25.0	25.0
OIL CHARGE	kg	3.5	3.5	3.5	7.0	7.0	7.0	7.0
RC (ASHRAE)*5	kg/kW	0.25	0.23	0.20	0.27	0.24	0.29	0.27
FANS								
QUANTITY	No.	2	2	2	3	3	3	4
AIR FLOW	m^3/s	5.89	5.89	5.89	8.89	8.89	11.77	11.77
TOTAL FANS POWER INPUT	kW	0.88	0.88	0.88	1.41	1.41	1.88	1.88
NOISE LEVEL								
TOTAL SOUND PRESSURE*6	dB(A)	59	60	62	62	63	63	63
TOTAL SOUND POWER LEVEL IN COOLING*7*8	dB(A)	77	78	80	80	81	82	82
TOTAL SOUND POWER LEVEL IN HEATING*7*9	dB(A)	77	78	80	80	81	82	82
SIZE AND WEIGHT								
WIDTH (A)*10	mm	2085	2085	2085	2600	2600	3225	3225
DEPTH (B)*10	mm	1100	1100	1100	1100	1100	1100	1100
HEIGHT (H)*10	mm	2400	2400	2400	2400	2400	2400	2400
OPERATING WEIGHT*10	kg	710	710	710	960	960	1085	1085

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Plant (side) heat exchanger water (in/out) 40°C/45°C; Source (side) heat exchanger air (in) 7°C - 87% R.H.
4. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C; Plant (side) heat exchanger recovery water (in/out) 40°C/45°C.
5. Rated in accordance with AHRI Standard 550/590.
6. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7. Sound power on the basis of measurements taken in compliance with ISO 9614.
8. Sound power level in cooling, outdoors.
9. Sound power level in heating, outdoors.
10. Unit in standard configuration, without optional accessories.

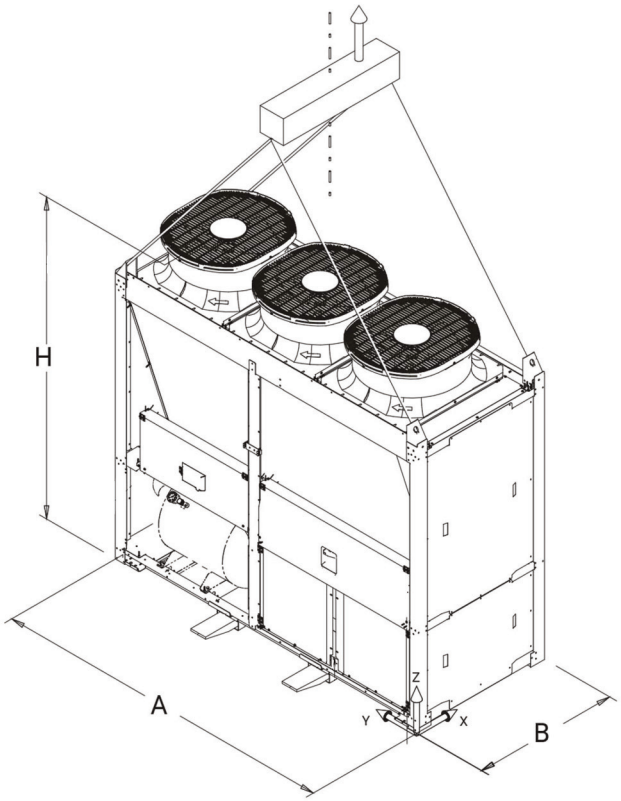
Eurovent Certified Data

Chassis Size 1



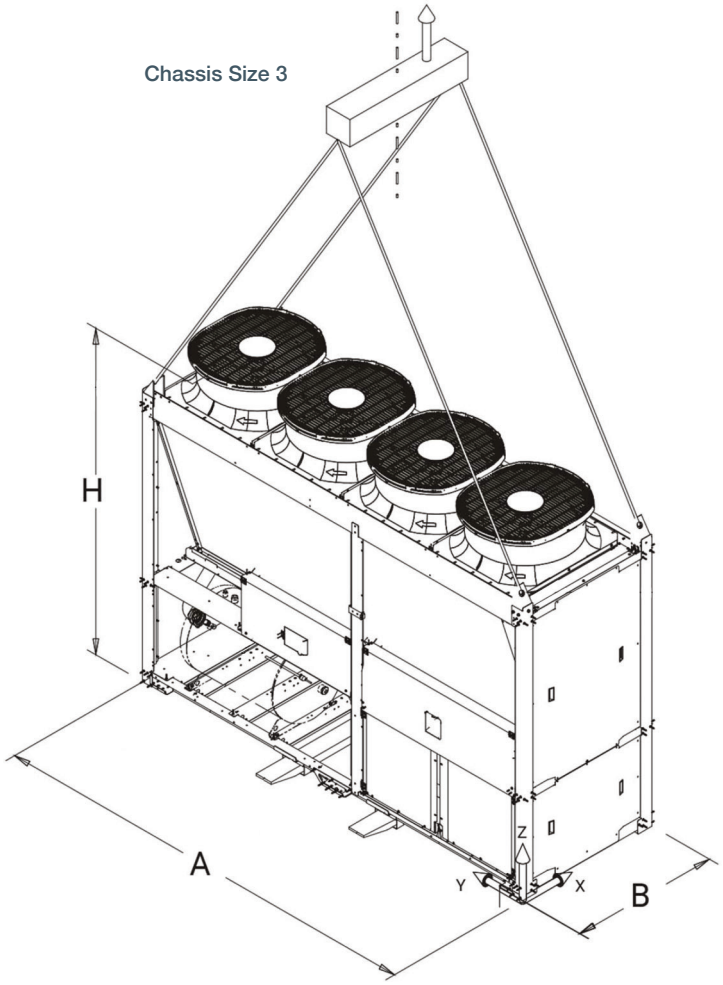
SIZE	A [mm]	B [mm]	H [mm]
MEHP/MECH-iS-G07 0051	2085	1100	2400
MEHP/MECH-iS-G07 0061	2085	1100	2400
MEHP/MECH-iS-G07 0071	2085	1100	2400

Chassis Size 2



SIZE	A [mm]	B [mm]	H [mm]
MEHP/MECH-iS-G07 0082	2600	1100	2400
MEHP/MECH-iS-G07 0092	2600	1100	2400

Chassis Size 3



SIZE	A [mm]	B [mm]	H [mm]
MEHP/MECH-iS-G07 0102	3225	1100	2400
MEHP/MECH-iS-G07 0112	3225	1100	2400

CRHV R410A Ground / Water Source Heat Pump

PLEASE NOTE: Full design criteria is needed to ascertain the capacity which could change based on heat source temperature and building flow temperature.

1. Under normal heating conditions at brine inlet: 0°C, outlet water temp 35°C as tested to BS EN14511 (60kW)
2. Under normal heating conditions at brine inlet: 0°C, outlet water temp 35°C as tested to BS EN14511 (45kW)
3. Under normal heating conditions at water inlet: 10°C, outlet water temp 35°C as tested to BS EN14511 (60kW)
4. Under normal heating conditions at water inlet: 10°C, outlet water temp 35°C as tested to BS EN14511 (45kW)
5. Sound power level as tested to BS EN12102
6. Heat source inlet temperature above 27ºC and up to 45°C option must reverse the inlet and outlet heat source connections and refer to manual for dip switch changes
7. The system should be adequately protected from freezing
8. MCB Sizes BS EN60898-2 & BS EN60947-2

* LTHW - Low Temperature Hot Water
* Please use adequate frost protection to ensure pipework and the unit do not freeze if the system is powered down
* Please do not use ground water or well water directly within the unit
* The water circuit must be a closed circuit

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

APPROVED PRODUCT

MCS

Certificate Number: MCS HP0002
Product Type: Heat Pumps
Product Reference: CRHV-P600YA-HPB

The inverter driven Ecodan **CRHV** monobloc ground / water source heat pump can operate singly, or be banked together to create a system that can modulate and cascade available units on and off to meet the load from a building.

This level of modulation is unprecedented within the heating industry, and with cascade and rotation built in as standard, the Ecodan CRHV system is perfectly suited to a wide range of commercial applications.

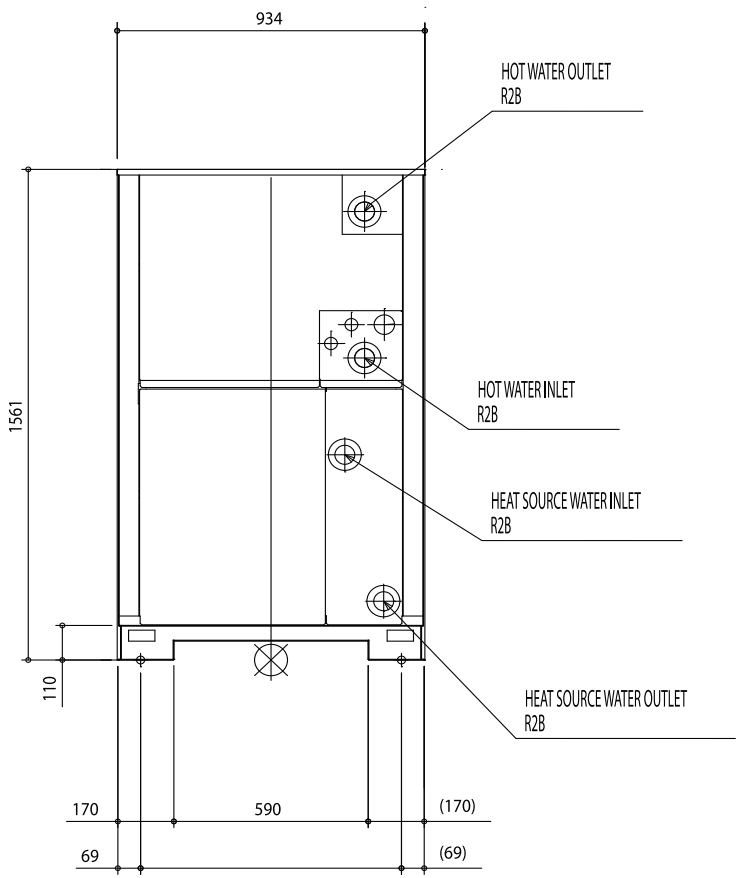
Key Features & Benefits

- Wide range of heat sources - bore holes, slinkies, aquifers, lakes, rivers and waste heat
- Multiple unit cascade control of up to 16 units / 960kW
- Ability to rotate units based on accumulated run hours
- Provides up to 65°C water flow temperatures without booster heaters
- Low maintenance, just electrical and water connections
- Heat recovery applications can be achieved by moving heat between applications
- Passive cooling possible by exchanging ground / water source with a chilled water system

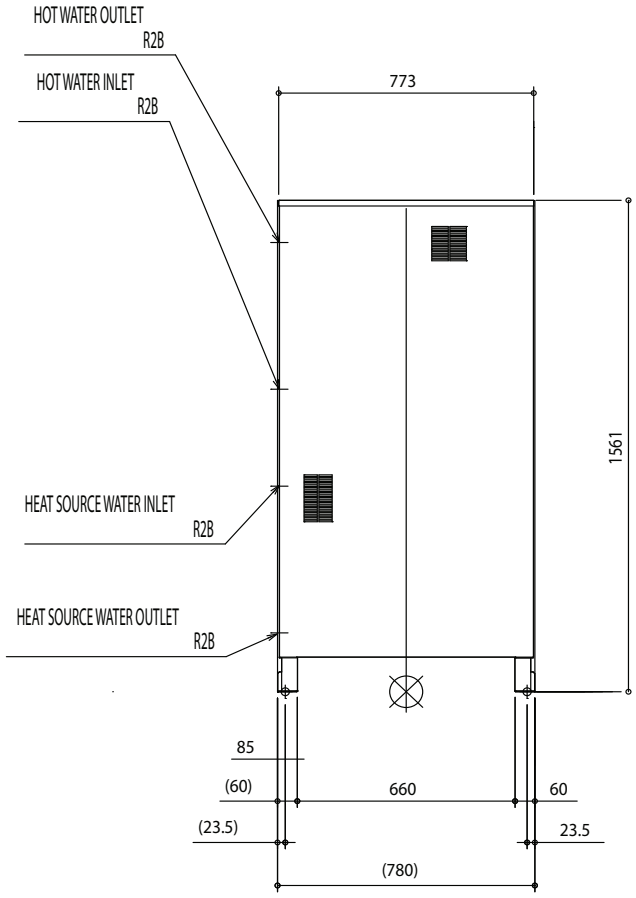
R410A

MODEL			CRHV-P600YA-HPB
HEAT PUMP SPACE HEATER - 55°C		ErP Rating	A++
		η_s	127%
		SCOP	3.37
HEAT PUMP SPACE HEATER - 35°C		ErP Rating	A++
		η_s	153%
		SCOP	4.03
HEATING*1 (B0/W35)		Capacity (kW)	60
		Power Input inc. pump (kW)	14.20
		COP	4.23
SEASONAL EFFICIENCY EN14825 (SPF)		B0/W35 (60kW)	4.33
HEATING*2 (B0/W35)		Capacity (kW)	45
		Power Input inc. pump (kW)	10.20
		COP	4.41
SEASONAL EFFICIENCY EN14825 (SPF)		B0/W35 (45kW)	4.03
HEATING*3 (W10/W35)		Capacity (kW)	60
		Power Input inc. pump (kW)	11.90
		COP	5.08
SEASONAL EFFICIENCY EN14825 (SPF)		W10/W35 (60kW)	5.09
HEATING*4 (W10/W35)		Capacity (kW)	45
		Power Input inc. pump (kW)	8.89
		COP	5.11
SEASONAL EFFICIENCY EN14825 (SPF)		W10/W35 (45kW)	4.55
SOUND DATA		Pressure Level L_{pA} at 1m (dBA)	50
		Power Level L_{WA} (dBA)*5	66
WATER DATA	Flow Rate Range	Heat Source (Brine) (l/s (m^3/hr))	1.5 to 4.1 (5.4 to 15)
		Building Side (LTHW) (l/s (m^3/hr))	1.5 to 4.4 (5.4 to 16)
	Mechanical Connections	Heat Source Outlet (Brine) (mm ("))	50.8 (R2) screw
		Heat Source Inlet (Brine) (mm ("))	50.8 (R2) screw
		Building Side Outlet (LTHW) (mm ("))	50.8 (R2) screw
		Building Side Inlet (LTHW) (mm ("))	50.8 (R2) screw
	Operating Temperature Range	Heat Source Inlet (Brine) (°C)	-5 to +27
		Heat Source Inlet Option (Brine) (°C)*6	-5 to +45
		Building Side Outlet (LTHW) (°C)	+30 to +65
	Heat Source Fluid Type*7		Min 30% Ethylene Glycol or equivalent
	Pressure Drop (at 1.5l/s inc 30% glycol in heat source fluid)	Heat Source (Brine) (kPa)	12
		Building Side (LTHW) (kPa)	7
	Maximum Working Pressure	Heat Source (Brine) (MPa(Bar))	1 (10)
		Building Side (LTHW) (MPa(Bar))	1 (10)
DIMENSIONS		Width (mm)	934
		Depth (mm)	780
		Height (mm)	1561
WEIGHT (kg)			395
REFRIGERANT		Type	R410A
		Charge (kg) / CO_2 Equivalent (t)	9 / 18.7
		Max pressure (MPa (Bar))	4.15 (41.5)
		Compressor Type	Inverter Driven
		Circuit type	Hermetically Sealed System
ELECTRICAL DATA		Electrical Supply	415v, 50Hz
		Phase	3
		Maximum Running Current (A)	44
		Fuse Rating - MCB Size (A)*8	50

Front View



Side View



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CAHV R454C Air Source Heat Pump

The Mitsubishi Electric Ecodan **CAHV** air source heat pump utilises low GWP R454C refrigerant, offering a robust, low carbon system for the provision of sanitary hot water and space heating. This innovative heat pump solution can operate as a single system or form part of a multiple unit system, making it suitable for a wide range of commercial applications, including schools and hospitals.

A multiple unit system has the ability to cascade available units on and off to meet the load requirements of a building. As an example of this unique modulation, a 16 unit system allows 0.5kW increments of capacity, from 7.8kW all the way up to 640kW*. With cascade and rotation built in as standard, the Ecodan CAHV is perfectly set up to reliably generate sustainable space heating and hot water all year round.

Key Features & Benefits

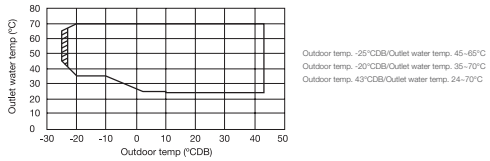
* At nominal conditions A7W35

- Low GWP R454C refrigerant and reduced embodied carbon helps achieve CSR targets
- Achieves 70°C outlet temperature down to -2°C ambient temperature for continuous heating provision
- Multiple unit cascade control from 7.8kW to 640kW* capacity provides design flexibility for a wide range of commercial applications
- Water flow temperatures from 24°C to 70°C without boost heaters, results in cost and energy savings
- Advanced heat exchange design combined with the properties of R454C refrigerant enables a shorter defrost time

MODEL			CAHV-R450YA-HPB
POWER SOURCE			3-phase 4-wire 380-400-415V 50/60 Hz
CAPACITY(EN14511)*1		kW	40
	Power input	kW	14.03
	Current input	A	23.7-22.5-21.7
	COP (kW/kW)		2.85
	SCOP Low/Medium		3.57/3.24
CAPACITY*2		kW	33.4
	Power input	kW	16.6
	Current input	A	28.0-26.6-25.7
	COP (kW/kW)		2.01
MAXIMUM CURRENT INPUT		A	44.0-41.8-40.3
WATER PRESSURE DROP*1			10.2 kPa (1.47 psi)
TEMPERATURE RANGE*5	Outlet water temperature		24 - 70°C
	Outdoor temperature	D.B.	-25 - 43°C
CIRCULATING WATER VOLUME RANGE*5			25 l/min - 250 l/min
SOUND PRESSURE LEVEL (measured 1m below the unit in an anechoic room)*1*4		dB(A)	64
SOUND PRESSURE LEVEL (measured 1m below the unit in an anechoic room)*3*4		dB(A)	72
WATER PIPE DIAMETER AND TYPE	Inlet	mm (in)	38.1 (1 1/2"), housing type joint
	Outlet	mm (in)	38.1 (1 1/2"), housing type joint
EXTERNAL FINISH			Acrylic painted steel sheet <Munsell 5Y 8/1 or similar>
EXTERNAL DIMENSIONS (Width x Depth x Height)		mm	1750 x 740 x 1710
NET WEIGHT		kg	359
DESIGN PRESSURE	R454C	MPa	3.85
	Water	MPa	1.0
HEAT EXCHANGER	Water-side		Copper brazed stainless steel sheet
	Air-side		Plate fins and copper tubes
COMPRESSOR	Type		Inverter scroll hermetic compressor
	Manufacturer		MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter
	Motor output	kW	12.1
	Lubricant		FVC32EA
FAN	Air flow rate	L/s	2500 × 2
	External static pressure		10 Pa (1mm H2O)
	Type and quantity		Propeller fan × 2
	Control and driving mechanism		Inverter control, direct driven by motor
	Motor output	kW	0.92 × 2
HIC (HEAT INTER-CHANGER) CIRCUIT			Copper pipe
PROTECTION DEVICES	High pressure		High-pressure sensor and switch set at 3.85 MPa (643 psi)
	Inverter circuit		Overheat and overcurrent protection
	Compressor		Overheat protection
	Fan motor		Thermal switch
DEFROSTING METHOD			Auto-defrost mode (Reversed refrigerant cycle)
REFRIGERANT	Type and factory charge	kg	R454C, 9.0 kg
	Flow and temperature control		LEV and HIC circuit

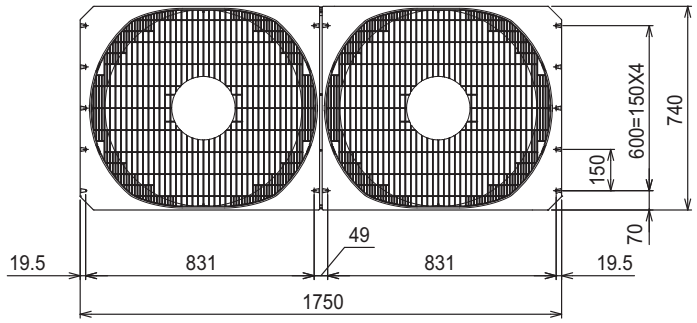
Notes:

1. Under normal heating conditions at the outdoor temperature of 7°CDB/6°CWB, the outlet water temperature of 45°C, and the inlet water temperature of 40°C.
2. Under normal heating conditions at the outdoor temperature of -5°CDB/-6°CWB and the outlet water temperature of 55°C.
3. Under normal heating conditions at the outdoor temperature of 7°CDB/6°CWB when the unit is set to the "Capacity Priority" mode through the dry NC-contact.
4. The sound pressure level is a value measured in an anechoic room in accordance with the conventional method in JRA4060.
5.

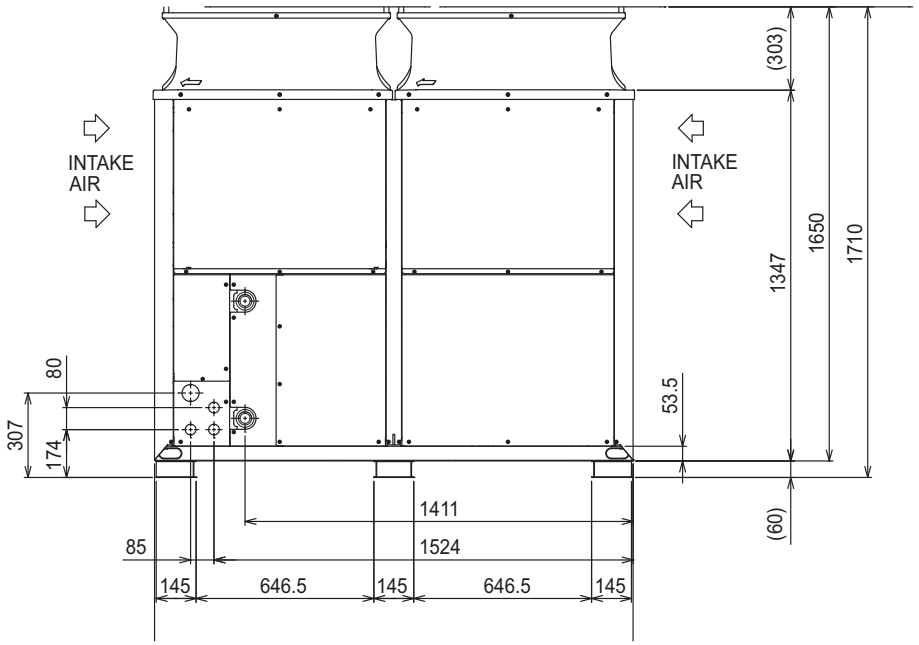


6. 4.0 - 15.0 m³/h under the following conditions:
   a. When the outdoor temperature is below 0°C,
   b. When the outlet water temperature is 30°C or below AND the outdoor temperature is 6°C or below.

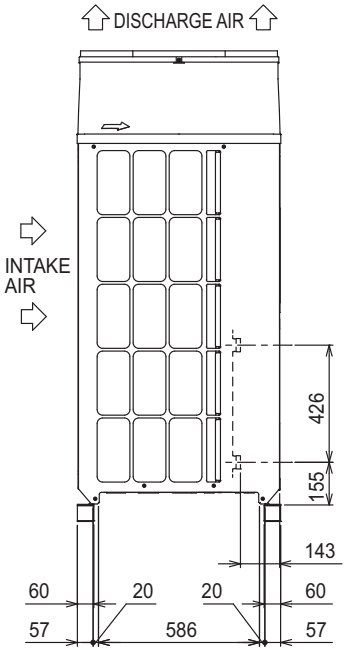
Upper View



Front View



Side View



ecodan®

QAHV R744 Air Source Heat Pump

Specifically designed for commercial sanitary hot water application, where gas boilers, combined heat and power systems (CHP) or electric water heating have been traditionally utilised, the 40kW Ecodan **QAHV** provides a low carbon solution for hotels, apartment blocks, leisure centres, hospitals, care homes, restaurants and education.

Utilising the natural and stable refrigerant CO_2 (R744), the environmentally clean solution enables compliance to strict local planning laws and boosts BREEAM points. With the increasing decarbonisation of the electrical grid, the QAHV provides a high efficiency, low carbon hot water delivery solution with leaving water temperature up to 90°C.

Key Features & Benefits

- High efficiency at high flow temperatures
- Utilises CO_2 refrigerant which has a GWP of 1
- Uses a unique twisted and spiral gas cooler to enhance energy efficiency
- Full heating capacity down to -3°C outdoor temperature and operates down to -25°C
- Super low noise levels
- Able to utilise with an indirect system

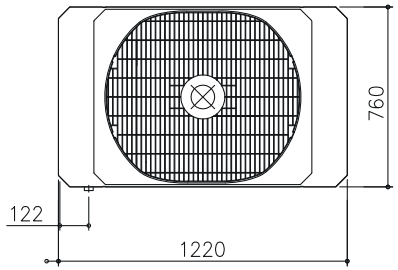
R744

MODEL		QAHV-N560YA-HPB
WATER HEATING 65°C *1	CAPACITY (kW)	40
	POWER INPUT (kW)	10.31
	CURRENT INPUT (A)	16.3
	COP	3.88
WATER HEATING 65°C *2	CAPACITY (kW)	40
	POWER INPUT (kW)	10.97
	CURRENT INPUT (A)	18.3
	COP	3.65
WATER HEATING 65°C *3	CAPACITY (kW)	40
	POWER INPUT (kW)	11.6
	CURRENT INPUT (A)	18.7
	COP	3.44
WATER HEATING ENERGY EFFICIENCY CLASS	FOR MEDIUM TEMPERATURE APPLICATION	A
TEMPERATURE RANGE	INLET WATER TEMPERATURE (°C)	5 ~ 63
	OUTLET WATER TEMPERATURE (°C)	55 ~ 90
	OUTDOOR TEMPERATURE (°C)	-25~43
ELECTRICAL	MAX CURRENT INPUT (A)	33.8
	ELECTRICAL SUPPLY (V / Hz)	380-415v, 50Hz
	PHASE	3
	FUSE RATING - MCB SIZES (A)*5	40
WATER DETAIL	INLET / OUTLET (mm (in.))	19.05 (Rc 3/4") / 19.05 (Rc 3/4")
	ALLOWABLE EXTERNAL PUMP HEAD (kPa)	77
DIMENSIONS (mm)	WIDTH	1220
	DEPTH	760
	HEIGHT	1837 (1777 without legs)
WEIGHT (kg)		400
NOISE LEVEL	SOUND PRESSURE *4 (dB(A))	56
REFRIGERANT	TYPE	R744 (GWP 1)
	REFRIGERANT CHARGE (kg) / CO_2 EQUIVALENT (t)	6.5 / 0.0065

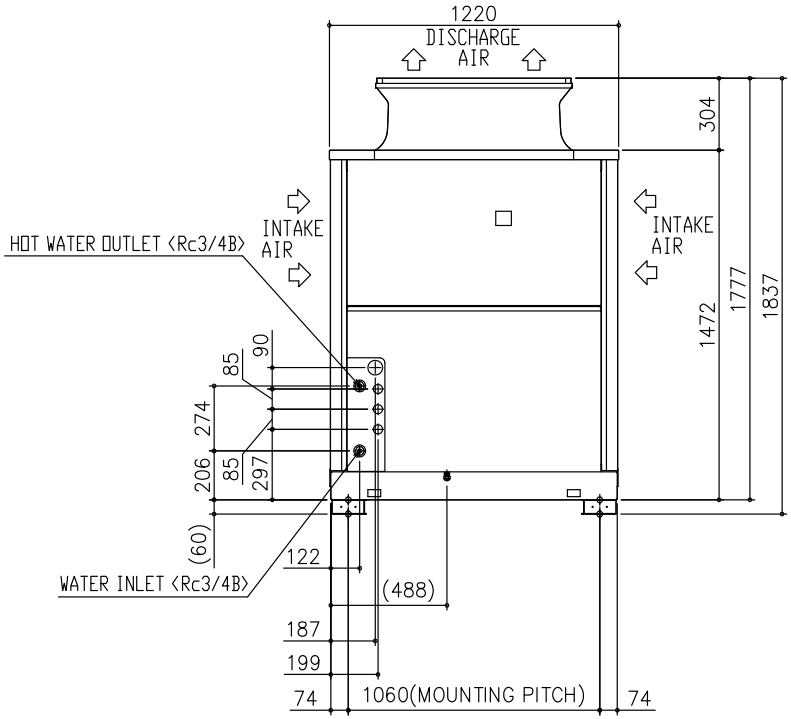
Notes:

1. Under Normal heating conditions at the outdoor temp, 16°CDB/12°CWB, the outlet water temperature 65°C, and the inlet water temperature 17°C
2. Under Normal heating conditions at the outdoor temp, 7°CDB/6°CWB, the outlet water temperature 65°C, and the inlet water temperature 9°C
3. Under Normal heating conditions at the outdoor temp, 7°CDB/6°CWB, the outlet water temperature 65°C, and the inlet water temperature 15°C
4. Measured 1m from the front of the unit in an anechoic room
5. MCB Sizes BS EN60898-2 & BS EN60947-2

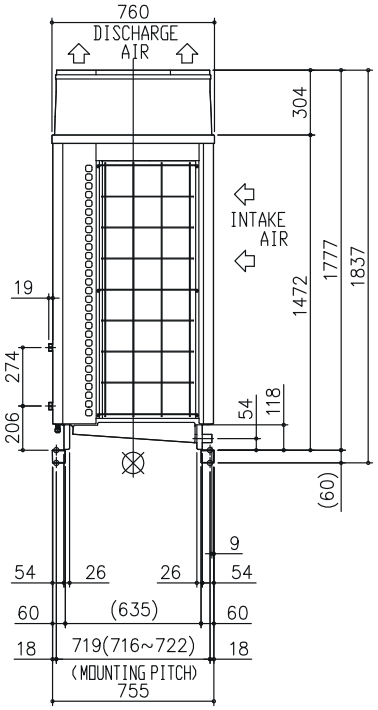
Upper View



Front View



Side View



NX2-N R454B Air Source Heat Pump

(365 to 580kW)

Standard Version (/K)

Designed for medium to large capacity commercial applications, the Climaveneta **NX2-N** heat pump range is the ideal solution for LTHW in a wide range of applications. Every unit goes through rigorous end of line testing, guaranteeing performance and reliability.

Key Features & Benefits

- Lower GWP R454B refrigerant
- Scroll compressors
- Wide capacity range
- Patented fan section layout

MODEL		0344	0364	0404	0446	0506	0526	0546
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)[1]								
COOLING CAPACITY	kW	334.7	355	382.4	430.6	475.7	516.4	533.6
TOTAL POWER INPUT	kW	122.8	126.2	141.6	163	175.4	183.7	189.4
EER	kW/kW	2.73	2.81	3	2.64	2.71	2.81	2.82
COOLING ONLY (EN14511 VALUE)[1][2]								
COOLING CAPACITY	kW	334.3	354.7	382	430.2	475.1	515.9	533.1
EER	kW/kW	2.69	2.78	2.67	2.62	2.68	2.78	2.79
SEER[7][8]	kW/kW	3.93	4.04	4.07	4.01	3.93	4.07	4.1
PERFORMANCE ηs[7][9]	%	154	159	160	157	154	160	161
HEATING ONLY (GROSS VALUE)[3]								
TOTAL HEATING CAPACITY	kW	364.7	386.5	414.9	469.4	512.7	560.2	579.9
TOTAL POWER INPUT	kW	119.3	124.9	134.8	155.5	168.4	181.7	186.9
COP	kW/kW	3.06	3.09	3.08	3.02	3.05	3.08	3.10
HEATING ONLY (EN14511 VALUE)[2][3]								
TOTAL HEATING CAPACITY	kW	365.2	387	415.4	470	513.3	560.7	580.5
COP	kW/kW	3.02	3.06	3.04	2.98	3	3.05	3.07
HEATING ONLY (EN14825 VALUE)[14][15]								
RATED HEATING CAPACITY AT Tdesign, h	kW	268	294	323	369	388	363	373
BIVALENT TEMPERATURE	°C	-7	-7	-7	-7	-7	-10	-10
SCOP[4]	kW/kW	3.6	3.7	3.73	3.66	3.53	3.49	3.53
SEASONAL SPACE HEATING ENERGY EFFICIENCY	%	141	145	146	143	138	137	137
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN COOLING[1]								
WATER FLOW	l/s	16.01	16.98	18.29	20.59	22.75	24.7	25.52
PRESSURE DROP	kPa	48.1	38.5	44.7	43.4	53	43.5	46.4
HEAT EXCHANGER USER SIDE IN HEATING[3]								
WATER FLOW	l/s	17.6	18.66	20.03	22.66	24.75	27.04	27.99
PRESSURE DROP	kPa	58.2	46.5	53.5	52.6	62.7	52.1	55.9
REFRIGERANT CIRCUIT								
COMPRESSORS	No.	4	4	4	6	6	6	6
NUMBER OF CAPACITY STEPS	No.	4	4	4	6	6	6	6
NO. CIRCUITS	No.	2	2	2	3	3	3	3
REGULATION		STEPS	STEPS	STEPS	STEPS	STEPS	STEPS	STEPS
MINIMUM CAPACITY STEP	%	25	25	25	17	17	17	17
REFRIGERANT TYPE		R454B	R454B	R454B	R454B	R454B	R454B	R454B
REFRIGERANT CHARGE	kg	64.8	68.4	68.4	83.7	87.3	98.1	113
OIL CHARGE	kg	25	25	25	39	38	38	38
Rc (ASHRAE)[5]	kg/kW	0.2	0.19	0.18	0.2	0.19	0.19	0.21
FANS								
QUANTITY	No.	12	12	12	10	18	18	18
AIR FLOW	m^3/s	35.95	34.59	34.59	39.52	53.07	51.13	51.88
FANS POWER INPUT	kW	2	2	2	2	2	2	2
NOISE LEVEL								
SOUND PRESSURE[6]	dB(A)	76	76	76	76	76	76	76
SOUND POWER LEVEL IN COOLING[10][11]	dB(A)	96	96	96	96	97	97	97
SOUND POWER LEVEL IN HEATING[10][12]	dB(A)	96	96	96	96	97	97	97
DIMENSIONS AND WEIGHT[13]								
WIDTH	mm	2260	2260	2260	2260	2260	2260	2260
DEPTH	mm	3905	3905	3905	4515	5690	5690	5690
HEIGHT	mm	2450	2450	2450	2450	2450	2450	2450
OPERATING WEIGHT	kg	3030	3110	3150	4040	4400	4530	4600

Notes:

1. Plant (side) cooling exchanger water (in/out) 12.00°C/7.00°C; Source (side) heat exchanger air (in) 35.0°C.
2. Values in compliance with EN14511.
3. Plant (side) heat exchanger water (in/out) 40.00°C/45.00°C; Source (side) heat exchanger air (in) 7.0°C - 87% R.H.
4. Seasonal coefficient of performance.
5. Rated in accordance with AHRI Standard 550/590.
6. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.
10. Sound power on the basis of measurements made in compliance with ISO 9614.
11. Sound power level in cooling, outdoors.
12. Sound power level in heating, outdoors.
13. Unit in standard configuration/execution, without optional accessories.
14. Average Weather Conditions. Seasonal space heating efficiency class LOW TEMPERATURE [REGULATION (EU) N. 813/2013].
15. Variable flow rate and variable temperature calculation.

NX2-N R454B Air Source Heat Pump

(362 to 569kW)

Low Noise Version (/SL)

Designed for medium to large capacity commercial applications, the Climaveneta **NX2-N** heat pump range is the ideal solution for LTHW in a wide range of applications. Every unit goes through rigorous end of line testing, guaranteeing performance and reliability.

Key Features & Benefits

- Lower GWP R454B refrigerant
- Scroll compressors
- Wide capacity range
- Patented fan section layout

MODEL		0344	0364	0404	0446	0506	0526	0546
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)[*1]								
COOLING CAPACITY	kW	316.4	336.8	370.6	409.4	444	486.6	506.1
TOTAL POWER INPUT	kW	128.4	132.8	144.6	170	184.7	194	199.4
EER	kW/kW	2.46	2.54	2.56	2.4	2.4	2.51	2.54
COOLING ONLY (EN14511 VALUE)[*1*2]								
COOLING CAPACITY	kW	316	336.4	370.2	409	443.6	486.1	505.7
EER	kW/kW	2.44	2.51	2.54	2.38	2.38	2.49	2.51
SEER[*7*8]	kW/kW	4.1	4.13	4.23	4.14	4.1	4.19	4.19
PERFORMANCE ηs[*7*9]	%	161	162	166	162	161	165	165
HEATING ONLY (GROSS VALUE)[*3]								
TOTAL HEATING CAPACITY	kW	362	379.2	420.1	470.8	511.1	552	568.8
TOTAL POWER INPUT	kW	114.1	120.5	131.1	150.6	162.1	174.2	180.3
COP	kW/kW	3.17	3.15	3.2	3.13	3.15	3.17	3.16
HEATING ONLY (EN14511 VALUE)[*2*3]								
TOTAL HEATING CAPACITY	kW	362.5	380	420.6	471	511.7	552.6	569.4
COP	kW/kW	3.13	3.11	3.16	3.09	3.11	3.13	3.12
HEATING ONLY (EN14825 VALUE)[*14*15]								
RATED HEATING CAPACITY AT Tdesign, h	kW	227	252	319	294	390	356	378
BIVALENT TEMPERATURE	°C	-7	-7	-7	-7	-7	-7	-7
SCOP[*4]	kW/kW	3.67	3.71	3.78	3.67	3.8	3.73	3.72
SEASONAL SPACE HEATING ENERGY EFFICIENCY	%	144	145	148	144	149	146	146
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN COOLING[*1]								
WATER FLOW	l/s	15.13	16.11	17.72	19.58	21.23	23.27	24.2
PRESSURE DROP	kPa	43	34.6	41.9	39.2	46.2	38.6	41.8
HEAT EXCHANGER USER SIDE IN HEATING[*3]								
WATER FLOW	l/s	17.47	18.3	20.28	22.73	24.67	26.65	27.46
PRESSURE DROP	kPa	57.4	44.7	54.9	52.9	62.3	50.6	53.7
REFRIGERANT CIRCUIT								
COMPRESSORS	No.	4	4	4	6	6	6	6
NUMBER OF CAPACITY STEPS	No.	4	4	4	6	6	6	6
NO. CIRCUITS	No.	2	2	2	3	3	3	3
REGULATION		STEPS	STEPS	STEPS	STEPS	STEPS	STEPS	STEPS
MINIMUM CAPACITY STEP	%	25	25	25	17	17	17	17
REFRIGERANT TYPE		R454B	R454B	R454B	R454B	R454B	R454B	R454B
REFRIGERANT CHARGE	kg	71.9	74.1	85.2	96.3	106	112	113
OIL CHARGE	kg	25	25	25	39	38	38	38
Rc (ASHRAE)[*5]	kg/kW	0.23	0.22	0.23	0.24	0.24	0.23	0.23
FANS								
QUANTITY	No.	10	8	8	18	18	14	12
AIR FLOW	m³/s	27.28	30.33	29.48	35.07	33.16	42.86	45.49
FANS POWER INPUT	kW	1	1	1	1	1	1	1
NOISE LEVEL								
SOUND PRESSURE[*6]	dB(A)	68	68	68	68	68	69	69
SOUND POWER LEVEL IN COOLING[*10*11]	dB(A)	88	88	88	89	89	90	90
SOUND POWER LEVEL IN HEATING[*10*12]	dB(A)	89	89	89	90	90	91	91
DIMENSIONS AND WEIGHT[*13]								
WIDTH	mm	2260	2260	2260	2260	2260	2260	2260
DEPTH	mm	4515	5080	5080	5690	5690	6865	7430
HEIGHT	mm	2450	2450	2450	2450	2450	2450	2450
OPERATING WEIGHT	kg	3330	3460	3630	4640	4750	5050	5170

Notes:
1. Plant (side) cooling exchanger water (in/out) 12.00°C/7.00°C; Source (side) heat exchanger air (in) 35.0°C.
2. Values in compliance with EN14511.
3. Plant (side) heat exchanger water (in/out) 40.00°C/45.00°C; Source (side) heat exchanger air (in) 7.0°C - 87% R.H.
4. Seasonal coefficient of performance.
5. Rated in accordance with AHRI Standard 550/590.
6. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.
10. Sound power on the basis of measurements made in compliance with ISO 9614.
11. Sound power level in cooling, outdoors.
12. Sound power level in heating, outdoors.
13. Unit in standard configuration/execution, without optional accessories.
14. Average Weather Conditions. Seasonal space heating efficiency class LOW TEMPERATURE [REGULATION (EU) N. 813/2013].
15. Variable flow rate and variable temperature calculation.

NX2-N R454B Air Source Heat Pump

(376 to 853kW)

High Efficiency Version (/A)

Designed for medium to large capacity commercial applications, the Climaveneta **NX2-N** heat pump range is the ideal solution for LTHW in a wide range of applications. Every unit goes through rigorous end of line testing, guaranteeing performance and reliability.

Key Features & Benefits

- Lower GWP R454B refrigerant
- Scroll compressors
- Wide capacity range
- Patented fan section layout

MODEL		0344	0364	0404	0446	0506	0526	0546	0606	0708	0738	0768	0808
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE													
COOLING ONLY (GROSS VALUE)[*1]													
COOLING CAPACITY	kW	345.3	361.5	399.8	446.5	500	525.8	543.5	599.3	696.6	724.8	762	799.2
TOTAL POWER INPUT	kW	116.8	121.4	133.4	152	168.8	177	182.1	196.5	228.7	238.0	248.8	262
EER	kW/kW	2.96	2.98	3	2.94	2.96	2.97	2.99	3.05	3.05	3.05	3.06	3.05
COOLING ONLY (EN14511 VALUE)[*1*2]													
COOLING CAPACITY	kW	344.9	361.1	399.3	446	499.5	525.3	543	598.8	696	724.2	761.4	798.6
EER	kW/kW	2.92	2.95	2.96	2.9	2.92	2.94	2.95	3.01	3.01	3.01	3.03	3.02
SEER[*7*8]	kW/kW	4.28	4.39	4.44	4.4	4.28	4.37	4.37	4.56	4.56	4.56	4.58	4.56
PERFORMANCE ηs[*7*9]	%	168	172	175	171	168	172	172	180	179	180	180	179
HEATING ONLY (GROSS VALUE)[*3]													
TOTAL HEATING CAPACITY	kW	376.3	397.2	426.7	492.5	531	573.6	596	640	752.7	794.7	825.4	853.3
TOTAL POWER INPUT	kW	116.4	123	131.8	153.1	164.1	177.1	184	193.6	227.6	239.7	250.1	258.1
COP	kW/kW	3.23	3.23	3.24	3.22	3.24	3.24	3.24	3.31	3.31	3.32	3	3.31
HEATING ONLY (EN14511 VALUE)[*2*3]													
TOTAL HEATING CAPACITY	kW	376.8	397.7	427.2	493.1	531.6	574.2	596.6	640.6	753.4	795.3	826	854.1
COP	kW/kW	3.19	3.19	3.2	3.17	3.19	3.2	3.2	3.26	3.26	3.28	3.26	3.26
HEATING ONLY (EN14825 VALUE)[*14*15]													
RATED HEATING CAPACITY AT Tdesign, h	kW	271	296	321	368	386	356	371	-	-	-	-	-
BIVALENT TEMPERATURE	°C	-7	-7	-7	-7	-7	-10	-10	-	-	-	-	-
SCOP[*4]	kW/kW	3.76	3.83	3.79	3.9	3.81	3.8	3.83	-	-	-	-	-
SEASONAL SPACE HEATING ENERGY EFFICIENCY	%	147	150	149	153	149	149	150	-	-	-	-	-
EXCHANGERS													
HEAT EXCHANGER USER SIDE IN COOLING[*1]													
WATER FLOW	l/s	16.51	17.29	19.12	21.35	23.91	25.14	25.99	28.7	33.3	34.7	36.4	38.2
PRESSURE DROP	kPa	51.2	39.9	48.8	46.7	58.5	45.1	48.2	51.1	50.3	40.5	44.7	49.2
HEAT EXCHANGER USER SIDE IN HEATING[*3]													
WATER FLOW	l/s	18.17	19.17	20.6	23.77	25.63	27.69	28.77	30.9	36.3	38.4	39.8	41.2
PRESSURE DROP	kPa	62	49.1	56.6	57.9	67.3	54.6	59	59.4	59.9	49.6	53.5	57.2
REFRIGERANT CIRCUIT													
COMPRESSORS	No.	4	4	4	6	6	6	6	6	8	8	8	8
NUMBER OF CAPACITY STEPS	No.	4	4	4	6	6	6	6	6	8	8	8	8
NO. CIRCUITS	No.	2	2	2	3	3	3	3	3	4	4	4	4
REGULATION		STEPS	STEPS	STEPS	STEPS	STEPS	STEPS	STEPS	STEPS	STEPS	STEPS	STEPS	STEPS
MINIMUM CAPACITY STEP	%	25	25	25	17	17	17	17	17	12.5	12.5	12.5	12.5
REFRIGERANT TYPE		R454B	R454B	R454B	R454B	R454B	R454B	R454B	R454B	R454B	R454B	R454B	R454B
REFRIGERANT CHARGE	kg	81	86.4	86.9	109	112	124	133	133	162	173	174	176
OIL CHARGE	kg	25	25	25	39	38	38	38	38	50	50	50	50
Rc (ASHRAE)[*5]	kg/kW	0.24	0.24	0.22	0.25	0.23	0.24	0.25	0.22	0.23	0.24	0.23	0.22
FANS													
QUANTITY	No.	8	8	8	16	12	12	12	12	16	16	16	16
AIR FLOW	m³/s	47.93	46.12	46.12	56.58	70.76	68.18	69.18	69.18	95.87	92.24	92.24	92.24
FANS POWER INPUT	kW	2	2	2	2	2	2	2	2	2	2	2	2
NOISE LEVEL													
SOUND PRESSURE[*6]	dB(A)	77	77	77	76	77	77	77	78.0	77.0	78.0	78.0	78
SOUND POWER LEVEL IN COOLING[*10*11]	dB(A)	97	97	97	97	98	98	98	99.0	99.0	100.0	100	100
SOUND POWER LEVEL IN HEATING[*10*12]	dB(A)	97	97	97	97	98	98	98	-	-	-	-	-
DIMENSIONS AND WEIGHT[*13]													
WIDTH	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
DEPTH	mm	5080	5080	5080	6255	7430	7430	7430	7430	9780	9780	9780	9780
HEIGHT	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450	2450
OPERATING WEIGHT	kg	3350	3440	3480	4650	4900	5060	5140	5200	6580	6760	6800	6840

Notes:

1. Plant (side) cooling exchanger water (in/out) 12.00°C/7.00°C; Source (side) heat exchanger air (in) 35.0°C.
2. Values in compliance with EN14511.
3. Plant (side) heat exchanger water (in/out) 40.00°C/45.00°C; Source (side) heat exchanger air (in) 7.0°C - 87% R.H.
4. Seasonal coefficient of performance.
5. Rated in accordance with AHRI Standard 550/590.
6. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.
10. Sound power on the basis of measurements made in compliance with ISO 9614.
11. Sound power level in cooling, outdoors.
12. Sound power level in heating, outdoors.
13. Unit in standard configuration/execution, without optional accessories.
14. Average Weather Conditions. Seasonal space heating efficiency class LOW TEMPERATURE [REGULATION (EU) N. 813/2013].
15. Variable flow rate and variable temperature calculation.

FOCS-N R513A Air Source Heat Pump

(465 to 584kW)

Low Noise, High Efficiency Version (/SL-CA)

Designed for medium to large capacity LTHW commercial applications, the Climaveneta **FOCS-N** heat pump features screw compressors and is suitable for a wide range of projects. The new generation of air source heat pump has been perfectly designed for reducing operating costs, while keeping an extremely compact design.

Key Features & Benefits

- Compact design
- Lower GWP R513A refrigerant
- Screw compressors

MODEL		2022	2222	2422	2622
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE					
COOLING ONLY (GROSS VALUE)[1]					
COOLING CAPACITY	kW	440.7	487.9	519.6	558.6
TOTAL POWER INPUT	kW	169.4	178.7	192.6	217.5
EER	kW/kW	2.6	2.73	2.7	2.57
ESEER[5]	kW/kW	3.76	3.84	3.83	3.85
COOLING ONLY (EN14511 VALUE)[1][2]					
COOLING CAPACITY	kW	439.6	486.6	518	557.4
EER	kW/kW	2.58	2.7	2.67	2.55
ESEER[5]	kW/kW	3.67	3.74	3.71	3.77
HEATING ONLY (GROSS VALUE)[3]					
TOTAL HEATING CAPACITY	kW	465.6	519.6	551.8	583.9
TOTAL POWER INPUT	kW	147.7	160.8	172.4	182.6
COP	kW/kW	3.15	3.23	3.2	3.2
HEATING ONLY (EN14511 VALUE)[2][3]					
TOTAL HEATING CAPACITY	kW	466.9	521.2	553.7	585.2
COP	kW/kW	3.13	3.21	3.18	3.18
HEATING ONLY (EN14825 VALUE)[6][7]					
RATED HEATING CAPACITY AT Tdesign, h	kW	340	371	365	393
BIVALENT TEMPERATURE	°C	-7	-7	-9	-9
SCOP[4]	kW/kW	3.39	3.44	3.41	3.56
SEASONAL SPACE HEATING ENERGY EFFICIENCY	%	132	135	134	139
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN COOLING[1]					
WATER FLOW	l/s	21.08	23.33	24.85	26.71
PRESSURE DROP	kPa	28.8	32.5	36.8	24.00
HEAT EXCHANGER USER SIDE IN HEATING[3]					
WATER FLOW	l/s	22.47	25.08	26.64	28.18
PRESSURE DROP	kPa	32.7	37.5	42.3	26.8
REFRIGERANT CIRCUIT					
COMPRESSORS	No.	2	2	2	2
NUMBER OF CAPACITY STEPS	No.	0	0	0	0
NO. CIRCUITS	No.	2	2	2	2
REGULATION		STEPLESS	STEPLESS	STEPLESS	STEPLESS
MINIMUM CAPACITY STEP	%	25	25	25	25
REFRIGERANT TYPE		R513A	R513A	R513A	R513A
REFRIGERANT CHARGE	kg	243	268	285	307
OIL CHARGE	kg	44	44	44	44
Rc (ASHRAE)[8]	kg/kW	0.56	0.55	0.55	0.55
FANS					
QUANTITY	No.	10	12	12	12
AIR FLOW	m^3/s	35.07	46.62	42.44	42.44
FANS POWER INPUT	kW	1.1	1.1	1.1	1.1
NOISE LEVEL					
SOUND PRESSURE[9]	dB(A)	69	70	70	70
SOUND POWER LEVEL IN COOLING[10][11]	dB(A)	89	91	91	91
SOUND POWER LEVEL IN HEATING[10][12]	dB(A)	90	92	92	92
DIMENSIONS AND WEIGHT[13]					
WIDTH	mm	2260	2260	2260	2260
DEPTH	mm	4900	5800	5800	5800
HEIGHT	mm	2430	2430	2430	2430
OPERATING WEIGHT	kg	6190	6680	6770	7010

Notes:

1. Plant (side) cooling exchanger water (in/out) 12.00°C/7.00°C; Source (side) heat exchanger air (in) 35.0°C.
2. Values in compliance with EN14511.
3. Plant (side) heat exchanger water (in/out) 40.00°C/45.00°C; Source (side) heat exchanger air (in) 7.0°C - 87% R.H.
4. Seasonal Coefficient of Performance.
5. European seasonal energy efficiency ratio.
6. Average Weather Conditions. Seasonal space heating efficiency class LOW TEMPERATURE [REGULATION (EU) N. 813/2013].
7. Fixed flow rate and variable temperature calculation.
8. Rated in accordance with AHRI Standard 550/590.
9. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10. Sound power on the basis of measurements made in compliance with ISO 9614.
11. Sound power level in cooling, outdoors.
12. Sound power level in heating, outdoors.
13. Unit in standard configuration/execution, without optional accessories.

FOCS-N R513A Air Source Heat Pump

(474 to 596kW)

High Efficiency Version (/CA)

CLIMAVENETA

Designed for medium to large capacity LTHW commercial applications, the Climaveneta **FOCS-N** heat pump features screw compressors and is suitable for a wide range of projects. The new generation of air source heat pump has been perfectly designed for reducing operating costs, while keeping an extremely compact design.

Key Features & Benefits

- Compact design
- Lower GWP R513A refrigerant
- Screw compressors

MODEL		2022	2222	2422	2622
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE					
COOLING ONLY (GROSS VALUE)[1]					
COOLING CAPACITY	kW	459.6	502.8	537.8	586
TOTAL POWER INPUT	kW	164	176.2	188.1	209.6
EER	kW/kW	2.8	2.85	2.86	2.8
ESEER[5]	kW/kW	3.82	3.85	3.85	3.88
COOLING ONLY (EN14511 VALUE)[1][2]					
COOLING CAPACITY	kW	458.4	501.4	536.1	584.7
EER	kW/kW	2.77	2.82	2.82	2.77
ESEER[5]	kW/kW	3.72	3.75	3.73	3.80
HEATING ONLY (GROSS VALUE)[3]					
TOTAL HEATING CAPACITY	kW	474.9	525.3	558.7	595.6
TOTAL POWER INPUT	kW	149.3	162.5	174.2	184.5
COP	kW/kW	3.18	3.23	3.21	3.23
HEATING ONLY (EN14511 VALUE)[2][3]					
TOTAL HEATING CAPACITY	kW	476.3	526.9	560.6	597.00
COP	kW/kW	3.16	3.21	3.18	3.21
HEATING ONLY (EN14825 VALUE)[6][7]					
RATED HEATING CAPACITY AT Tdesign, h	kW	342	372	361	393
BIVALENT TEMPERATURE	°C	-7	-7	-9	-9
SCOP[4]	kW/kW	3.38	3.41	3.38	3.56
SEASONAL SPACE HEATING ENERGY EFFICIENCY	%	132	133	132	139
EXCHANGERS					
HEAT EXCHANGER USER SIDE IN COOLING[1]					
WATER FLOW	l/s	21.98	24.05	25.72	28.02
PRESSURE DROP	kPa	31.3	34.5	39.4	26.5
HEAT EXCHANGER USER SIDE IN HEATING[3]					
WATER FLOW	l/s	22.92	25.36	26.97	28.75
PRESSURE DROP	kPa	34.1	38.3	43.4	27.9
REFRIGERANT CIRCUIT					
COMPRESSORS	No.	2	2	2	2
NUMBER OF CAPACITY STEPS	No.	0	0	0	0
NO. CIRCUITS	No.	2	2	2	2
REGULATION		STEPLESS	STEPLESS	STEPLESS	STEPLESS
MINIMUM CAPACITY STEP	%	25	25	25	25
REFRIGERANT TYPE		R513A	R513A	R513A	R513A
REFRIGERANT CHARGE	kg	233	256	253	276
OIL CHARGE	kg	44	44	44	44
Rc (ASHRAE)[8]	kg/kW	0.51	0.51	0.48	0.48
FANS					
QUANTITY	No.	10	12	12	12
AIR FLOW	m^3/s	50.61	65.6	61.02	61.02
FANS POWER INPUT	kW	2	2	2	2
NOISE LEVEL					
SOUND PRESSURE[9]	dB(A)	79	80	80	80
SOUND POWER LEVEL IN COOLING[10][11]	dB(A)	99	101	101	101
SOUND POWER LEVEL IN HEATING[10][12]	dB(A)	99	101	101	101
DIMENSIONS AND WEIGHT[13]					
WIDTH	mm	2260	2260	2260	2260
DEPTH	mm	4900	5800	5800	5800
HEIGHT	mm	2430	2430	2430	2430
OPERATING WEIGHT	kg	6050	6630	6710	6950

Notes:

1. Plant (side) cooling exchanger water (in/out) 12.00°C/7.00°C; Source (side) heat exchanger air (in) 35.0°C.
2. Values in compliance with EN14511.
3. Plant (side) heat exchanger water (in/out) 40.00°C/45.00°C; Source (side) heat exchanger air (in) 7.0°C - 87% R.H.
4. Seasonal Coefficient of Performance.
5. European seasonal energy efficiency ratio.
6. Average Weather Conditions. Seasonal space heating efficiency class LOW TEMPERATURE [REGULATION (EU) N. 813/2013].
7. Fixed flow rate and variable temperature calculation.
8. Rated in accordance with AHRI Standard 550/590.
9. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10. Sound power on the basis of measurements made in compliance with ISO 9614.
11. Sound power level in cooling, outdoors.
12. Sound power level in heating, outdoors.
13. Unit in standard configuration/execution, without optional accessories.

i-FX-N R513A Air Source Heat Pump

(452 to 1,111kW)

High Efficiency Version (/A)

CLIMAVENETA

Designed for medium to large capacity LTHW commercial applications, the Climaveneta **i-FX-N** heat pump features inverter driven screw compressors and is suitable for a wide range of projects. The new generation of air source heat pump has been perfectly designed for reducing operating costs, while keeping an extremely compact design.

Key Features & Benefits

- Total Inverter Technology
- Lower GWP R513A refrigerant
- Inverter screw compressors

MODEL		0472	0512	0572	0602	0652	0772	0902	1002	1152
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)[*1]										
COOLING CAPACITY	kW	465	517.9	549.9	590.8	669.9	764.1	899	1034	1154
TOTAL POWER INPUT	kW	166	177.9	194.2	211.1	238	265.5	314	351.4	390.5
EER	kW/kW	2.8	2.91	2.8	2.8	2.82	2.9	2.86	2.94	2.96
ESEER[*5]	kW/kW	4.56	4.66	4.66	4.61	4.51	4.55	4.58	4.66	4.7
COOLING ONLY (EN14511 VALUE)[*1*2]										
COOLING CAPACITY	kW	464.6	517.4	549	590.4	669.4	763.6	898.8	1033	1153
EER	kW/kW	2.78	2.9	2.8	2.78	2.79	2.85	2.84	2.91	2.93
ESEER[*5]	kW/kW	4.41	4.49	4.47	4.48	4.36	4.41	4.44	4.5	4.56
HEATING ONLY (GROSS VALUE)[*3]										
TOTAL HEATING CAPACITY	kW	452.8	506.3	547.4	575.3	663.8	747.6	871.4	1006	1111
TOTAL POWER INPUT	kW	139.1	152.6	166	174.8	202.2	223.2	261.3	293.8	327.5
COP	kW/kW	3.26	3.32	3.3	3.3	3.28	3.35	3.34	3.42	3.4
HEATING ONLY (EN14511 VALUE)[*2*3]										
TOTAL HEATING CAPACITY	kW	453.2	506.8	547.9	575.7	664	748.1	872	1007	1112
COP	kW/kW	3.23	3.29	3.26	3.27	3.26	3.32	3.31	3.39	3.36
HEATING ONLY (EN14825 VALUE)[*6*7]										
RATED HEATING CAPACITY AT Tdesign, h	kW	348	384	-	-	-	-	-	-	-
BIVALENT TEMPERATURE	°C	-7	-7	-	-	-	-	-	-	-
SCOP[*4]	kW/kW	4.00	4.03	-	-	-	-	-	-	-
SEASONAL SPACE HEATING ENERGY EFFICIENCY	%	157	158	-	-	-	-	-	-	-
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN COOLING[*1]										
WATER FLOW	l/s	22.24	24.76	26.29	28.25	32.04	36.5	43	49.43	55.17
PRESSURE DROP	kPa	32	36.6	41.2	27	33.3	34.3	32.4	42.8	37.5
HEAT EXCHANGER USER SIDE IN HEATING[*3]										
WATER FLOW	l/s	21.86	24.44	26.42	27.77	32.04	36.09	42.1	48.56	53.64
PRESSURE DROP	kPa	31	35.6	41.6	26	33.30	33.4	31	41.3	35.4
REFRIGERANT CIRCUIT										
COMPRESSORS	No.	2	2	2	2	2	2	2	2	2
NUMBER OF CAPACITY STEPS	No.	0	0	0	0	0	0	0	0	0
NO. CIRCUITS	No.	2	2	2	2	2	2	2	2	2
REGULATION		STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS
MINIMUM CAPACITY STEP	%	-	-	-	-	-	-	-	-	-
REFRIGERANT TYPE		R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A
REFRIGERANT CHARGE	kg	233	259	253	276	288	391	495	518	618
OIL CHARGE	kg	44	44	44	44	38	60	60	60	60
Rc (ASHRAE)[*8]	kg/kW	0.51	0.51	0.46	0.47	0.43	0.52	0.56	0.51	0.54
FANS										
QUANTITY	No.	10	12	12	12	14	16	20	24	24
AIR FLOW	m^3/s	48.5	58.37	58.37	58.37	69.25	79.14	97.00	121.01	116.73
FANS POWER INPUT	kW	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
NOISE LEVEL										
SOUND PRESSURE[*9]	dB(A)	80	81	81	81	81	81	81	82	82
SOUND POWER LEVEL IN COOLING[*10*11]	dB(A)	100	102	102	102	102	103	103	105	105
SOUND POWER LEVEL IN HEATING[*10*12]	dB(A)	101	103	103	103	103	104	104	106	106
DIMENSIONS AND WEIGHT[*13]										
WIDTH	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
DEPTH	mm	4900	5800	5800	5800	7000	7900	10000	11800	11800
HEIGHT	mm	2580	2580	2580	2580	2580	2580	2580	2580	2580
OPERATING WEIGHT	kg	6400	6894	7033	7256	7518	8551	9835	11578	12651

Notes:

1. Plant (side) cooling exchanger water (in/out) 12.00°C/7.00°C; Source (side) heat exchanger air (in) 35.0°C.
2. Values in compliance with EN14511.
3. Plant (side) heat exchanger water (in/out) 40.00°C/45.00°C; Source (side) heat exchanger air (in) 7.0°C - 87% R.H.
4. Seasonal Coefficient of Performance
5. European seasonal energy efficiency ratio.
6. Average Weather Conditions. Seasonal space heating efficiency class LOW TEMPERATURE [REGULATION (EU) N. 813/2013].
7. Variable flow rate and variable temperature calculation.
8. Rated in accordance with AHRI Standard 550/590.
9. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
10. Sound power on the basis of measurements made in compliance with ISO 9614.
11. Sound power level in cooling, outdoors.
12. Sound power level in heating, outdoors.
13. Unit in standard configuration/execution, without optional accessories.

AW-HT R407C Air Source Heat Pump

(28 to 139kW)

High Efficiency Version (/CA-E)

CLIMAVENETA

Designed for medium capacity commercial applications, the Climaveneta **AW-HT** heat pump system is the ideal solution for a wide range of applications requiring both LTHW and DHW.

Key Features & Benefits

- Maximum operating reliability
- Cascade control
- Scroll compressors

R407C

MODEL		0122	0152	0202	0262	0302	0404	0524	0604
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE[*1]									
HEATING CAPACITY		38	51.3	68.8	84.9	102	135	171	205
TOTAL POWER INPUT (UNIT)		10.7	14.4	19.4	23.6	27.7	39.6	48.1	58.9
COP		3.6	3.6	3.6	3.6	3.7	3.4	4	3
HEATING ONLY (EN14825 VALUE)[*2*3]									
RATED HEATING CAPACITY AT Tdesign, h	kW	28.4	33.8	47.5	58.5	70.6	92.6	117	139
BIVALENT TEMPERATURE	°C	-6	-7	-7	-7	-7	-7	-7	-7
SCOP[*4]	kW/kW	3.12	3.07	3.14	3.2	3.3	3.15	3.32	3.22
SEASONAL SPACE HEATING ENERGY EFFICIENCY	%	122	120	123	125	129	123	130	126
EXCHANGERS[*1]									
HEAT EXCHANGER WATER FLOW	l/s	1.8	2.48	3.3	4.11	4.92	6.5	8.25	9.89
HEAT EXCHANGER PRESSURE DROP	kPa	10.2	12.9	14.6	18.3	22.9	25.40	28.60	31.30
REFRIGERANT CIRCUIT									
COMPRESSORS	No.	2	2	2	2	2	4	4	4
NUMBER OF CIRCUITS	No.	2	2	2	2	2	4	4	4
TYPE OF REGULATION		STEPS	STEPS	STEPS	STEPS	STEPS	STEPS	STEPS	STEPS
MINIMUM CAPACITY STEPS	%	50	50	50	50	50	25	25	25
TYPE OF REFRIGERANT		R407C	R407C	R407C	R407C	R407C	R407C	R407C	R407C
REFRIGERANT CHARGE	kg	18	26	30	33	40	66	108	108
OIL CHARGE	kg	3.8	8.0	8.0	8.2	8.2	16	16.4	16.4
FANS									
NUMBER	No.	4	6	8	8	8	4	4	6
AIR FLOW	l/s	1.43	2.09	2.89	2.94	2.89	4.4	5	7
SINGLE POWER INPUT	kW	0.25	0.25	0.25	0.25	0.25	1.2	1.2	1.2
NOISE LEVEL[*5*6]									
SOUND POWER LEVEL[*7]	dB(A)	84	86	87	87	87	86	86	87
SOUND PRESSURE LEVEL[*7]	dB(A)	-	-	-	-	-	67	66	67
DIMENSIONS AND WEIGHT[*8]									
WIDTH	mm	1120	1120	1120	1120	1120	2220	2220	2220
DEPTH	mm	1695	2195	2745	2745	2745	3110	4110	4110
HEIGHT	mm	1420	1420	1420	1620	1620	2150	2150	2150
OPERATING WEIGHT	kg	510	750	870	940	1030	1960	2410	2540

Notes:

1. Plant (side) heat exchanger water (in/out) 40.00°C/45.00°C; Source (side) heat exchanger air (in) 7.0°C - 87% R.H.
2. Average Weather Conditions. Seasonal space heating efficiency class LOW TEMPERATURE (REGULATION (EU) N. 813/2013].
3. Fixed flow rate and fixed temperature calculation.
4. Seasonal Coefficient of Performance.
5. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
6. Sound power on the basis of measurements made in compliance with ISO 9614.
7. Sound power level in heating, outdoors.
8. Unit in standard configuration/execution, without optional accessories.

EW-HT
R134a Water to Water Heat Pump
(70 to 279kW)

The Climaveneta **EW-HT** is perfect for applications where very high temperature water is needed. With the ability to provide hot water up to 78°C, and when used in combination with our INTEGRA range of 4-pipe systems, the operating parameters of the EW-HT make it the ideal solution for a wide range of applications. Applications such as residential and commercial buildings, industrial process heat recovery (including IT Cooling) and district heating systems.

Key Features & Benefits

- Wide operating range, with hot water production up to 78°C (evaporator water outlet up to 40°C)
- Maximum reliability with two independent refrigerant circuits, designed to ensure maximum efficiency at full load
- Compact design
- Electronic expansion valve supplied as standard

MODEL		0152	0182	0202	0262	0302	0412	0512	0612
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE - HEATING ONLY[*1]									
HEATING CAPACITY	kW	70.2	79.3	92.5	113	139	181	225	279
TOTAL POWER INPUT	kW	17.0	18.9	22.0	27.9	34.2	43.7	55.1	67.6
COP	kW/kW	4.13	4.20	4.20	4.05	4.08	4.14	4.08	4.13
PERFORMANCE - HEATING ONLY (EN14511 VALUE)[*1*2]									
HEATING CAPACITY	kW	70.4	79.5	92.7	113	140	181	225	280
COP	kW/kW	4.01	4.07	4.08	3.94	3.98	4.04	4.01	4.06
SEASONAL ENERGY EFFICIENCY (REG. EU 813/2013)[*3*9]									
PDESIGN	kW	38.6	43.6	50.0	61.6	78.1	104	128	157
SCOP		3.27	3.39	3.45	3.30	3.30	3.25	3.27	3.30
PERFORMANCE ηs[*8]	%	123	128	130	124	124	122	123	124
EXCHANGERS[*1]									
HEAT EXCHANGER WATER FLOW (USER / SOURCE)	l/s	2.15 / 2.62	2.42 / 2.97	2.83 / 3.47	3.45 / 4.19	4.26 / 5.18	5.52 / 6.74	6.87 / 8.35	8.54 / 10.41
HEAT EXCHANGER PRESSURE DROP (USER / SOURCE)	kPa	23.9 / 45.4	25.0 / 46.7	24.2 / 51.8	24.2 / 53.8	19.7 / 49.7	19.8 / 50.1	19.8 / 37.6	20.1 / 37.7
REFRIGERANT CIRCUIT									
COMPRESSORS	No.	2	2	2	2	2	2	2	2
NUMBER OF CIRCUITS	No.	2	2	2	2	2	2	2	2
TYPE OF REGULATION		STEPS	STEPS	STEPS	STEPS	STEPS	STEPS	STEPS	STEPS
MINIMUM CAPACITY STEPS	%	50	50	50	50	50	50	50	50
TYPE OF REFRIGERANT		R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
REFRIGERANT CHARGE	kg	6	7	8	9	10	11	12	13
OIL CHARGE	kg	5	7	7	7	7	9	14	13
NOISE LEVEL									
SOUND POWER LEVEL[*5*6]	dB(A)	74	74	74	76	76	78	78	80
SOUND PRESSURE LEVEL[*4]	dB(A)	58	58	58	60	60	62	62	64
DIMENSIONS AND WEIGHT[*7]									
WIDTH	mm	1223	1223	1223	1223	1223	1223	1223	1223
DEPTH	mm	877	877	877	877	877	877	877	877
HEIGHT	mm	1496	1496	1496	1496	1496	1496	1496	1496
OPERATING WEIGHT	kg	365	380	390	415	430	610	675	740

Notes:

1. Plant (side) heat exchanger water (in/out) 70°C/78°C; Source (side) heat exchanger water (in/out) 45°C/40°C.
2. Values in compliance with EN14511.
3. Seasonal space heating energy efficiency class MEDIUM TEMPERATURE in AVERAGE climate conditions. [REGULATION (EU) N. 813/2013].
4. Average sound pressure level at 1m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5. Sound power on the basis of measurements made in compliance with ISO 9614.
6. Sound power level in heating, indoors.
7. Unit in standard configuration/execution, without optional accessories.
8. Seasonal space heating energy efficiency.
9. Fixed flow rate and variable temperature calculation.

The units highlighted in this publication contain HFC R134a [GWP_{100}1430] fluorinated greenhouse gases.

Our **Chiller Range - An Overview**

Consisting of a wide range of models, the Mitsubishi Electric range of chillers are a new generation of water chiller designed for comfort and process cooling applications.

Modern multi-function buildings, shopping centres, large business centres and process cooling are just some of the examples where increased comfort and precision control are required. The Mitsubishi Electric range of chillers can deliver all of this and more through their ability to be easily integrated into ever increasingly complex building systems.

In order to maximise performance, reliability and overall system efficiency, the Mitsubishi Electric range of products bring advanced technology and know-how together in customisable packages to aid design, specification, installation and on-going operation.

- Advanced modular technology
- Scalable and fully customisable
- Air source and water cooled versions
- Plate or Shell & Tube heat exchanger options

Flexible Application Options

Comfort Cooling

By using hydronic terminals, a simple application of a chiller can include cooling a space or environment to a set temperature. By using water as the medium of energy, high sensible cooling and stable room temperatures can be achieved.

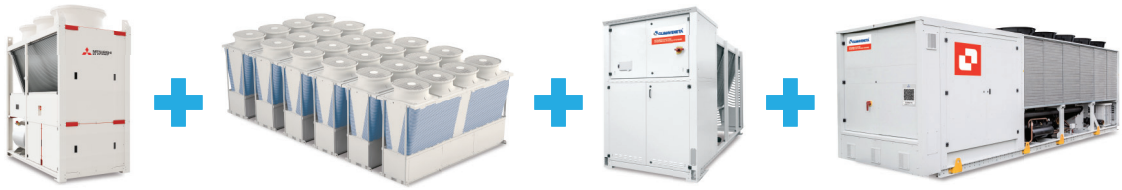
- Retail stores / Shopping centres
- Airports
- Offices
- Cinemas / Theatres
- Schools / Universities
- Museums
- Hotels and Resorts
- Hospitals / Healthcare

Process Cooling

During manufacturing processes, many substances become hot and if overheated can negatively effect the productivity and efficiency of the process. By correctly applying a chiller it is possible to ensure optimum temperatures and conditions are maintained at a steady state.

- Manufacturing processes
- Automotive and Electronic processes
- Energy and Power generation
- Industrial technology
- IT Cooling

CLIMAVENETA

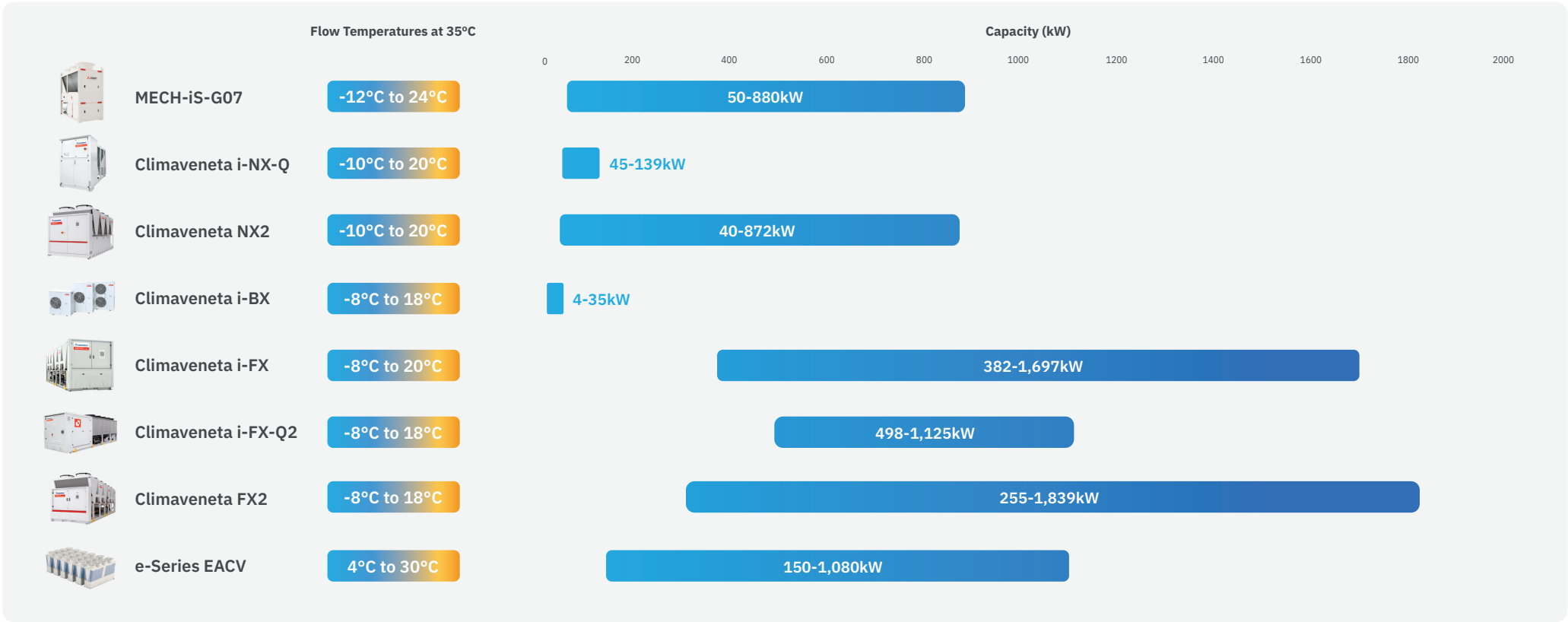


Our Chiller range at a glance

A wide range of advanced, customisable models for use in efficiently cooling a space or an environment to a set temperature. Our chillers fall into two broad ranges:

Mitsubishi Electric - Modular chillers manufactured to the highest quality standard, and suitable for a range of different applications, from comfort to industrial and even IT cooling processes.

Climaveneta - Chillers that use a wide range of low and lower GWP refrigerants, alongside the latest fixed speed/inverter scroll and screw compressors.



MECH-iS-G07 R32 Modular Air Cooled Chiller

(50kW to 880kW)

Mitsubishi Electric's new **MECH-iS-G07** chiller range is manufactured to the highest quality standards. Featuring a compact design and modular expansion capabilities, it is suitable for many different applications, from comfort to industrial applications and even IT cooling processes.

Key Features & Benefits

- Wide water temperatures from -12°C to +24°C
- Best-in-class for low noise levels
- Compact design and modular expansion
- New Smart Coordinated Defrost
- Exceptional performance at part load operating conditions

R32

MODEL		0051	0061	0071	0082	0092	0102	0112
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
COOLING CAPACITY *1	kW	50.09	60.11	70.14	80.14	90.23	100.2	110.2
TOTAL POWER INPUT *1	kW	15.16	19.13	26.89	26.24	32.57	31.43	37.90
EER *1	kW/kW	3.296	3.147	2.606	3.057	2.767	3.191	2.908
COOLING ONLY (EN14511 VALUE)								
COOLING CAPACITY	kW	50.0	60.0	70.0	80.0	90.0	100.0	110.0
EER *1*4	kW/kW	3.28	3.11	2.58	3.02	2.74	3.15	2.87
COOLING WITH PARTIAL RECOVERY								
COOLING CAPACITY *5	kW	51.97	62.36	72.77	83.15	93.61	104.0	114.3
TOTAL POWER INPUT *5	kW	14.66	18.50	25.99	25.37	31.48	30.39	36.64
DESUPERHEATER HEATING CAPACITY *5	kW	12.68	16.19	23.11	22.16	27.82	26.37	32.15
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN COOLING								
WATER FLOW *1	l/s	2.395	2.874	3.354	3.833	4.315	4.792	5.270
PRESSURE DROP AT THE HEAT EXCHANGER *1	kPa	15.6	22.5	30.6	23.6	29.9	28.3	34.2
PARTIAL RECOVERY USER SIDE IN REFRIGERATION								
WATER FLOW *1	l/s	0.612	0.781	1.116	1.070	1.343	1.273	1.552
PRESSURE DROP AT THE HEAT EXCHANGER *1	kPa	8.57	14.0	28.5	12.9	20.4	12.9	19.1
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
16°C/10°C								
COOLING CAPACITY *2	kW	54.69	65.32	75.82	87.60	98.20	109.4	120.1
TOTAL POWER INPUT *2	kW	15.47	19.61	27.69	26.82	33.41	32.06	38.73
EER *2	kW/kW	3.529	3.332	2.736	3.269	2.940	3.408	3.103
23°C/15°C								
COOLING CAPACITY *3	kW	62.37	73.93	85.00	100.1	111.5	124.7	136.4
TOTAL POWER INPUT *3	kW	15.86	20.25	28.85	27.55	34.52	32.81	39.78
EER *3	kW/kW	3.925	3.640	2.941	3.640	3.232	3.802	3.427
EXCHANGERS								
16°C/10°C								
WATER FLOW *2	l/s	2.181	2.605	3.024	3.494	3.917	4.362	4.788
PRESSURE DROP AT THE HEAT EXCHANGER *1	kPa	12.9	18.5	24.9	19.6	24.7	23.4	28.2
23°C/15°C								
WATER FLOW *3	l/s	1.868	2.215	2.546	2.999	3.339	3.735	4.086
PRESSURE DROP AT THE HEAT EXCHANGER *1	kPa	9.50	13.3	17.6	14.5	17.9	17.2	20.6
REFRIGERANT CIRCUIT								
COMPRESSORS NR.	No.	1	1	1	2	2	2	2
NO. CIRCUITS	No.	1	1	1	1	1	1	1
REGULATION		Stepless	Stepless	Stepless	Stepless	Stepless	Stepless	Stepless
MIN. CAPACITY STEP	%	27	27	27	22	22	20	20
REFRIGERANT		R32	R32	R32	R32	R32	R32	R32
THEORETICAL REFRIGERANT CHARGE	kg	8.00	8.00	8.00	11.00	11.00	13.00	13.00
OIL CHARGE	kg	3.50	3.50	3.50	7.00	7.00	7.00	7.00
RC (ASHRAE) *6	kg/kW	0.16	0.13	0.12	0.14	0.12	0.13	0.12
FANS								
QUANTITY	No.	2	2	2	3	3	4	4
AIR FLOW	m3/s	6.86	7.01	7.01	9.84	9.84	12.97	12.97
TOTAL FANS POWER INPUT	kW	0.96	1.00	1.00	1.41	1.41	1.88	1.88
NOISE LEVEL								
TOTAL SOUND PRESSURE *7	dB(A)	45	46	48	48	49	50	50
TOTAL SOUND POWER LEVEL IN COOLING *8*9	dB(A)	77	78	80	80	81	82	82
SIZE AND WEIGHT								
WIDTH (A) *10	mm	2085	2085	2085	2600	2600	3225	3225
DEPTH (B) *10	mm	1100	1100	1100	1100	1100	1100	1100
HEIGHT (H) *10	mm	2400	2400	2400	2400	2400	2400	2400
OPERATING WEIGHT *10	kg	630	630	630	830	830	940	940

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Plant (side) cooling exchanger water (in/out) 16°C/10°C; Source (side) heat exchanger air (in) 35°C.
3. Plant (side) cooling exchanger water (in/out) 23°C/15°C; Source (side) heat exchanger air (in) 35°C.
4. Values in compliance with EN14511.
5. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C; Plant (side) heat exchanger recovery water (in/out) 40°C/45°C.
6. Rated in accordance with AHRI Standard 550/590.
7. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
8. Sound power on the basis of measurements taken in compliance with ISO 9614.
9. Sound power level in cooling, outdoors.
10. Unit in standard configuration, without optional accessories.

Eurovent Certified Data

For dimensional drawings of this model please see page 2.11

e-series

EACV R32 Modular Air Cooled Chiller

(150 to 1,080kW)

The R32 e-Series **EACV** range allows for up to 6 individual units to be connected together to provide a system capacity from 150kW to 1,080kW. Using this modular approach reduces space requirements and simplifies lifting and installation.

Key Features & Benefits

- Highly efficient inverter scroll compressors
- Modular to maximise space saving
- Y-shaped heat exchangers allow for a greater surface area, maximising efficiency, whilst also keeping the units much narrower than conventional chillers

R32

MODEL			EACV-M1500YCL-N	EACV-M1800YCL-N
POWER SOURCE			3-phase 4-wire 380-400-415v 50/60Hz	3-phase 4-wire 380-400-415v 50/60Hz
COOLING CAPACITY*1		kW	150	180
	Power Input	kW	44.73	57.02
	EER		3.35	3.16
	IPLV*4		6.42	6.31
	Water Flow Rate	m^3/h	25.8	31.0
COOLING CAPACITY (EN14511)*2		kW	149.18	178.80
	Power Input	kW	45.55	58.22
	EER		3.28	3.07
	Eurovent Efficiency Class		A	B
	SEER		5.52	5.36
	Performance ($\eta_{s,c}$)	%	217.8	211.4
	SEPR (HT)		7.11	6.36
	Water Flow Rate	m^3/h	25.8	31.0
CURRENT INPUT	Cooling Current 380-400-415V*1	A	76 - 72 - 69	96 - 91 - 88
	Maximum Current	A	120	120
WATER PRESSURE DROP*1		kPa	55	78
TEMP RANGE	Cooling	°C	Outlet water 4~30	Outlet water 4~30
	Outdoor	°C	-15~52	-15~52
CIRCULATING WATER VOLUME RANGE		m^3/h	12.9~43.0	12.9~43.0
SOUND PRESSURE LEVEL (Measured in anechoic room) at 1m*1		dB (A)	65	67
SOUND POWER LEVEL (Measured in anechoic room)*1		dB (A)	83	85
DIAMETER OF WATER PIPE (Standard piping)	Inlet	mm (in)	65A (2 1/2B) housing type joint	65A (2 1/2B) housing type joint
	Outlet	mm (in)	65A (2 1/2B) housing type joint	65A (2 1/2B) housing type joint
DIAMETER OF WATER PIPE (Inside header piping)	Inlet	mm (in)	150A (6B) housing type joint	150A (6B) housing type joint
	Outlet	mm (in)	150A (6B) housing type joint	150A (6B) housing type joint
EXTERNAL FINISH			Polyester powder coating steel plate	Polyester powder coating steel plate
EXTERNAL DIMENSION	W x D x H	mm	3400 ×1080 x 2350	3400 ×1080 x 2350
NET WEIGHT	Standard Piping	kg (lbs)	1039 (2291)	1039 (2291)
	Inside Header Piping	kg (lbs)	1067 (2352)	1067 (2352)
DESIGN PRESSURE	R32	MPa	4.15	4.15
	Water	MPa	1.0	1.0
HEAT EXCHANGER	Water Side		Stainless steel plate and copper brazing	Stainless steel plate and copper brazing
	Air Side		Salt-resistant corrugated fin & aluminium micro channel	Salt-resistant corrugated fin & aluminium micro channel
COMPRESSOR	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Starting Method		Inverter	Inverter
	Quantity		4	4
	Motor Output	kW	11.5 x 4	11.5 x 4
FAN	Air Flow Rate	m^3/min	270 x 4	270 x 4
		L/s	4500 x 4	4500 x 4
		cfm	9534 x 4	9534 x 4
	Type, Quantity		Propeller fan x 4	Propeller fan x 4
	Starting Method		Inverter	Inverter
	Motor Output	kW	0.92 x 4	0.92 x 4
	External Static Pressure	Pa	20	20
REFRIGERANT	Type x Charge		R32 x 4.7 (kg) x 4*3	R32 x 4.7 (kg) x 4*3
	Control		LEV	LEV

Notes:

1. Under normal cooling conditions at outdoor temp 35°CDB/24°CWB (95°FDB/75.2°FWB) outlet water temp 7°C (44.6°F) inlet water temp 12°C (53.6°F). Pump input is not included in cooling capacity and power input.
2. Under normal cooling conditions at outdoor temp 35°CDB/24°CWB (95°FDB/75.2°FWB) outlet water temp 7°C (44.6°F) inlet water temp 12°C (53.6°F). Pump input is included in cooling capacity and power input based on EN14511.
3. Amount of factory-charged refrigerant is 3 (kg) × 4. Please add the refrigerant at the field.
4. IPLV is calculated in accordance with AHRI 550-590.

*Please don't use the steel material for the water piping.
*Please always make water circulate, or pull the circulation water out completely when not in use.
*Please do not use groundwater or well water in direct.
*The water circuit must be closed circuit.
*Due to continuous improvement, the above specifications may be subject to change without notice.
*This model doesn't equip with a pump.

For dimensional drawings of this model please see page 2.9

i-BX R410A Air Cooled Chiller

(4.3 to 12.9kW)

Single Phase

CLIMAVENETA

Climaveneta's **i-BX** range of small to medium sized, cooling only chillers efficiently and easily adapt to a wide range of cooling capacities. The whole range contains inverter driven compressors for enhanced efficiency and control.

Key Features & Benefits

- Packaged monobloc unit for easy installation
- Full inverter technology with Mitsubishi Electric BLDC compressors
- Extended cooling range, water outlet temperature -8 ~ 18°C, at ambient range of -10 ~ 45°C
- Dynamic water set point, varies outlet temperature depending on ambient temperature
- EC water pump, relief valve, flow switch, safety valve and expansion vessel
- Night function incorporated to reduce noise levels during the night
- ErP 2021 compliant
- Modbus connectivity option
- Additional accessories available upon request

MODEL		i-BX 004 MHAN RV	i-BX 006 MHAN RV	i-BX 008 MHAN RV	i-BX 010 MHAN RV	i-BX 013 MHAN RV
POWER SUPPLY	V / ph / Hz	230 / 1 / 50	230 / 1 / 50	230 / 1 / 50	230 / 1 / 50	230 / 1 / 50
PERFORMANCE						
COOLING CAPACITY[1]	kW	4.3	6.11	8.1	10.6	12.9
TOTAL POWER INPUT[1]	kW	1.55	2.12	2.82	3.64	4.74
EER[1]		2.77	2.88	2.87	2.91	2.72
ESEER[1]		4.2	4.36	4.7	4.29	4.55
COOLING ONLY (EN14511 VALUE)						
COOLING CAPACITY[1][2]	kW	4.3	6.11	8.11	10.6	12.9
EER[1][2]		2.82	2.92	2.92	2.92	2.74
ESEER[1][2]		4.53	4.6	5.08	4.34	4.69
SEASONAL EFFICIENCY IN COOLING (REG.EU 2016/2281) - AVERAGE CLIMATE CONDITIONS						
SEER		4.38	4.43	4.93	4.39	4.78
PERFORMANCE η_s[3]	%	172	174	194	172	188
HEAT EXCHANGER (USER SIDE)						
WATER FLOW[1]	l/s	0.21	0.29	0.39	0.51	0.62
MIN. SYSTEM WATER CONTENT[8]	l	30	43	57	74	90
INLET / OUTLET CONNECTION SIZE	in	1"	1"	1"	1"	1"1/4
REFRIGERANT CIRCUIT						
COMPRESSORS	N°	1	1	1	1	1
CIRCUITS	N°	1	1	1	1	1
REGULATION		STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS
MIN. CAPACITY STEP	%	25	25	25	25	25
REFRIGERANT CHARGE R410A	kg	1.45	2.1	3.55	3.6	3.65
CO_2 EQUIVALENT	t	3.02	4.38	7.41	7.51	7.62
OIL CHARGE	kg	0.35	0.35	0.4	0.87	1.4
ELECTRICAL						
FULL LOAD POWER (F.L.I.)	kW	1.9	2.7	3.7	4.9	6.5
FULL LOAD CURRENT (F.L.A.)	A	8.7	12.3	16.1	22.6	25.3
INRUSH CURRENT (S.A.)	A	1	1	1	1	1
FANS						
QUANTITY	N°	1	1	1	2	2
AIRFLOW	m³/s	1.02	0.98	0.99	1.74	1.58
FANS POWER INPUT	kW	0.12	0.12	0.12	0.12	0.12
NOISE LEVEL						
SOUND PRESSURE[4]	dB(A)	33	34	35	38	39
SOUND POWER[5][6]	dB(A)	64	65	66	69	70
SIZE AND WEIGHT						
WIDTH[7]	mm	900	900	900	900	900
DEPTH[7]	mm	370	370	420	420	420
HEIGHT[7]	mm	940	940	1240	1240	1240
OPERATING WEIGHT[7]	kg	70	80	95	110	125

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511-3:2013.
3. Seasonal energy efficiency of space cooling.
4. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5. Sound power on the basis of measurements made in compliance with ISO 9614.
6. Sound power level in cooling, outdoors.
7. Unit in standard configuration/execution, without optional accessories.
8. Calculated with a 7°C flow temperature.

Eurovent Certified Data

i-BX R410A Air Cooled Chiller

(10.7 to 35.1kW)

Three Phase

Climaveneta's **i-BX** range of small to medium sized, cooling only chillers efficiently and easily adapt to a wide range of cooling capacities. The whole range contains inverter driven compressors for enhanced efficiency and control.

Key Features & Benefits

- Packaged monobloc unit for easy installation
- Full inverter technology with Mitsubishi Electric BLDC compressors
- Extended cooling range, water outlet temperature -8 ~ 18°C, at ambient range of -10 ~ 45°C
- Dynamic water set point, varies outlet temperature depending on ambient temperature
- EC water pump, relief valve, flow switch, safety valve and expansion vessel
- Night function incorporated to reduce noise levels during the night
- ErP 2021 compliant
- Modbus connectivity option
- Additional accessories available upon request

MODEL		i-BX 010 THAN RV	i-BX 013 THAN RV	i-BX 015 THAN RV	i-BX 020 THAN RV	i-BX 025 THAN RV	i-BX 030 THAN RV	i-BX 035 THAN RV
POWER SUPPLY	V / ph / Hz	415/3/50+N	415/3/50+N	415/3/50+N	415/3/50+N	415/3/50+N	415/3/50+N	415/3/50+N
PERFORMANCE								
COOLING CAPACITY[1]	kW	10.7	13.3	15.5	20.6	25.0	29.8	35.1
TOTAL POWER INPUT[1]	kW	3.64	4.74	5.44	7.2	8.69	10.0	11.8
EER[1]		2.94	2.81	2.85	2.86	2.88	2.98	2.97
ESEER[1]		4.36	4.57	4.14	4.12	4.26	4.15	4.29
COOLING ONLY (EN14511 VALUE)								
COOLING CAPACITY[1,2]	kW	10.7	13.3	15.5	20.6	25.0	29.9	35.2
EER[1,2]		2.95	2.82	2.87	2.88	2.90	3.01	3.00
ESEER[1,2]		4.42	4.69	4.2	4.2	4.36	4.27	4.39
SEASONAL EFFICIENCY IN COOLING (REG.EU 2016/2281) - AVERAGE CLIMATE CONDITIONS								
SEER		4.46	4.80	4.31	4.31	4.52	4.52	4.57
PERFORMANCE η_s[3]	%	176	189	169	169	178	178	180
HEAT EXCHANGER (USER SIDE)								
WATER FLOW[1]	l/s	0.51	0.64	0.74	0.99	1.2	1.43	1.68
MIN. SYSTEM WATER CONTENT[8]	l	75	93	109	144	175	209	246
INLET / OUTLET CONNECTION SIZE	in	1"	1"1/4	1"1/4	1"1/4	1"1/4	1"1/2	1"1/2
REFRIGERANT CIRCUIT								
COMPRESSORS	N°	1	1	1	1	1	1	1
CIRCUITS	N°	1	1	1	1	1	1	1
REGULATION		STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS	STEPLESS
MIN. CAPACITY STEP	%	25	25	25	25	25	25	25
REFRIGERANT CHARGE R410A	kg	3.6	3.65	4.7	6.8	7	7.9	8.4
CO_2 EQUIVALENT	t	7.51	7.62	9.81	14.19	14.62	16.49	17.54
OIL CHARGE	kg	0.87	1.4	1.4	1.4	1.4	2.3	2.3
ELECTRICAL								
FULL LOAD POWER (F.L.I.)	kW	4.9	6.5	7.4	9.4	11.3	13.7	16
FULL LOAD CURRENT (F.L.A.)	A	13	17	18	20	29	29	39
INRUSH CURRENT (S.A.)	A	1	1	1	1	1	1	1
FANS								
QUANTITY	N°	2	2	2	1	2	2	2
AIRFLOW	m³/s	1.74	1.7	1.64	2.26	3.76	4.2	4.86
FANS POWER INPUT	kW	0.12	0.12	0.12	0.6	0.4	0.55	0.52
NOISE LEVEL								
SOUND PRESSURE[4]	dB(A)	38	39	43	43	43	44	45
SOUND POWER[5,6]	dB(A)	69	70	74	74	75	76	77
SIZE AND WEIGHT								
WIDTH[7]	mm	900	900	900	1450	1450	1450	1700
DEPTH[7]	mm	420	420	420	550	550	550	650
HEIGHT[7]	mm	1240	1240	1390	1200	1700	1700	1700
OPERATING WEIGHT[7]	kg	110	125	135	190	250	270	305

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511-3:2013.
3. Seasonal energy efficiency of space cooling.
4. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
5. Sound power on the basis of measurements made in compliance with ISO 9614.
6. Sound power level in cooling, outdoors.
7. Unit in standard configuration/execution, without optional accessories.
8. Calculated with a 7°C flow temperature.

Eurovent Certified Data

NX2
2 Compressor R454B Air Cooled Chiller
(40kW to 208kW)

The **NX2** units are air cooled chillers with scroll compressors designed for delivering the best efficiencies in comfort applications. The complete range is Eurovent certified and all the sizes are completely ErP2021 compliant. Available from 40kW to 208kW using lower GWP R454B refrigerant, the NX2 is a two scroll compressor, single circuit solution. All the main hydraulic and mechanical components can be integrated within the unit, allowing for the ideal plug & play solution to be configured for HVAC plants within applications including hotels, offices, leisure centres, hospitals and universities.

Key Features & Benefits

- Two Scroll compressors
- ErP2021 compliant
- Low noise
- Energy efficient
- Lower GWP R454B refrigerant

CLIMAVENETA

MODEL		0042	0052	0062	0072	0082	0092	0102	0112	0122	0142	0162	0182	0202	0222
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE															
COOLING ONLY (GROSS VALUE)															
COOLING CAPACITY[1]	kW	40.53	48.50	54.16	60.98	68.18	79.82	93.31	103.8	116.5	129.6	152.0	174.2	186.9	208.7
TOTAL POWER INPUT[1]	kW	13.64	2.970	17.02	17.66	20.47	25.36	27.94	32.74	38.27	44.42	47.39	55.37	61.54	70.86
EER[1]	kW/kW	2.978	3.019	3.188	3.446	3.327	3.142	3.344	3.174	3.042	2.919	3.207	3.144	3.039	2.944
COOLING ONLY (EN14511 VALUE)															
COOLING CAPACITY[1-2]	kW	40.40	48.50	54.00	60.80	68.00	79.60	93.10	103.5	116.2	129.3	151.7	173.9	186.6	208.3
EER[1-2]	kW/kW	2.920	2.970	3.120	3.380	3.260	3.090	3.290	3.110	2.990	2.870	3.150	3.100	3.000	2.900
ENERGY EFFICIENCY															
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)															
AMBIENT REFRIGERATION															
$P_{RATED,C}$[7]	kW	40.4	48.5	54.0	60.8	68.0	79.6	93.1	104	116	129	152	174	187	208
SEER[7-8]		4.61	4.72	4.56	4.65	4.57	4.60	4.53	4.29	4.32	4.38	4.48	4.49	4.48	4.46
PERFORMANCE η_S[7-9]	%	181	186	179	183	180	181	178	168	170	172	176	177	176	175
EXCHANGERS															
HEAT EXCHANGER USER SIDE IN REFRIGERATION															
WATER FLOW[1]	l/s	1.938	2.323	2.590	2.916	3.261	3.817	4.462	4.965	5.573	6.198	7.268	8.331	8.937	9.979
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	44.8	33.3	41.4	45.4	46.2	45.3	36.6	45.4	45.5	42.6	47.9	44.1	38.5	48.0
REFRIGERANT CIRCUIT															
COMPRESSORS NR.	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CIRCUITS	No.	1	1	1	1	1	1	1	1	1	1	1	1	1	1
REFRIGERANT CHARGE	kg	7.60	7.60	8.00	9.90	10.0	11.1	13.1	14.3	15.5	15.8	21.9	22.7	22.8	22.9
NOISE LEVEL															
SOUND PRESSURE[3]	dB(A)	49	50	49	51	52	52	52	52	52	53	54	55	55	56
SOUND POWER LEVEL IN COOLING[4-5]	dB(A)	81	82	81	83	84	84	84	84	84	85	86	87	87	88
SIZE AND WEIGHT															
WIDTH[6]	mm	1825	1825	1825	2395	2395	2395	2325	2825	2825	2825	3980	3980	3980	3980
DEPTH[6]	mm	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195	1195
HEIGHT[6]	mm	1865	1865	1865	1865	1865	1865	1980	1980	1980	1980	1980	1980	1980	1980
OPERATING WEIGHT[6]	kg	500	510	550	630	630	640	770	770	850	920	1130	1170	1180	1220

Notes:
1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

NX2
4 Compressor R454B Air Cooled Chiller
(168kW to 345kW)

The **NX2** units are air cooled chillers with scroll compressors designed for delivering the best efficiencies in comfort applications. The complete range is Eurovent certified and all the sizes are completely ErP2021 compliant. Available from 168kW to 345kW using lower GWP R454B refrigerant, the NX2 is a four scroll compressor, twin circuit solution. All the main hydraulic and mechanical components can be integrated within the unit, allowing for the ideal plug & play solution to be configured for HVAC plants within applications including hotels, offices, leisure centres, hospitals and universities.

Key Features & Benefits

- Twin circuit tandem scroll compressors
- ErP2021 compliant
- Low noise
- Energy efficient
- Lower GWP R454B refrigerant

MODEL		0184P	0214P	0244P	0264P	0294P	0334P	0374P
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE								
COOLING ONLY (GROSS VALUE)								
COOLING CAPACITY[1]	kW	168.4	197.5	226.2	250.7	280.0	313.1	345.8
TOTAL POWER INPUT[1]	kW	49.44	58.24	68.66	77.32	81.59	93.64	106.6
EER[1]	kW/kW	3.409	3.393	3.293	3.243	3.431	3.345	3.244
COOLING ONLY (EN14511 VALUE)								
COOLING CAPACITY[1,2]	kW	168.1	197.2	225.8	250.4	279.7	312.8	345.4
EER[1,2]	kW/kW	3.350	3.340	3.240	3.200	3.380	3.300	3.200
ENERGY EFFICIENCY								
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)								
AMBIENT REFRIGERATION								
$P_{RATED,C}$[7]	kW	168	197	226	250	280	313	345
SEER[7,8]		4.73	4.76	4.78	4.79	4.71	4.73	4.62
PERFORMANCE η_S[7,9]	%	186	188	188	189	185	186	182
EXCHANGERS								
HEAT EXCHANGER USER SIDE IN REFRIGERATION								
WATER FLOW[1]	l/s	8.052	9.444	10.81	11.99	13.39	14.97	16.54
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	42.7	44.3	46.7	46.6	42.8	39.8	48.5
REFRIGERANT CIRCUIT								
COMPRESSORS NR.	No.	4	4	4	4	4	4	4
CIRCUITS	No.	2	2	2	2	2	2	2
REFRIGERANT CHARGE	kg	30.1	31.9	37.5	37.6	47.5	51.8	51.9
NOISE LEVEL								
SOUND PRESSURE[3]	dB(A)	54	54	55	55	56	58	59
SOUND POWER LEVEL IN COOLING[4,5]	dB(A)	86	86	87	87	88	90	91
SIZE AND WEIGHT								
WIDTH[6]	mm	3160	3160	3160	3160	4335	4335	4335
DEPTH[6]	mm	2250	2250	2250	2250	2250	2250	2250
HEIGHT[6]	mm	2290	2290	2290	2290	2290	2290	2290
OPERATING WEIGHT[6]	kg	1620	1640	1850	1880	2230	2260	2470

Notes:
1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

NX2
4-8 Compressor R454B Air Cooled Chiller
(379kW to 867kW)

Standard Version (/K)

The **NX2** units are air cooled chillers with scroll compressors designed for delivering the best efficiencies in comfort applications. The complete range is Eurovent certified and all the sizes are completely ErP2021 compliant. All the main hydraulic and mechanical components can be integrated within the unit, allowing for the ideal plug & play solution to be configured for HVAC plants within applications including hotels, offices, leisure centres, hospitals and universities.

Key Features & Benefits

- ErP2021 compliant
- Low noise
- Energy efficient
- Lower GWP R454B refrigerant

MODEL		0404	0424	0464	0515	0576	0585	0636	0676	0706	0768	0808	0848	0898	0928
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE															
COOLING ONLY (GROSS VALUE)															
COOLING CAPACITY[*1]	kW	379.1	398.9	437.0	488.0	538.9	546.7	597.9	636.3	656.5	720.5	759.5	798.1	835.5	867.1
TOTAL POWER INPUT[*1]	kW	115.6	122.6	136.9	152.1	167.3	168.6	183.8	198.1	200.3	218.0	231.4	245.1	259.3	273.5
EER[*1]	kW/kW	3.279	3.254	3.192	3.208	3.221	3.243	3.253	3.212	3.278	3.305	3.282	3.256	3.222	3.170
COOLING ONLY (EN14511 VALUE)															
COOLING CAPACITY[*1*2]	kW	378.6	398.5	436.5	487.5	538.3	546.2	597.3	635.7	655.8	719.8	758.8	797.4	834.8	866.3
EER[*1*2]	kW/kW	3.220	3.210	3.140	3.160	3.170	3.200	3.210	3.170	3.230	3.260	3.230	3.220	3.180	3.130
ENERGY EFFICIENCY															
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)															
AMBIENT REFRIGERATION															
$P_{RATED,C}$[*7]	kW	379	398	436	488	538	546	597	636	656	720	759	797	835	866
SEER[*7*8]		4.67	4.68	4.65	4.70	4.70	4.76	4.75	4.73	4.77	4.75	4.74	4.75	4.75	4.74
PERFORMANCE η_s[*7*9]	%	184	184	183	185	185	187	187	186	188	187	187	187	187	187
EXCHANGERS															
HEAT EXCHANGER USER SIDE IN REFRIGERATION															
WATER FLOW[*1]	l/s	18.13	19.08	20.90	23.34	25.77	26.14	28.59	30.43	31.39	34.45	36.32	38.17	39.96	41.46
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	61.8	48.6	58.3	55.1	67.1	42.5	50.9	49.2	52.4	56.9	63.3	47.2	51.7	55.7
REFRIGERANT CIRCUIT															
COMPRESSORS NR.	No.	4	4	4	5	6	5	6	6	6	8	8	8	8	8
CIRCUITS	No.	2	2	2	2	2	2	2	3	2	4	4	4	4	4
REFRIGERANT CHARGE	kg	46.6	51.5	51.7	59.6	64.4	72.0	74.8	75.1	85.6	88.5	95.1	104	106	106
NOISE LEVEL															
SOUND PRESSURE[*3]	dB(A)	62	62	62	62	63	63	62	62	63	63	63	64	64	64
SOUND POWER LEVEL IN COOLING[*4*5]	dB(A)	94	94	94		95	95	95	95	96	96	96	97	97	97
SIZE AND WEIGHT					94										
WIDTH[*6]	mm	3905	3905	3905	5080	5080	5080	6255	6255	6255	7430	7430	7430	7430	7430
DEPTH[*6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[*6]	mm	2560	2560	2560	2560	2560	2560	2560	2560	2560	2560	2560	2560	2560	2560
OPERATING WEIGHT[*6]	kg	2590	2620	2660	3190	3420	3500	3940	3980	4100	4970	5010	5080	5120	5150

Notes:
1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

NX2 4-8 Compressor R454B Air Cooled Chiller

(380kW to 872kW)

High Efficiency Version (/A)

The **NX2** units are air cooled chillers with scroll compressors designed for delivering the best efficiencies in comfort applications. The complete range is Eurovent certified and all the sizes are completely ErP2021 compliant. All the main hydraulic and mechanical components can be integrated within the unit, allowing for the ideal plug & play solution to be configured for HVAC plants within applications including hotels, offices, leisure centres, hospitals and universities.

Key Features & Benefits

- ErP2021 compliant
- Low noise
- Energy efficient
- Lower GWP R454B refrigerant

MODEL		0404	0424	0464	0515	0576	0585	0636	0676	0706	0768	0808	0848	0898	0928
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE															
COOLING ONLY (GROSS VALUE)															
COOLING CAPACITY[1]	kW	380.1	400.0	439.8	490.2	540.8	548.6	599.7	639.0	658.6	721.1	762.2	801.1	839.7	872.3
TOTAL POWER INPUT[1]	kW	111.3	117.1	129.4	145.0	161.1	161.7	177.4	188.0	194.1	211.0	222.5	234.3	246.4	258.3
EER[1]	kW/kW	3.415	3.416	3.399	3.381	3.357	3.393	3.380	3.399	3.393	3.418	3.426	3.419	3.408	3.377
COOLING ONLY (EN14511 VALUE)															
COOLING CAPACITY[1-2]	kW	379.6	399.5	439.2	489.7	540.2	548.1	599.1	638.4	658.0	720.5	761.5	800.4	839.0	871.6
EER[1-2]	kW/kW	3.350	3.370	3.340	3.330	3.300	3.350	3.330	3.350	3.350	3.370	3.370	3.380	3.360	3.330
ENERGY EFFICIENCY															
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)															
AMBIENT REFRIGERATION															
$P_{RATED,C}$[7]	kW	380	400	439	490	540	548	599	638	658	720	762	800	839	872
SEER[7-8]		4.74	4.77	4.73	4.78	4.72	4.82	4.82	4.86	4.83	4.81	4.81	4.83	4.84	4.86
PERFORMANCE η_s[7-9]	%	187	188	186	188	186	190	190	191	190	189	189	190	190	191
EXCHANGERS															
HEAT EXCHANGER USER SIDE IN REFRIGERATION															
WATER FLOW[1]	l/s	18.18	19.13	21.03	23.44	25.86	26.24	28.68	30.56	31.50	34.49	36.45	38.31	40.16	41.72
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	62.1	48.8	59.0	55.6	67.6	42.8	51.2	49.6	52.7	57.0	63.7	47.6	52.2	56.4
REFRIGERANT CIRCUIT															
COMPRESSORS NR.	No.	4	4	4	5	6	5	6	6	6	8	8	8	8	8
CIRCUITS	No.	2	2	2	2	2	2	2	3	2	4	4	4	4	4
REFRIGERANT CHARGE	kg	56.1	59.9	62.7	76.5	77.9	80.8	88.8	94.1	98.8	107	129	129	129	129
NOISE LEVEL															
SOUND PRESSURE[3]	dB(A)	63	63	63	62	63	63	63	64	64	64	64	65	65	65
SOUND POWER LEVEL IN COOLING[4-5]	dB(A)	95	95	95	95	96	96	96	97	97	97	97	98	98	98
SIZE AND WEIGHT															
WIDTH[6]	mm	5080	5080	5080	6255	6255	6255	7430	7430	7430	9780	9780	9780	9780	9780
DEPTH[6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[6]	mm	2560	2560	2560	2560	2560	2560	2560	2560	2560	2560	2560	2560	2560	2560
OPERATING WEIGHT[6]	kg	2960	2960	3000	3600	3830	3900	4290	4430	4450	5660	5720	5770	5810	5850

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

i-FX R513A Air Cooled Chiller

(478kW to 1,029kW)

Standard Version (/K)

The Climaveneta range of **i-FX** units are air cooled chillers with inverter screw compressors, designed for delivering high efficiencies in comfort applications. Available with lower GWP R513A refrigerant, the new i-FX chillers apply variable speed technology in all of its main components, achieving top-level performances in any load condition.

Key Features & Benefits

- Total Inverter Technology
- Multiple heat recovery configurations
- ErP2021 compliant
- Low noise
- Energy efficient
- Lower GWP R513A refrigerant

MODEL		2202	2602	2652	2702	2722	3152	3602	3902	4202	4502	4802
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
COOLING CAPACITY[*1]	kW	478.6	531.1	561.2	598.1	656.7	720.7	801.4	874.1	932.0	900.3	1029
TOTAL POWER INPUT[*1]	kW	172.0	189.2	198.6	209.1	237.2	263.0	290.3	312.1	331.0	358.1	383.8
EER[*1]	kW/kW	2.783	2.807	2.826	2.860	2.769	2.740	2.761	2.801	2.816	2.765	2.681
COOLING ONLY (EN14511 VALUE)												
COOLING CAPACITY[*1*2]	kW	477.3	529.4	559.6	596.2	654.7	718.2	798.9	871.3	928.7	987.3	1026
EER[*1*2]	kW/kW	2.750	2.770	2.800	2.830	2.740	2.710	2.730	2.770	2.780	2.730	2.650
ENERGY EFFICIENCY												
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)												
AMBIENT REFRIGERATION												
$P_{RATED,C}$[*7]	kW	477	529	560	596	655	718	799	871	929	987	1026
SEER[*7*8]		4.77	4.78	4.73	4.76	4.76	4.82	4.83	4.79	4.82	4.77	4.80
PERFORMANCE η_S[*7*9]	%	188	188	186	187	187	190	190	189	190	188	189
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
WATER FLOW[*1]	l/s	22.89	25.40	26.84	28.60	31.40	34.47	38.33	41.80	44.57	47.36	49.20
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	32.0	39.5	35.2	40.0	38.3	46.2	40.7	42.8	48.7	42.4	45.8
REFRIGERANT CIRCUIT												
COMPRESSORS NR.	No.	2	2	2	2	2	2	2	2	2	2	2
CIRCUITS	No.	2	2	2	2	2	2	2	2	2	2	2
REFRIGERANT CHARGE	kg	79.0	87.0	92.0	101	108	120	135	146	155	161	168
NOISE LEVEL												
SOUND PRESSURE[*3]	dB(A)	67	68	68	68	69	69	68	69	70	70	71
SOUND POWER LEVEL IN COOLING[*4*5]	dB(A)	99	100	100	100	101	101	101	102	103	103	104
SIZE AND WEIGHT												
WIDTH[*6]	mm	4150	5400	5400	5400	5400	6650	6650	7900	7900	7900	7900
DEPTH[*6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[*6]	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
OPERATING WEIGHT[*6]	kg	4790	5270	5280	5330	5720	6210	6270	6700	6740	7350	7750

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

i-FX R513A Air Cooled Chiller

(1,054kW to 1,697kW)

Standard Version (/K)

The Climaveneta range of **i-FX** units are air cooled chillers with inverter screw compressors, designed for delivering high efficiencies in comfort applications. Available with lower GWP R513A refrigerant, the new i-FX chillers apply variable speed technology in all of its main components, achieving top-level performances in any load condition.

Key Features & Benefits

- Total Inverter Technology
- Multiple heat recovery configurations
- ErP2021 compliant
- Low noise
- Energy efficient
- Lower GWP R513A refrigerant

MODEL		4812	4822	5412	6002	6022	6303	6903	7203	7213	7223
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
COOLING CAPACITY[1]	kW	1054	1128	1169	1242	1302	1409	1493	1559	1649	1697
TOTAL POWER INPUT[1]	kW	366.8	405.3	430.5	438.8	477.1	498.8	544.8	578.9	596.2	618.5
EER[1]	kW/kW	2.874	2.783	2.715	2.830	2.729	2.825	2.740	2.693	2.766	2.744
COOLING ONLY (EN14511 VALUE)											
COOLING CAPACITY[1-2]	kW	1050	1124	1166	1238	1297	1405	1488	1555	1644	1691
EER[1-2]	kW/kW	2.840	2.750	2.690	2.800	2.690	2.790	2.710	2.670	2.740	2.710
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
AMBIENT REFRIGERATION											
$P_{RATED,C}$[7]	kW	1050	1124	1166	1238	1297	1405	1488	1555	1644	1691
SEER[7-8]		4.79	4.82	4.89	4.90	4.90	4.74	4.77	4.76	4.76	4.79
PERFORMANCE η_s[7-9]	%	189	190	193	193	193	187	188	187	187	189
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
WATER FLOW[1]	l/s	50.41	53.94	53.90	59.42	62.28	67.38	71.40	74.58	78.86	81.17
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	48.1	51.7	41.7	47.1	51.8	45.9	51.5	39.6	44.3	50.4
REFRIGERANT CIRCUIT											
COMPRESSORS NR.	No.	2	2	2	2	2	3	2	3	3	3
CIRCUITS	No.	2	2	2	2	2	3	3	3	3	3
REFRIGERANT CHARGE	kg	174	189	193	208	214	236	244	254	273	288
NOISE LEVEL											
SOUND PRESSURE[3]	dB(A)	71	72	72	72	72	72	72	72	73	73
SOUND POWER LEVEL IN COOLING[4-5]	dB(A)	104	105	105	105	105	105	105	105	106	106
SIZE AND WEIGHT											
WIDTH[6]	mm	9150	9150	9150	10400	10400	11650	11650	11650	12900	12900
DEPTH[6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[6]	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
OPERATING WEIGHT[6]	kg	8220	8340	8500	8890	9000	10650	11460	11840	12350	12340

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

i-FX R513A Air Cooled Chiller

(477kW to 1,028kW)

Low Noise Version (/SL-K)

The Climaveneta range of **i-FX** units are air cooled chillers with inverter screw compressors, designed for delivering high efficiencies in comfort applications. Available with lower GWP R513A refrigerant, the new i-FX chillers apply variable speed technology in all of its main components, achieving top-level performances in any load condition.

Key Features & Benefits

- Total Inverter Technology
- Multiple heat recovery configurations
- ErP2021 compliant
- Low noise
- Energy efficient
- Lower GWP R513A refrigerant

MODEL		2202	2602	2652	2702	2722	3152	3602	3902	4202	4502	4802
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE												
COOLING ONLY (GROSS VALUE)												
COOLING CAPACITY[1]	kW	477.0	516.7	554.6	578.0	662.9	711.3	774.2	845.6	903.1	972.7	1028
TOTAL POWER INPUT[1]	kW	168.1	177.0	195.5	212.2	228.3	260.2	295.6	317.7	336.9	356.8	373.5
EER[1]	kW/kW	2.838	2.919	2.837	2.724	2.904	2.734	2.619	2.662	2.681	2.726	2.752
COOLING ONLY (EN14511 VALUE)												
COOLING CAPACITY[1,2]	kW	475.7	515.1	553.0	576.3	660.9	708.9	772.0	843	900.1	969.8	1025
EER[1,2]	kW/kW	2.810	2.880	2.810	2.690	2.870	2.700	2.590	2.630	2.650	2.700	2.720
ENERGY EFFICIENCY												
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)												
AMBIENT REFRIGERATION												
$P_{RATED,C}$[7]	kW	476	515	553	576	661	709	772	843	900	970	1025
SEER[7,8]		4.91	4.88	4.83	4.74	4.89	4.90	4.87	4.76	4.78	4.86	4.95
PERFORMANCE η_s[7,9]	%	194	192	190	187	193	193	192	187	188	191	195
EXCHANGERS												
HEAT EXCHANGER USER SIDE IN REFRIGERATION												
WATER FLOW[1]	l/s	22.81	24.71	26.52	27.64	31.70	34.02	37.02	40.44	43.19	46.52	49.15
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	31.8	37.4	34.4	37.3	39.1	45.0	38.0	40.1	45.7	40.9	45.7
REFRIGERANT CIRCUIT												
COMPRESSORS NR.	No.	2	2	2	2	2	2	2	2	2	2	2
CIRCUITS	No.	2	2	2	2	2	2	2	2	2	2	2
REFRIGERANT CHARGE	kg	83.0	91.0	97.0	101	116	125	135	146	155	168	178
NOISE LEVEL												
SOUND PRESSURE[3]	dB(A)	60	61	61	61	61	61	61	62	63	63	63
SOUND POWER LEVEL IN COOLING[4,5]	dB(A)	92	93	93	93	94	94	94	95	96	96	96
SIZE AND WEIGHT												
WIDTH[6]	mm	5400	5400	5400	5400	6650	6650	6650	7900	7900	9150	9150
DEPTH[6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[6]	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
OPERATING WEIGHT[6]	kg	5450	5600	5620	5650	6560	6580	6590	7050	7100	8110	8550

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

i-FX R513A Air Cooled Chiller

(1,046kW to 1,635kW)

Low Noise Version (/SL-K)

The Climaveneta range of **i-FX** units are air cooled chillers with inverter screw compressors, designed for delivering high efficiencies in comfort applications. Available with lower GWP R513A refrigerant, the new i-FX chillers apply variable speed technology in all of its main components, achieving top-level performances in any load condition.

Key Features & Benefits

- Total Inverter Technology
- Multiple heat recovery configurations
- ErP2021 compliant
- Low noise
- Energy efficient
- Lower GWP R513A refrigerant

CLIMAVENETA

MODEL		4812	4822	5412	6002	6022	6303	6903	7203	7213	7223
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE											
COOLING ONLY (GROSS VALUE)											
COOLING CAPACITY[*1]	kW	1046	1120	1162	1199	1290	1365	1474	1541	1590	1635
TOTAL POWER INPUT[*1]	kW	359.4	397.2	422.1	446.5	470.5	507.7	541.1	572.2	610.0	633.6
EER[*1]	kW/kW	2.870	2.820	2.753	2.685	2.742	2.689	2.724	2.693	2.607	2.580
COOLING ONLY (EN14511 VALUE)											
COOLING CAPACITY[*1*2]	kW	1042	1116	1159	1195	1286	1361	1469	1537	1589	1630
EER[*1*2]	kW/kW	2.870	2.780	2.720	2.660	2.710	2.660	2.690	2.670	2.580	2.550
ENERGY EFFICIENCY											
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)											
AMBIENT REFRIGERATION											
$P_{RATED,C}$[*7]	kW	1042	1116	1159	1195	1286	1361	1469	1537	1586	1630
SEER[*7*8]		4.89	4.93	5.00	4.95	4.99	4.77	4.94	4.84	4.84	4.85
PERFORMANCE η_s[*7*9]	%	192	194	197	195	197	188	194	191	190	191
EXCHANGERS											
HEAT EXCHANGER USER SIDE IN REFRIGERATION											
WATER FLOW[*1]	l/s	50.01	53.58	55.57	57.32	61.67	65.28	70.50	73.70	76.02	78.18
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	47.3	51.0	41.2	43.9	50.8	43.1	50.2	38.7	41.2	46.7
REFRIGERANT CIRCUIT											
COMPRESSORS NR.	No.	2	2	2	2	2	3	2	3	2	3
CIRCUITS	No.	2	2	2	2	2	3	3	3	3	3
REFRIGERANT CHARGE	kg	183	198	204	208	224	236	255	267	278	288
NOISE LEVEL											
SOUND PRESSURE[*3]	dB(A)	63	63	63	63	63	63	63	63	63	64
SOUND POWER LEVEL IN COOLING[*4*5]	dB(A)	96	96	96	96	96	96	96	96	96	97
SIZE AND WEIGHT											
WIDTH[*6]	mm	10400	10400	10400	10400	11650	11650	12900	12900	12900	12900
DEPTH[*6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[*6]	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
OPERATING WEIGHT[*6]	kg	9010	9130	9310	9270	9790	11140	12390	12770	12850	12930

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

i-FX R513A Air Cooled Chiller

(510kW to 1,520kW)

High Efficiency Version (/A)

CLIMAVENETA

The Climaveneta range of **i-FX** units are air cooled chillers with inverter screw compressors, designed for delivering high efficiencies in comfort applications. Available with lower GWP R513A refrigerant, the new i-FX chillers apply variable speed technology in all of its main components, achieving top-level performances in any load condition.

Key Features & Benefits

- Total Inverter Technology
- Multiple heat recovery configurations
- ErP2021 compliant
- Low noise
- Energy efficient
- Lower GWP R513A refrigerant

MODEL		2202	2602	2652	2702	2772	3152	3602	3902	4202	4502	4802	4822	5412	5703	6303	6603
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE																	
COOLING ONLY (GROSS VALUE)																	
COOLING CAPACITY[1]	kW	510.2	551.9	590.0	626.9	684.3	767.2	839.9	899.4	959.4	1028	1099	1162	1230	1334	1467	1520
TOTAL POWER INPUT[1]	kW	163.5	177.8	189.4	203.0	222.2	257.2	286.0	303.4	320.6	340.0	358.2	388.6	401.1	452.6	493.4	518.9
EER[1]	kW/kW	3.120	3.104	3.115	3.088	3.080	2.983	2.937	2.964	2.993	3.024	3.068	2.990	3.067	2.947	2.973	2.929
COOLING ONLY (EN14511 VALUE)																	
COOLING CAPACITY[1-2]	kW	508.7	550.4	288.2	624.8	682.1	765.0	837.1	896.4	955.9	1025	1095	1159	1226	1330	1463	1515
EER[1-2]	kW/kW	3.080	3.070	3.080	3.050	3.040	2.950	2.900	2.930	2.950	2.980	3.020	2.960	3.030	2.910	2.940	2.900
ENERGY EFFICIENCY																	
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)																	
AMBIENT REFRIGERATION																	
$P_{RATED,C}$[7]	kW	509	550	588	625	682	765	837	896	956	1025	1025	1159	1226	1330	1463	1515
SEER[7-8]		5.26	5.27	5.26	5.20	5.21	5.21	5.22	5.17	5.12	5.26	5.21	5.16	5.22	5.15	5.06	5.12
PERFORMANCE η_s[7-9]	%	207	208	207	205	205	206	206	204	202	207	206	203	206	203	199	202
EXCHANGERS																	
HEAT EXCHANGER USER SIDE IN REFRIGERATION																	
WATER FLOW[1]	l/s	24.40	26.39	28.22	29.98	32.73	36.69	40.16	43.01	45.88	49.16	52.54	55.59	58.81	63.78	70.16	72.70
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	36.4	34.0	38.9	43.9	41.6	37.3	44.7	45.3	51.6	45.7	50.1	41.2	46.2	41.1	35.1	37.7
REFRIGERANT CIRCUIT																	
COMPRESSORS NR.	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	4	3	4
CIRCUITS	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3
REFRIGERANT CHARGE	kg	91.0	93.0	100	106	115	130	141	153	162	174	185	199	209	227	260	258
NOISE LEVEL																	
SOUND PRESSURE[3]	dB(A)	67	68	67	67	68	68	68	69	70	70	71	72	72	72	72	72
SOUND POWER LEVEL IN COOLING[4-5]	dB(A)	99	100	100	100	101	101	101	102	103	103	104	105	105	105	105	105
SIZE AND WEIGHT																	
WIDTH[6]	mm	5400	5400	6650	6650	6650	7900	7900	9150	9150	10400	10400	10400	11650	12900	12900	12900
DEPTH[6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[6]	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
OPERATING WEIGHT[6]	kg	5180	5240	5720	5800	6210	6620	6670	7080	7120	8110	8550	8810	9280	10880	10920	11610

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

i-FX HFO1234ze Air Cooled Chiller

(382kW to 1,463kW)

High Efficiency Version (/A)

The Climaveneta range of **i-FX** units are air cooled chillers with inverter screw compressors and HFO green refrigerant, designed for delivering high efficiencies in comfort applications. Available with HFO1234ze refrigerant, the new i-FX chillers apply variable speed technology in all of its main components, achieving top-level performances in any load condition.

Key Features & Benefits

- Total Inverter Technology
- Multiple heat recovery configurations
- ErP2021 compliant
- Low noise
- Energy efficient
- Low GWP HFO1234ze refrigerant

MODEL		2202	2602	2702	2722	3602	4202	4802	4822	6002	6022	6603	7203	7223	7283
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE															
COOLING ONLY (GROSS VALUE)															
COOLING CAPACITY[1]	kW	382.7	417.9	486.9	534.8	642.0	725.9	843.1	915.7	994.1	1038	1146	1280	1399	1463
TOTAL POWER INPUT[1]	kW	117.7	130.2	147.7	168.4	211.1	237.1	281.3	305.7	322.1	340.6	379.0	423.0	471.2	499.3
EER[1]	kW/kW	3.251	3.210	3.297	3.176	3.041	3.062	2.997	2.995	3.086	3.048	3.024	3.026	2.969	2.930
COOLING ONLY (EN14511 VALUE)															
COOLING CAPACITY[1-2]	kW	381.5	416.4	485.7	533.2	639.7	723.4	841.1	912.6	991.0	1035	1143	1276	1394	1458
EER[1-2]	kW/kW	3.210	3.160	3.260	3.140	3.000	3.020	2.970	2.960	3.050	3.010	2.990	2.990	2.930	2.890
ENERGY EFFICIENCY															
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)															
AMBIENT REFRIGERATION															
$P_{RATED,C}$[7]	kW	382	416	486	533	640	723	841	913	991	1035	1143	1276	1394	1458
SEER[7-8]		5.18	5.26	5.26	5.18	5.09	5.18	5.09	5.06	5.13	5.09	5.11	5.04	5.04	5.00
PERFORMANCE η_s[7-9]	%	204	207	207	204	201	204	201	199	202	200	201	199	199	197
EXCHANGERS															
HEAT EXCHANGER USER SIDE IN REFRIGERATION															
WATER FLOW[1]	l/s	18.30	19.98	23.29	25.58	30.70	34.71	40.32	43.79	47.52	49.65	54.79	61.21	66.89	69.95
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	35.3	42.1	30.1	36.4	46.1	46.8	30.8	47.0	42.8	43.8	40.1	40.8	48.7	53.3
REFRIGERANT CIRCUIT															
COMPRESSORS NR.	No.	2	2	2	2	2	2	2	2	2	2	3	3	3	3
CIRCUITS	No.	2	2	2	2	2	2	2	2	2	2	3	3	3	3
REFRIGERANT CHARGE	kg	63.0	70.0	81.0	86.0	108	124	134	139	167	171	189	195	203	218
NOISE LEVEL															
SOUND PRESSURE[3]	dB(A)	67	68	68	69	68	70	72	72	72	72	72	72	73	73
SOUND POWER LEVEL IN COOLING[4-5]	dB(A)	99	100	100	101	101	103	105	105	105	105	105	105	106	106
SIZE AND WEIGHT															
WIDTH[6]	mm	4150	5400	5400	5400	6650	7900	7900	9150	10400	10400	11650	11650	12900	12900
DEPTH[6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[6]	mm	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
OPERATING WEIGHT[6]	kg	4780	5220	5360	5430	6060	6820	7810	8240	8780	8880	11170	11800	12430	12390

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

i-FX-Q2 R513A Air Cooled Chiller

(520kW to 1,125kW)

High Efficiency Version (/CA)

Key Features & Benefits

- Total Inverter Technology
- Multiple heat recovery configurations
- ErP2021 compliant
- Low noise
- Energy efficient
- Lower GWP R513A refrigerant

INTEGRA

CLIMAVENETA

The Climaveneta range of **i-FX-Q2** units are air cooled chillers, designed to produce chilled and hot water simultaneously and efficiently using variable frequency drive compressors. Available with lower GWP R513A refrigerant, the new i-FX-Q2 chillers apply variable speed technology in all of its main components, achieving top-level performances in any load condition.

MODEL		0502	0532	0602	0652	0702	0802	0902	1002	1102
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
COOLING CAPACITY[*1]	kW	520.5	536.1	570.0	670.8	712.2	787.4	982.0	1048	1125
TOTAL POWER INPUT[*1]	kW	180.4	181.2	189.0	229.8	238.9	261.5	344.9	356.6	411.4
EER[*1]	kW/kW	2.885	2.959	3.016	2.919	2.981	3.011	2.847	2.939	2.735
COOLING ONLY (EN14511 VALUE)										
COOLING CAPACITY[*1*2]	kW	485.9	529.2	568.5	624.8	686.6	785.6	912.3	982.3	1079
EER[*1*2]	kW/kW	2.980	2.980	2.980	2.990	2.980	2.980	3.020	3.000	2.850
HEATING ONLY (GROSS VALUE)										
TOTAL HEATING CAPACITY[*3]	kW	496.8	496.8	531.0	643.9	684.9	764.8	939.9	988.7	1071
TOTAL POWER INPUT[*3]	kW	152.9	152.9	160.1	195.5	205.8	224.6	294.3	311.5	332.4
COP[*3]	kW/kW	3.249	3.249	3.317	3.294	3.328	3.405	3.194	3.174	3.222
HEATING ONLY (EN14511 VALUE)										
TOTAL HEATING CAPACITY[*2*3]	kW	464.1	490.3	532.0	600.0	660.7	766.8	873.3	940.2	1030
COP[*2*3]	kW/kW	3.320	3.280	3.300	3.340	3.330	3.380	3.340	3.370	3.350
COOLING WITH HEAT RECOVERY (EN14511 VALUE)										
COOLING CAPACITY[*2*4]	kW	487.0	531.0	569.0	622.0	680.3	782.6	911.8	984.4	1098
TOTAL POWER INPUT[*2*4]	kW	145.8	160.6	170.6	185.8	205.7	234.7	275.9	292.7	329.6
RECOVERY HEAT EXCHANGER CAPACITY[*2*4]	kW	624.2	682.1	729.5	796.9	874.0	1003	1171	1260	1408
TER	kW/kW	7.620	7.553	7.613	7.637	7.555	7.609	7.546	7.667	7.603
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
AMBIENT REFRIGERATION										
$P_{RATED,C}$[*7]	kW	485.9	529.2	568.5	624.8	686.6	785	912.3	982.3	1079.0
SEER[*7*8]		5.15	5.09	5.11	5.08	5.12	5.02	4.73	4.66	4.63
PERFORMANCE η_S[*7*9]	%	203.0	201.0	202.0	200.0	202.0	198.0	186.0	183.0	182.0
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
WATER FLOW[*1]	l/s	24.89	25.64	27.26	32.08	34.06	37.65	46.96	50.12	53.78
PRESSURE DROP AT THE HEAT EXCHANGER[*1]	kPa	40.8	51.6	32.5	40.5	45.4	29.0	39.7	42.3	51.4
HEAT EXCHANGER USER SIDE IN HEATING										
WATER FLOW[*3]	l/s	23.98	23.98	25.63	31.08	33.06	36.92	45.37	47.73	53.68
PRESSURE DROP AT THE HEAT EXCHANGER[*3]	kPa	26.5	26.5	21.9	31.9	35.3	32.9	49.6	39.6	33.2
REFRIGERANT CIRCUIT										
COMPRESSORS NR.	No.	2	2	2	2	2	2	2	2	2
NUMBER OF CAPACITY STEPS	No.	0	0	0	0	0	0	0	0	0
CIRCUITS	No.	2	2	2	2	2	2	2	2	2
REGULATION		Stepless	Stepless	Stepless	Stepless	Stepless	Stepless	Stepless	Stepless	Stepless
REFRIGERANT		R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A
REFRIGERANT CHARGE	kg	253	257	307	338	372	425	451	473	473
OIL CHARGE	kg	36.0	36.0	36.0	36.0	36.0	36.0	60.0	60.0	60.0
RC (ASHARE)[*5]	kg/kW	0.49	0.52	0.54	0.51	0.53	0.55	0.46	0.46	0.42
NOISE LEVEL										
SOUND PRESSURE[*6]	dB(A)	67	67	68	69	69	68	70	70	70
SOUND POWER LEVEL IN COOLING[*10*11]	dB(A)	100	100	100	102	102	101	103	103	103
SOUND POWER LEVEL IN HEATING[*10*11]	dB(A)	100	100	100	102	102	101	103	103	103
SIZE AND WEIGHT										
WIDTH[*13]	mm	8150	8150	8900	9650	10400	10400	10400	11900	11900
DEPTH[*13]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[*13]	mm	2530	2530	2530	2530	2530	2530	2530	2530	2530
OPERATING WEIGHT[*13]	kg	8350	8380	9080	9590	10060	11010	12310	14110	14150

Notes:

1. Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Source (side) heat exchanger air (in) 35,0°C.
2. Values in compliance with EN14511.
3. Plant (side) heat exchanger water (in/out) 40,00°C/45,00°C; Source (side) heat exchanger air (in) 7,0°C - 87% R.H.
4. Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Plant (side) heat exchanger water (in/out) 40,00°C/45,00°C.
5. Rated in accordance with AHRI Standard 550/590.
6. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.
10. Sound power on the basis of measurements made in compliance with ISO 9614.
11. Sound power level in cooling, outdoors.
12. Sound power level in heating, outdoors.
13. Unit in standard configuration/execution, without optional accessories.

Eurovent Certified Data

i-FX-Q2 R513A Air Cooled Chiller

(498kW to 1,039kW)

Low Noise Version (/SL-CA)

Key Features & Benefits

- Total Inverter Technology
- Multiple heat recovery configurations
- ErP2021 compliant
- Low noise
- Energy efficient
- Lower GWP R513A refrigerant

INTEGRA

CLIMAVENETA

The Climaveneta range of **i-FX-Q2** units are air cooled chillers, designed to produce chilled and hot water simultaneously and efficiently using variable frequency drive compressors. Available with lower GWP R513A refrigerant, the new i-FX-Q2 chillers apply variable speed technology in all of its main components, achieving top-level performances in any load condition.

MODEL		0502	0532	0602	0652	0702	0802	0902	1002	1102
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE										
COOLING ONLY (GROSS VALUE)										
COOLING CAPACITY[*1]	kW	498.6	513.3	549.0	646.7	686.7	765.6	905.4	981.9	1039
TOTAL POWER INPUT[*1]	kW	183.1	184.0	188.8	229.5	235.8	261.6	322.0	347.6	386.2
EER[*1]	kW/kW	2.723	2.790	2.908	2.818	2.912	2.927	2.812	2.825	2.690
COOLING ONLY (EN14511 VALUE)										
COOLING CAPACITY[*1*2]	kW	466.1	506.6	547.6	602.3	662.8	763.9	878.7	949.1	1036
EER[*1*2]	kW/kW	2.850	2.840	2.880	2.920	2.930	2.900	2.850	2.860	2.660
HEATING ONLY (GROSS VALUE)										
TOTAL HEATING CAPACITY[*3]	kW	492.0	492.0	526.1	637.4	678.9	756.3	881.6	948.9	1018
TOTAL POWER INPUT[*3]	kW	150.9	150.9	157.6	192.7	203.0	221.5	265.7	283.7	301.1
COP[*3]	kW/kW	3.260	3.260	3.334	3.308	3.344	3.414	3.318	3.345	3.381
HEATING ONLY (EN14511 VALUE)										
TOTAL HEATING CAPACITY[*2*3]	kW	459.6	487.6	527.1	594.3	654.9	758.2	862.8	930.9	1020
COP[*2*3]	kW/kW	3.330	3.290	3.320	3.360	3.350	3.390	3.340	3.380	3.360
COOLING WITH HEAT RECOVERY (EN14511 VALUE)										
COOLING CAPACITY[*2*4]	kW	487.2	531.2	569.1	622.2	680.5	782.6	912.1	984.6	1098
TOTAL POWER INPUT[*2*4]	kW	145.6	160.2	170.4	185.4	205.4	234.5	274.7	291.7	329.3
RECOVERY HEAT EXCHANGER CAPACITY[*2*4]	kW	624.2	681.9	729.4	796.7	873.8	1003	1170	1259	1407
TER	kW/kW	7.630	7.572	7.616	7.654	7.566	7.614	7.579	7.693	7.607
ENERGY EFFICIENCY										
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)										
AMBIENT REFRIGERATION										
$P_{RATED,C}$[*7]	kW	466.1	506.6	547.6	602.3	662.8	763.9	878.7	949.1	1036.0
SEER[*7*8]		5.10	5.07	5.07	5.07	5.12	4.96	4.70	4.62	4.60
PERFORMANCE η_S[*7*9]	%	201.0	200.0	200.0	200.0	202.0	195.0	185.0	182.0	181.0
EXCHANGERS										
HEAT EXCHANGER USER SIDE IN REFRIGERATION										
WATER FLOW[*1]	l/s	23.84	24.55	26.26	30.93	32.84	36.61	43.30	46.96	49.69
PRESSURE DROP AT THE HEAT EXCHANGER[*1]	kPa	37.5	47.3	30.2	37.6	42.3	27.4	36.8	39.5	47.4
HEAT EXCHANGER USER SIDE IN HEATING										
WATER FLOW[*3]	l/s	23.75	23.75	25.39	30.77	32.77	36.51	42.55	45.80	49.13
PRESSURE DROP AT THE HEAT EXCHANGER[*3]	kPa	26.0	26.0	21.5	31.3	34.7	32.1	43.7	36.4	30.0
REFRIGERANT CIRCUIT										
COMPRESSORS NR.	No.	2	2	2	2	2	2	2	2	2
NUMBER OF CAPACITY STEPS	No.	0	0	0	0	0	0	0	0	0
CIRCUITS	No.	2	2	2	2	2	2	2	2	2
REGULATION		Stepless	Stepless	Stepless	Stepless	Stepless	Stepless	Stepless	Stepless	Stepless
REFRIGERANT		R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A
REFRIGERANT CHARGE	kg	253	275	307	338	372	425	451	473	473
OIL CHARGE	kg	36.0	36.0	36.0	36.0	36.0	36.0	60.0	60.0	60.0
RC (ASHARE)[*5]	kg/kW	0.51	0.54	0.57	0.53	0.55	0.56	0.50	0.49	0.46
NOISE LEVEL										
SOUND PRESSURE[*6]	dB(A)	57	58	58	59	59	59	61	61	59
SOUND POWER LEVEL IN COOLING[*10*11]	dB(A)	90	91	91	92	92	92	94	94	92
SOUND POWER LEVEL IN HEATING[*10*11]	dB(A)	90	91	91	92	92	92	94	94	92
SIZE AND WEIGHT										
WIDTH[*13]	mm	8150	8150	8900	9650	10400	10400	10400	11900	11900
DEPTH[*13]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[*13]	mm	2530	2530	2530	2530	2530	2530	2530	2530	2530
OPERATING WEIGHT[*13]	kg	8800	8830	9530	10040	10510	11450	12750	14560	14600

Notes:
1. Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Source (side) heat exchanger air (in) 35,0°C.
2. Values in compliance with EN14511.
3. Plant (side) heat exchanger water (in/out) 40,00°C/45,00°C; Source (side) heat exchanger air (in) 7,0°C - 87% R.H.
4. Plant (side) cooling exchanger water (in/out) 12,00°C/7,00°C; Plant (side) heat exchanger water (in/out) 40,00°C/45,00°C.
5. Rated in accordance with AHRI Standard 550/590.
6. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.
10. Sound power on the basis of measurements made in compliance with ISO 9614.
11. Sound power level in cooling, outdoors.
12. Sound power level in heating, outdoors.
13. Unit in standard configuration/execution, without optional accessories.

Eurovent Certified Data

FX2 R513A Air Cooled Chiller

(322kW to 996kW)

Standard Version (/K)

The Climaveneta range of **FX2** units are air cooled chillers with screw compressors, designed for delivering high efficiencies in comfort applications. Available with lower GWP R513A refrigerant, the new range features 2 or 3 compressors in multi-circuit configuration.

Key Features & Benefits

- Compact design
- Low noise
- Energy efficient
- Lower GWP R513A refrigerant

MODEL		0322	0352	0402	0472	0512	0572	0652	0702	0772	0852	0902	1002
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE													
COOLING ONLY (GROSS VALUE)													
COOLING CAPACITY[*1]	kW	322.1	350.2	411.9	464.4	516.7	573.4	645.8	707.6	779.8	862.9	937.3	996.0
TOTAL POWER INPUT[*1]	kW	102.4	119.2	133.1	146.1	172.5	188.6	207.4	239.2	254.6	272.4	295.1	315.5
EER[*1]	kW/kW	3.146	2.938	3.095	3.179	2.995	3.040	3.114	2.958	3.063	3.168	3.176	3.157
ESEER[*1]	kW/kW	4.430	4.440	4.510	4.500	4.440	4.460	4.470	4.480	4.470	4.450	4.450	4.460
COOLING ONLY (EN14511 VALUE)													
COOLING CAPACITY[*1*2]	kW	321.8	349.8	411.5	463.9	516.2	572.9	645.2	707.0	779.1	862.3	936.6	995.2
EER[*1*2]	kW/kW	3.120	2.910	3.060	3.140	2.970	3.010	3.080	2.930	3.020	3.130	3.140	3.120
ESEER[*1*2]		4.300	4.300	4.350	4.310	4.290	4.280	4.300	4.320	4.270	4.290	4.280	4.270
ENERGY EFFICIENCY													
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)													
AMBIENT REFRIGERATION													
$P_{RATED,C}$[*7]	kW	322	350	412	464	516	573	645	707	779	862	937	995
SEER[*7*8]		4.51	4.50	4.56	4.58	4.56	4.56	4.58	4.57	4.57	4.58	4.59	4.59
PERFORMANCE η_s[*7*9]	%	177	177	179	180	179	179	180	180	180	180	180	181
EXCHANGERS													
HEAT EXCHANGER USER SIDE IN REFRIGERATION													
WATER FLOW[*1]	l/s	15.40	16.75	19.70	22.21	24.71	27.42	30.88	33.84	37.29	41.27	44.82	47.63
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	27.7	32.7	38.8	49.4	37.3	46.0	46.6	44.5	54.1	47.2	49.2	55.6
REFRIGERANT CIRCUIT													
COMPRESSORS NR.	No.	2	2	2	2	2	2	2	2	2	2	2	2
CIRCUITS	No.	2	2	2	2	2	2	2	2	2	2	2	2
REFRIGERANT CHARGE	kg	57.0	60.0	71.0	81.0	88.0	98.0	113	120	133	150	163	173
NOISE LEVEL													
SOUND PRESSURE[*3]	dB(A)	67	67	67	68	68	68	68	70	69	69	70	70
SOUND POWER LEVEL IN COOLING[*4*5]	dB(A)	99	99	99	100	100	100	100	102	102	102	103	103
SIZE AND WEIGHT													
WIDTH[*6]	mm	2750	2750	4000	4000	4000	5250	5250	5250	6500	6500	7750	7750
DEPTH[*6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[*6]	mm	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640
OPERATING WEIGHT[*6]	kg	3120	2950	3600	3730	4570	5060	5190	5550	6400	6980	7460	7620

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

FX2 R513A Air Cooled Chiller

(1,056kW to 1,839kW)

Standard Version (/K)

The Climaveneta range of **FX2** units are air cooled chillers with screw compressors, designed for delivering high efficiencies in comfort applications. Available with lower GWP R513A refrigerant, the new range features 2 or 3 compressors in multi-circuit configuration.

Key Features & Benefits

- Compact design
- Low noise
- Energy efficient
- Lower GWP R513A refrigerant

MODEL		1052	1102	1152	1222	1262	1322	1402	1503	1593	1663	1773	1883
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE													
COOLING ONLY (GROSS VALUE)													
COOLING CAPACITY[*1]	kW	1056	1098	1139	1232	1264	1332	1400	1506	1592	1664	1778	1839
TOTAL POWER INPUT[*1]	kW	343.2	369.3	354.3	396.3	423.2	433.9	474.8	475.0	523.1	556.9	580.4	605.3
EER[*1]	kW/kW	3.077	2.973	3.215	3.109	2.987	3.070	2.949	3.171	3.043	2.988	3.063	3.038
ESEER[*1]	kW/kW	4.460	4.470	4.460	4.490	4.470	4.460	4.490	4.430	4.450	4.440	4.440	4.470
COOLING ONLY (EN14511 VALUE)													
COOLING CAPACITY[*1*2]	kW	1055	1097	1138	1231	1264	1331	1399	1505	1591	1663	1777	1838
EER[*1*2]	kW/kW	3.040	2.940	3.170	3.070	2.960	3.030	2.910	3.130	3.010	2.960	3.030	3.000
ESEER[*1*2]		4.290	4.300	4.280	4.290	4.300	4.280	4.300	4.270	4.270	4.290	4.280	4.290
ENERGY EFFICIENCY													
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)													
AMBIENT REFRIGERATION													
$P_{RATED,C}$[*7]	kW	1055	1097	1138	1231	1264	1331	1399	1505	1591	1663	1777	1838
SEER[*7*8]		4.56	2.940	4.58	4.60	4.56	4.57	4.58	4.59	4.59	4.58	4.60	4.63
PERFORMANCE η_s[*7*9]	%	180	4.300	180	181	179	180	180	181	181	180	181	182
EXCHANGERS													
HEAT EXCHANGER USER SIDE IN REFRIGERATION													
WATER FLOW[*1]	l/s	50.51	52.49	54.45	58.92	60.46	63.71	66.96	72.03	76.12	79.55	85.04	87.92
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	48.3	52.1	56.1	61.6	48.8	54.2	59.9	52.5	58.6	45.1	51.6	59.1
REFRIGERANT CIRCUIT													
COMPRESSORS NR.	No.	2	2	2	2	2	2	2	3	3	3	3	3
CIRCUITS	No.	2	2	2	2	2	2	2	3	3	3	3	3
REFRIGERANT CHARGE	kg	179	104	195	210	214	232	238	263	271	281	303	318
NOISE LEVEL													
SOUND PRESSURE[*3]	dB(A)	71	71	71	71	72	73	73	73	73	73	73	73
SOUND POWER LEVEL IN COOLING[*4*5]	dB(A)	104	104	104	104	105	106	106	106	106	106	106	106
SIZE AND WEIGHT													
WIDTH[*6]	mm	7750	7750	9000	9000	9150	10400	10400	11650	11650	11650	12900	12900
DEPTH[*6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[*6]	mm	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640
OPERATING WEIGHT[*6]	kg	7870	7900	8430	8500	8860	9470	9610	12050	12110	12120	12710	12720

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

FX2 R513A Air Cooled Chiller

(310kW to 960kW)

Low Noise Version (/SL-K)

The Climaveneta range of **FX2** units are air cooled chillers with screw compressors, designed for delivering high efficiencies in comfort applications. Available with lower GWP R513A refrigerant, the new range features 2 or 3 compressors in multi-circuit configuration.

Key Features & Benefits

- Compact design
- Low noise
- Energy efficient
- Lower GWP R513A refrigerant

MODEL		0322	0352	0402	0472	0512	0572	0652	0702	0772	0852	0902	1002
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE													
COOLING ONLY (GROSS VALUE)													
COOLING CAPACITY[*1]	kW	310.2	358.4	410.2	450.1	511.7	557.4	621.9	713.0	770.4	828.6	901.6	959.9
TOTAL POWER INPUT[*1]	kW	103.1	115.1	128.2	148.9	164.4	177.9	211.2	226.9	251.5	276.9	300.1	321.0
EER[*1]	kW/kW	3.009	3.114	3.200	3.023	3.113	3.133	2.945	3.142	3.063	2.992	3.004	2.990
ESEER[*1]	kW/kW	4.400	4.440	4.480	4.490	4.470	4.480	4.470	4.450	4.470	4.440	4.460	4.470
COOLING ONLY (EN14511 VALUE)													
COOLING CAPACITY[*1*2]	kW	309.8	358.0	409.8	449.7	511.2	556.9	621.3	712.4	769.7	828.0	901.0	959.1
EER[*1*2]	kW/kW	2.980	3.080	3.160	2.990	3.080	3.100	2.910	3.110	3.020	2.960	2.970	2.960
ESEER[*1*2]		4.270	4.280	4.320	4.310	4.320	4.310	4.300	4.290	4.280	4.280	4.300	4.300
ENERGY EFFICIENCY													
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)													
AMBIENT REFRIGERATION													
$P_{RATED,C}$[*7]	kW	310	358	410	450	511	557	621	712	770	828	901	959
SEER[*7*8]		4.46	4.50	4.56	4.55	4.57	4.55	4.55	4.56	4.58	4.56	4.58	4.58
PERFORMANCE η_s[*7*9]	%	175	177	179	179	180	179	179	180	180	180	180	180
EXCHANGERS													
HEAT EXCHANGER USER SIDE IN REFRIGERATION													
WATER FLOW[*1]	l/s	14.83	17.14	19.62	21.53	24.47	26.66	29.74	34.10	36.84	39.63	43.12	45.90
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	25.7	34.3	38.5	46.4	36.6	43.5	43.2	45.2	52.8	43.5	45.5	51.6
REFRIGERANT CIRCUIT													
COMPRESSORS NR.	No.	2	2	2	2	2	2	2	2	2	2	2	2
CIRCUITS	No.	2	2	2	2	2	2	2	2	2	2	2	2
REFRIGERANT CHARGE	kg	57.0	66.0	76.0	81.0	93.0	103	113	131	140	150	163	173
NOISE LEVEL													
SOUND PRESSURE[*3]	dB(A)	55	55	56	56	57	57	57	57	58	58	59	59
SOUND POWER LEVEL IN COOLING[*4*5]	dB(A)	87	87	88	88	89	89	89	90	91	91	92	92
SIZE AND WEIGHT													
WIDTH[*6]	mm	2750	4000	4000	4000	5250	5250	5250	6500	6500	6500	7750	7750
DEPTH[*6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[*6]	mm	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640
OPERATING WEIGHT[*6]	kg	3380	3830	3960	4000	5270	5680	5720	6600	7090	7590	8100	8270

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

FX2 R513A Air Cooled Chiller

(1,098kW to 1,773kW)

Low Noise Version (/SL-K)

The Climaveneta range of **FX2** units are air cooled chillers with screw compressors, designed for delivering high efficiencies in comfort applications. Available with lower GWP R513A refrigerant, the new range features 2 or 3 compressors in multi-circuit configuration.

Key Features & Benefits

- Compact design
- Low noise
- Energy efficient
- Lower GWP R513A refrigerant

MODEL		1052	1102	1152	1222	1262	1322	1402	1503	1593	1663	1773	1883
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE													
COOLING ONLY (GROSS VALUE)													
COOLING CAPACITY[*1]	kW	1037	1098	1131	1222	1257	1284	1386	1451	1573	1645	1714	1773
TOTAL POWER INPUT[*1]	kW	341.7	359.9	347.4	388.0	415.0	441.0	467.8	483.3	519.5	550.6	593.8	620.9
EER[*1]	kW/kW	3.035	3.051	3.256	3.149	3.029	2.912	2.963	3.002	3.028	2.988	2.886	2.856
ESEER[*1]	kW/kW	4.450	4.480	4.480	4.480	4.450	4.470	4.480	4.450	4.470	4.440	4.440	4.450
COOLING ONLY (EN14511 VALUE)													
COOLING CAPACITY[*1*2]	kW	1037	1097	1130	1222	1256	1283	1385	1451	1572	1644	1714	1772
EER[*1*2]	kW/kW	3.000	3.020	3.210	3.110	3.000	2.880	2.930	2.970	2.990	2.960	2.860	2.820
ESEER[*1*2]		4.290	4.300	4.290	4.290	4.290	4.310	4.290	4.290	4.290	4.300	4.280	4.280
ENERGY EFFICIENCY													
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)													
AMBIENT REFRIGERATION													
$P_{RATED,C}$[*7]	kW	1037	1097	1130	1222	1256	1283	1385	1451	1572	1644	1714	1772
SEER[*7*8]		4.56	4.59	4.62	4.62	4.58	4.55	4.58	4.59	4.61	4.59	4.57	4.57
PERFORMANCE η_s[*7*9]	%	179	180	182	182	180	179	180	180	182	180	180	180
EXCHANGERS													
HEAT EXCHANGER USER SIDE IN REFRIGERATION													
WATER FLOW[*1]	l/s	49.60	52.51	54.06	58.46	60.10	61.40	66.26	69.40	75.22	78.65	81.99	84.78
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	46.6	52.2	55.3	60.7	48.2	50.3	58.6	48.7	57.2	44.1	47.9	55.0
REFRIGERANT CIRCUIT													
COMPRESSORS NR.	No.	2	2	2	2	2	2	2	3	3	3	3	3
CIRCUITS	No.	2	2	2	2	2	2	2	3	3	3	3	3
REFRIGERANT CHARGE	kg	187	199	207	222	228	232	251	263	285	297	308	318
NOISE LEVEL													
SOUND PRESSURE[*3]	dB(A)	60	60	61	61	61	61	61	61	61	61	61	62
SOUND POWER LEVEL IN COOLING[*4*5]	dB(A)	93	93	94	94	94	94	94	94	94	94	94	95
SIZE AND WEIGHT													
WIDTH[*6]	mm	9000	9000	10250	10250	10400	10400	11650	11650	12900	12900	12900	12900
DEPTH[*6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[*6]	mm	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640
OPERATING WEIGHT[*6]	kg	8920	9060	9640	9710	10060	10150	10720	12980	13560	13560	13650	13670

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

FX2 R513A Air Cooled Chiller

(340kW to 1,372kW)

High Efficiency Version (/E)

The Climaveneta range of **FX2** units are air cooled chillers with screw compressors, designed for delivering high efficiencies in comfort applications. Available with lower GWP R513A refrigerant, the new range features 2 or 3 compressors in multi-circuit configuration.

Key Features & Benefits

- Compact design
- Low noise
- Energy efficient
- Lower GWP R513A refrigerant

MODEL		0352	0402	0452	0472	0572	0602	0652	0702	0772	0852	0902	1002	1052	1152	1222	1322	1402
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE																		
COOLING ONLY (GROSS VALUE)																		
COOLING CAPACITY[*1]	kW	340.3	389.8	444.9	485.0	570.3	619.0	658.9	698.5	756.1	844.7	918.1	1001	1061	1133	1207	1311	1372
TOTAL POWER INPUT[*1]	kW	98.73	113.1	128.5	142.9	163.3	178.3	189.4	200.5	222.8	246.7	267.5	289.5	310.9	331.5	352.4	390.1	409.2
EER[*1]	kW/kW	3.448	3.447	3.462	3.394	3.492	3.472	3.479	3.484	3.394	3.424	3.432	3.458	3.413	3.418	3.425	3.361	3.353
ESEER[*1]	kW/kW	4.610	4.630	4.520	4.620	4.610	4.610	4.620	4.640	4.620	4.610	4.630	4.680	4.630	4.650	4.650	4.580	4.610
COOLING ONLY (EN14511 VALUE)																		
COOLING CAPACITY[*1*2]	kW	339.9	389.4	444.5	484.6	569.8	618.5	658.4	697.9	755.5	844.1	917.4	1000	1060	1132	1206	1310	1371
EER[*1*2]	kW/kW	3.410	3.410	3.430	3.360	3.450	3.440	3.440	3.440	3.360	3.390	3.390	3.410	3.370	3.370	3.380	3.330	3.320
ESEER[*1*2]		4.470	4.470	4.490	4.490	4.440	4.470	4.470	4.470	4.470	4.450	4.450	4.450	4.450	4.470	4.440	4.440	4.450
ENERGY EFFICIENCY																		
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)																		
AMBIENT REFRIGERATION																		
$P_{RATED,C}$[*7]	kW	340	389	444	485	570	618	658	689	756	844	917	1000	1060	1132	1206	1310	1371
SEER[*7*8]		4.63	4.64	4.69	4.66	4.72	4.64	4.66	4.73	4.71	4.71	4.74	4.79	4.72	4.74	4.74	4.66	4.69
PERFORMANCE η_s[*7*9]	%	182	182	185	183	186	183	183	186	185	185	187	188	186	187	187	183	185
EXCHANGERS																		
HEAT EXCHANGER USER SIDE IN REFRIGERATION																		
WATER FLOW[*1]	l/s	16.27	18.64	21.27	23.20	27.27	29.60	31.51	33.40	36.16	40.40	43.90	47.88	50.72	54.17	57.73	62.68	65.62
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	26.5	34.8	27.7	32.9	41.4	34.1	38.6	43.4	36.3	40.0	47.2	61.2	48.7	53.2	59.2	39.7	43.5
REFRIGERANT CIRCUIT																		
COMPRESSORS NR.	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
CIRCUITS	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
REFRIGERANT CHARGE	kg	65.0	76.0	86.0	94.0	109	117	126	134	143	160	173	188	200	213	227	244	258
NOISE LEVEL																		
SOUND PRESSURE[*3]	dB(A)	66	67	67	67	67	67	68	68	68	68	69	69	70	70	70	70	71
SOUND POWER LEVEL IN COOLING[*4*5]	dB(A)	98	99	99	99	99	100	101	101	101	101	102	102	103	103	103	103	104
SIZE AND WEIGHT																		
WIDTH[*6]	mm	4000	5250	5250	5250	6500	6500	7750	7750	7750	9000	9000	10250	10250	11650	11650	11650	12900
DEPTH[*6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[*6]	mm	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640
OPERATING WEIGHT[*6]	kg	3660	4270	4390	4440	5660	5960	6420	6550	6640	7530	8060	8570	8920	9430	9550	10490	11150

Notes:

1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

Eurovent Certified Data

FX2
HFO1234ze
Air Cooled Chiller

(255kW to 1,561kW)

High Efficiency Version (/A)

The Climaveneta range of **FX2** units are air cooled chillers with screw compressors, designed for delivering high efficiencies in comfort applications. Available with HFO1234ze refrigerant, the new range features 2 or 3 compressors in multi-circuit configuration.

Key Features & Benefits

- Compact design
- Low noise
- Energy efficient
- Low GWP HFO1234ze refrigerant

CLIMAVENETA

MODEL		0252	0302	0322	0352	0402	0452	0512	0572	0652	0772	0902	0972	1052	1152	1243	1373	1503	1593
POWER SUPPLY	V/ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
PERFORMANCE																			
COOLING ONLY (GROSS VALUE)																			
COOLING CAPACITY[*1]	kW	255.3	289.9	315.1	365.0	405.4	445.9	519.7	573.4	679.0	781.7	903.5	967.9	1058	1145	1239	1362	1488	1561
TOTAL POWER INPUT[*1]	kW	75.98	87.26	94.43	106.7	121.7	135.2	156.8	172.2	204.8	235.6	276.0	287.2	319.7	343.6	373.1	415.8	446.3	473.4
EER[*1]	kW/kW	3.359	3.321	3.338	3.421	3.331	3.298	3.314	3.330	3.315	3.318	3.274	3.370	3.309	3.332	3.321	3.276	3.334	3.297
ESEER[*1]	kW/kW	4.530	4.500	4.560	4.480	4.500	4.590	4.530	4.570	4.530	4.550	4.530	4.540	4.590	4.630	4.550	4.570	4.590	4.600
COOLING ONLY (EN14511 VALUE)																			
COOLING CAPACITY[*1*2]	kW	255.0	289.5	314.7	364.7	405.0	445.4	519.2	572.9	678.4	781.0	902.9	967.1	1057	1145	1238	1361	1487	1560
EER[*1*2]	kW/kW	3.320	3.280	3.310	3.390	3.290	3.250	3.280	3.290	3.270	3.270	3.240	3.330	3.270	3.290	3.280	3.240	3.290	3.250
ENERGY EFFICIENCY																			
SEASONAL EFFICIENCY IN COOLING (Reg. EU 2016/2281)																			
AMBIENT REFRIGERATION																			
$P_{RATED,C}$[*7]	kW	255	290	315	365	405	445	519	573	678	781	903	967	1057	1145	1238	1361	1487	1560
SEER[*7*8]		4.55	4.52	4.61	4.54	4.56	4.61	4.56	4.61	4.60	4.63	4.61	4.64	4.65	4.69	4.63	4.58	4.67	4.69
PERFORMANCE η_s[*7*9]	%	179	178	181	178	179	181	179	182	181	182	181	183	183	185	182	180	184	185
EXCHANGERS																			
HEAT EXCHANGER USER SIDE IN REFRIGERATION																			
WATER FLOW[*1]	l/s	12.21	13.86	15.07	17.46	19.39	21.32	24.85	27.42	32.47	37.38	43.21	46.28	50.57	54.77	59.24	65.14	71.14	74.65
PRESSURE DROP AT THE HEAT EXCHANGER	kPa	38.1	36.3	23.9	32.1	39.7	48.0	34.3	41.8	51.5	54.3	35.3	52.5	48.4	53.3	46.9	46.2	55.1	60.7
REFRIGERANT CIRCUIT																			
COMPRESSORS NR.	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3
CIRCUITS	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3
REFRIGERANT CHARGE	kg	51.0	55.0	59.0	67.0	72.0	81.0	93.0	98.0	123	142	152	160	191	195	216	222	232	248
NOISE LEVEL																			
SOUND PRESSURE[*3]	dB(A)	66	67	67	68	68	68	68	70	69	70	71	71	73	73	73	73	73	73
SOUND POWER LEVEL IN COOLING[*4*5]	dB(A)	98	99	99	100	100	100	100	102	102	103	104	104	106	106	106	106	106	106
SIZE AND WEIGHT																			
WIDTH[*6]	mm	4000	4000	4000	4000	4000	5250	5250	5250	6500	7750	7750	9000	10400	10400	11650	11650	12900	12900
DEPTH[*6]	mm	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260	2260
HEIGHT[*6]	mm	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640
OPERATING WEIGHT[*6]	kg	3540	3560	3660	3810	4470	4990	5190	5250	6710	7650	7900	8340	9370	9440	11380	12070	12680	12930

Notes:
1. Plant (side) cooling exchanger water (in/out) 12°C/7°C; Source (side) heat exchanger air (in) 35°C.
2. Values in compliance with EN14511.
3. Average sound pressure level at 10m distance, unit in a free field on a reflective surface; non-binding value calculated from the sound power level.
4. Sound power on the basis of measurements taken in compliance with ISO 9614.
5. Sound power level in cooling, outdoors.
6. Unit in standard configuration, without optional accessories.
7. Parameter calculated according to [REGULATION (EU) N. 2016/2281].
8. Seasonal energy efficiency ratio.
9. Seasonal space cooling energy efficiency.

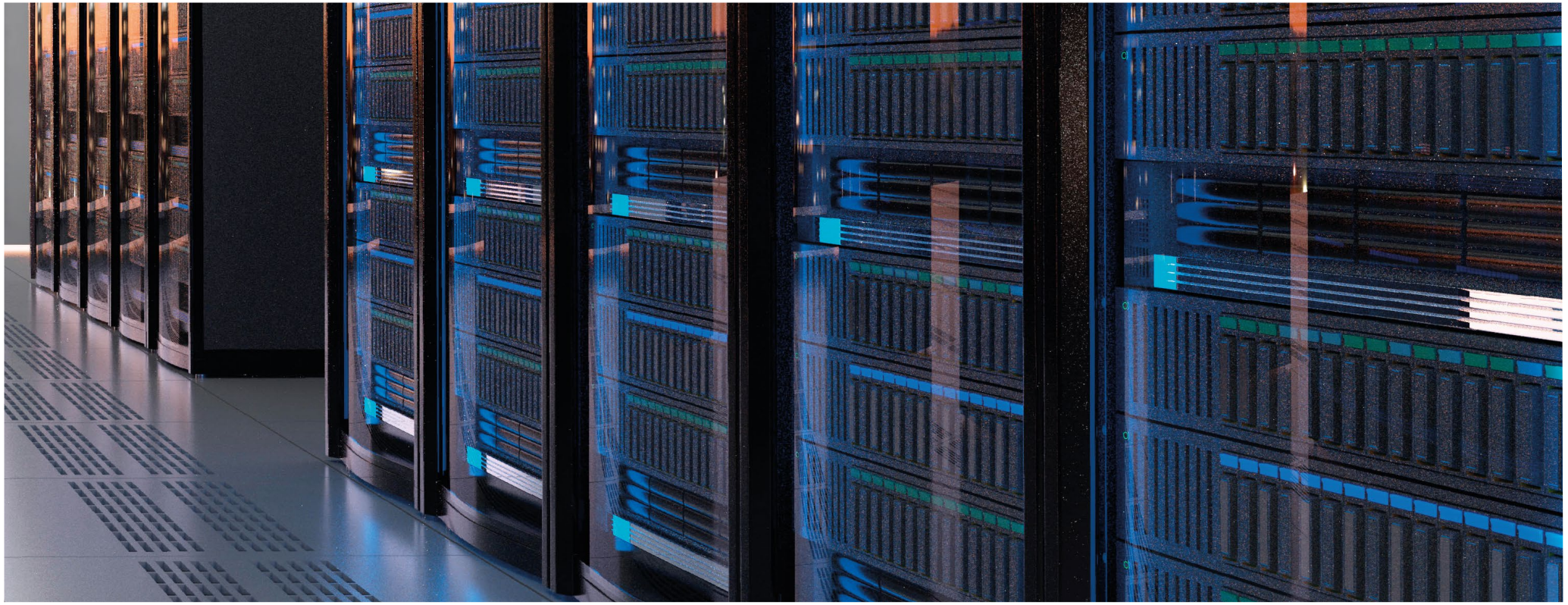
Eurovent Certified Data

Commercial Heat Pumps & Chillers Accessories / Optional Extras

DESCRIPTION	MODEL REF.
e-Series	
Fin Guard for EACV-M / EAHV-M	EC-130FG
Ecodan CRHV	
Main Pipework Thermistor	TW-TH16
Differential Pressure Switch for Water Systems	KS10-EP100S
Wired Remote Controller	PAR-W21MAA-J
Centralised Controller	AE-200E
AE-200E Wall Mounted Box - for Wall Mounting	PAC-YG82TB
External Temperature Sensor and Solar Guard	TMP-O
Ecodan CAHV	
Main Pipework Thermistor	TW-TH16
Differential Pressure Switch for Water Systems	KS10-EP100S
Wired Remote Controller	PAR-W31MAA
Centralised Controller	AE-200E
AE-200E Wall Mounted Box - for Wall Mounting	PAC-YG82TB
Ecodan QAHV	
Main Pipework Thermistor	TW-TH16
Centralised Controller	AE-200E
AE-200E Wall Mounted Box - for Wall Mounting	PAC-YG82TB
Secondary Side Control Circuit Kit	Q-1SCK
i-BX	
Storage tank 30 litres	BTB30
Storage tank 60 litres	BTB60
Epoxy coated coil	
i-BX N-RS Serial card RS485 for ModBus	

IT Cooling

Close Control Computer Room
Air Conditioning Systems



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Close Control Air Conditioning Systems

Precise Temperature and Humidity Control

Complex IT environments are often characterised by variable cooling loads, which require a high cooling capacity at full load in order to allow the IT equipment to operate correctly when it is most needed.

Our IT Cooling range makes it possible to keep temperature and humidity constant, even with very wide load variations, ensuring the correct room conditions all year round.

The perfect match between efficiency and reliability

With our IT cooling systems, both efficiency and reliability are paramount throughout all the stages of research, design and manufacturing. By using this approach along **with over 50 years of manufacturing experience within the IT cooling sector,** we are able to offer tailor made IT Cooling solutions.

Close Control Air Conditioning Systems

The need for high sensible cooling and close control of both temperatures and humidity in critical IT environments has never been higher.

Mitsubishi Electric and RC IT cooling systems have been designed to fulfil this requirement, reducing operational costs in the process through the use of highly efficient technology, with many systems incorporating inverter control as standard.

Mitsubishi Electric Perimeter Cooling units

Mitsubishi Electric's Close Control systems are specifically designed for rooms with a high sensible cooling load that require precise temperature and humidity control. Because of the need for close control 24 hours a day, 365 days a year, an inverter driven compressor has been incorporated into the outdoor units, maximising the energy efficiency of the system.

- Connects to Mr Slim Power Inverter outdoor units
- Easily integrates into existing and new control networks
- Quick recovery following power failure
- High Sensible cooling
- Close control of supply temperature
- Back-up and rotate function available
- Easy to install - no space required at the rear of the unit
- Inverter driven capacity control

RC Perimeter Cooling Units

The RC IT Cooling range of perimeter, upflow or downflow units have been designed to cool new and existing IT rooms efficiently and effectively. The perimeter range offers a broad range of unit types to meet any IT perimeter cooling demand.

- Precise temperature and humidity control
- New generation EC PUL (Polymeric ULtralight) high efficiency fans
- DC inverter technology
- Free cooling available
- Dual fluid circuits for the highest reliability
- Advanced control systems

MSY-TP

R32 High SHF Wall Mounted System

Inverter (Cooling Only)

The M Series **MSY-TP** R32 High SHF wall mounted system blends energy efficiency with a modern design. This cooling only unit has a high sensible cooling capacity, making it ideal for small computer rooms and areas that require a greater degree of sensible cooling. The MSY-TP also utilises lower GWP R32 refrigerant.

Key Features & Benefits

- Compact and stylish white design
- High sensible cooling ability
- Weekly timer provides greater control of scheduling
- Cooling down to -25ºC outdoor air temperature

R32

MSY-TP - INDOOR UNITS		MSY-TP35VF	MSY-TP50VF
CAPACITY (kW)	Cooling (nominal)	3.5 (1.5-4.0)	5.0 (1.5-5.7)
	Cooling (UK)	3.47 (1.48-3.96)	4.96 (1.48-5.65)
SHF (nominal)		0.98	0.82
EER (nominal)		4.61	3.45
SEER (BS EN14825)		9.00	8.00
ErP ENERGY EFFICIENCY CLASS	Cooling	A+++	A++
AIRFLOW (l/s)	Cooling - Lo-Mi-Hi-SHi	168-193-228-273	168-193-228-273
PIPE SIZE mm (in)	Gas	9.52 (3/8")	9.52 (3/8")
	Liquid	6.35 (1/4")	6.35 (1/4")
SOUND PRESSURE LEVEL (dBA)	Cooling - Lo-Mi-Hi-SHi	31-36-40-45	31-36-40-45
SOUND POWER LEVEL (dBA)		60	60
DIMENSIONS (mm)	Width x Depth x Height	923 x 250 x 305	923 x 250 x 305
WEIGHT (kg)		12.5	12.5
ELECTRICAL SUPPLY		220-240v, 50Hz	220-240v, 50Hz
FUSE RATING (BS88) – HRC (A)		10	10
INTERCONNECTING CABLE No. CORES		4	4

MUY-TP - OUTDOOR UNITS		MUY-TP35VF	MUY-TP50VF
SOUND PRESSURE LEVEL (dBA)	Cooling	45	47
SOUND POWER LEVEL (dBA)	Cooling	58	61
WEIGHT (kg)		34	34
DIMENSIONS (mm)	Width x Depth x Height	800 x 285 x 550	800 x 285 x 550
ELECTRICAL SUPPLY		Fed by Indoor Unit	Fed by Indoor Unit
PHASE		Single	Single
SYSTEM POWER INPUT (kW)	Cooling (nominal)	0.76	1.45
	Cooling (UK)	0.64	1.12
STARTING CURRENT (A)		3.6	6.4
SYSTEM RUNNING CURRENT (A)	Cooling [MAX]	3.6 [9.2]	6.4 [9.2]
FUSE RATING (BS88) – HRC (A)		10	10
MAINS CABLE No. CORES		3	3
MAX PIPE LENGTH (m)		20	20
MAX HEIGHT DIFFERENCE (m)		12	12
CHARGE REFRIGERANT (kg) / CO_2 EQUIVALENT (t) - R32 (GWP 675)		0.85 / 0.57	0.85 / 0.57
MAX ADDITIONAL REFRIGERANT (kg) / CO_2 EQUIVALENT (t) - R32 (GWP 675)		0.13 / 0.09	0.13 / 0.09

Notes: The SHF figures are based on nominal conditions. Requires an additional MAC-334IF-E interface and PAR-41MAA wired remote controller

s-MEXT DX

R32 Close Control System

High precision air conditioners are ideal for applications where high sensible cooling and close control of temperature and humidity are required. **s-MEXT** takes advantage of more than 50 years experience of the RC brand within the IT Cooling market, coupled with Mitsubishi Electric renowned quality standards. The split cooling package consists of the indoor s-MEXT high precision air conditioner connected to a Mr Slim R32 Power Inverter outdoor unit. The result is a full inverter split system, designed according to the best quality standards and dedicated to the most reliable IT environments.

R32

Key Features & Benefits

- High efficiency achieved through Mr Slim Power Inverter technology
- EC plug fans fitted as standard
- Pipe runs up to 100m
- Full function - Humidifier & Heater options
- Available in Upflow [over] and Downflow [under] variants

POWER INVERTER

CRAC UNITS (Computer Room Air Conditioning)			s-MEXT-G00-DX-F1-006-S	s-MEXT-G00-DX-F1-009-S	s-MEXT-G00-DX-F1-013-S	s-MEXT-G00-DX-F2-022-S	s-MEXT-G00-DX-F3-028-S	s-MEXT-G00-DX-F3-038-D	s-MEXT-G00-DX-F3-044-D
PERFORMANCE									
COOLING CAPACITY*1	Total	kW	6.81	10.1	11.9	22.5	27.4	38.9	42.3
	Sensible	kW	6.08	8.88	10.2	19.3	25.4	33.6	35.2
SHR*2			0.89	0.88	0.86	0.86	0.93	0.86	0.83
EER			4.67	4.3	3.49	3.16	2.61	3.56	2.87
REFRIGERANT									
REFRIGERANT		Type	R32	R32	R32	R32	R32	R32	R32
REFRIGERANT CIRCUITS		No.	1	1	1	1	1	2	2
CONNECTIONS									
REFRIGERANT PIPES DIAMETER - GAS		Ø Inch	5/8"	5/8"	5/8"	1"	1"	1"	1"
REFRIGERANT PIPES DIAMETER - LIQUID		Ø Inch	3/8"	3/8"	3/8"	1/2"	1/2"	3/8"	1/2"
CONDENSATE*5		Ø mm	19	19	19	19	19	19	19
POWER SUPPLY WIRING CABLE*6		No. x mm^2	3G1.5	3G1.5	3G1.5	3G1.5	5G1.5	5G1.5	5G1.5
FANS									
FAN TYPE			EC BASIC	EC BASIC	EC BASIC	EC BASIC	EC BASIC	EC BASIC	EC BASIC
EC SUPPLY FAN		No.	1	1	1	2	1	1	1
AIRFLOW		m^3/h	2,000	2,500	2,800	5,000	7,600	8,800	10,000
NOMINAL EXTERNAL STATIC PRESSURE		Pa	20	20	20	20	20	20	20
POWER INPUT*3		kW	0.21	0.35	0.47	0.7	0.64	1.43	1.96
ELECTRICAL HEATER									
QUANTITY		No.	1	1	1	1	1	1	1
STEPS		No.	2	2	2	3	3	3	3
ELECTRICAL POWER ABS.		kW	2.6	2.6	2.6	3.9	9	9	9
MAX ABSORBED CURRENT		A	11.3	11.3	11.3	17	13	13	13
HUMIDIFIER									
QUANTITY		No.	1	1	1	1	1	1	1
CAPACITY		kg/h	3	3	3	3	8	8	8
ELECTRICAL POWER ABS.		kW	2.3	2.3	2.3	2.3	6	6	6
MAX ABSORBED CURRENT		A	14.1	14.1	14.1	14.1	12.4	12.4	12.4
SOUND LEVEL [ISO 3744]*4									
PRESSURE LEVEL		dB(A)	53	57	61	60	60	63	67
POWER LEVEL		dB(A)	69	73	77	76	76	79	83
ELECTRICAL DATA									
POWER SUPPLY		V/ph/Hz	230/1/50	230/1/50	230/1/50	230/1/50	400/3+N/50	400/3+N/50	400/3+N/50
STARTING CURRENT		A	2	2	2.8	3.3	3.4	3.8	3.8
MAX ABSORBED CURRENT		A	27.7	27.7	28.2	35	28.8	29.2	29.2
DIMENSIONS AND WEIGHT									
DIMENSIONS	Width	mm	600	600	600	1000	1000	1000	1000
	Depth	mm	500	500	500	500	890	890	890
	Height	mm	1,980	1,980	1,980	1,980	1,980	1,980	1,980
NET WEIGHT	Upflow (O)	kg	103	106	110	165	237	237	237
	Downflow (U)	kg	110	115	120	175	247	247	247

OUTDOOR UNITS			PUZ-ZM60VHA2	PUZ-ZM100VKA2	PUZ-ZM125YKA2	PUZ-ZM250YKA2	PUZ-ZM250YKA2	2 x PUZ-ZM200YKA2	2 x PUZ-ZM250YKA2
SOUND PRESSURE LEVEL (dB(A))		Cooling	47	49	50	59	59	59	59
WEIGHT (kg)			67	105	114	138	138	137	138
DIMENSIONS (mm)		Width x Depth x Height	950 x 330+25 x 943	1050 x 330+40 x 1338	1050 x 330+40 x 1338	1050 x 330+40 x 1338	1050 x 330+40 x 1338	1050 x 330+40 x 1338	1050 x 330+40 x 1338
ELECTRICAL SUPPLY			220-240v, 50Hz	220-240v, 50Hz	380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz
PHASE			Single	Single	Three	Three	Three	Three	Three
OUTDOOR POWER INPUT (kW)		Cooling (nominal)	1.25	2.00	2.94	6.41	6.41	4.73	6.41
STARTING CURRENT (A)			6.0	13.0	6.0	12.3	12.3	8.67	12.3
MAX RUNNING CURRENT (A)		Cooling	19.2	27.0	10.0	22.5	22.5	22.5	22.5
FUSE RATING (BS88) - HRC (A)			25	32	16	32	32	32	32
MAINS CABLE		No. Cores	3	3	5	5	5	5	5
MAX PIPE LENGTH (m)			55	100	100	100	100	100	100
MAX HEIGHT DIFFERENCE (m)			30	30	30	30	30	30	30
CHARGE REFRIGERANT (kg) / CO_2 EQUIVALENT (t)		R32 (GWP 675)	2.80 / 1.89 (30m)	3.60 / 2.43 (40m)	3.60 / 2.43 (40m)	6.80 / 4.59 (30m)	6.80 / 4.59 (30m)	6.30 / 4.25 (30m)	6.80 / 4.59 (30m)
MAX ADDITIONAL REFRIGERANT (kg) / CO_2 EQUIVALENT (t)		R32 (GWP 675)	0.80 / 0.54	2.40 / 1.62	2.40 / 1.62	2.40 / 1.62	2.40 / 1.62 (70m)*7	1.60 / 1.08 (70m)*7	2.40 / 1.62 (70m)*7
GUARANTEED OPERATING RANGE (°C)		Max Temp	46	46	46	46	46	46	46
		Min Temp*8	-15	-15	-15	-15	-15	-15	-15

Notes:
The cooling capacity does not consider the supply fan motor thermal load.
*1 Gross value based on return air of 27ºC - 47%RH; Ambient Temperature 35ºC; ESP=20PA; Interconnecting pipework length 5m. *2 SHR = Sensible cooling capacity / Total cooling capacity.
*3 Corresponding to the nominal ESP=20Pa. *4 Sound pressure level on air return at 1m.
*5 Rubber pipe - referred to internal diameter. *6 Minimum section.
*7 For 70 to 100m please consult the databook.
*8 Optional air protection guide is required for temperatures below -5°C.
These units contain <HFC R32 [GWP_{100} 675]> fluorinated greenhouse gas.

x-MEXT DX

R410A Close Control System

The **x-MEXT DX** is a highly efficient computer room air conditioner (CRAC), incorporating a wide range of options and configurations, and manufactured to the highest Mitsubishi Electric quality and reliability standards. The x-MEXT includes BLDC Mitsubishi Electric compressors, microchannel heat exchanger options, and an EC fan on the indoor unit with an impeller made of recycled plastic, that is specifically design for the x-MEXT range.

Key Features & Benefits

- Perimeter unit with upflow (over) and downflow (under) configurations
- Full inverter technology with BLDC Mitsubishi Electric compressors and a proprietary fan design
- Excellent efficiency with load matching control
- Advanced in-house developed control software
- Intelligent LAN controls for up to 15 units
- Interface cards available with many common BEMS protocols
- Automatic transfer switches and fast restart options
- Optional low ambient temperature kit for extreme conditions
- Full function humidifier and heating options
- Optional dampers, floor stands and discharge plenums

CRAC UNITS (Computer Room Air Conditioning)			x-MEXT-i-G02 -DX-U/O-029	x-MEXT-i-G02 -DX-U/O-040	x-MEXT-i-G02 -DX-U/O-051	x-MEXT-i-G02 -DX-U/O-052	x-MEXT-i-G02 -DX-U/O-067	x-MEXT-i-G02 -DX-U/O-076	x-MEXT-i-G02 -DX-U/O-078	x-MEXT-i-G02 -DX-U/O-090	x-MEXT-i-G02 -DX-U/O-108	x-MEXT-i-G02 -DX-U/O-140
PERFORMANCE - WITH CONDENSERS LISTED												
COOLING CAPACITY*1	Total	kW	27.7	38.8	49.5	50.4	63.9	74.4	75.9	87.6	104.0	132.0
SHR	Nominal		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EER*2	Nominal		3.45	3.32	2.93	3.55	3.15	3.14	3.63	3.38	3.12	2.61
FANS												
AIRFLOW		m^3/h	8,000	10,500	11,000	14,750	17,000	17,000	21,500	22,500	25,500	27,000
FAN TYPE			Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC
FANS		No.	1	1	1	2	2	2	2	2	3	3
POWER INPUT		kW	0.80	1.61	1.85	2.16	3.20	3.22	3.21	3.66	5.15	6.24
MAX EXTERNAL STATIC PRESSURE		Pa	364	299	243	237	173	169	300	245	141	84
REFRIGERANT												
REFRIGERANT			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
REFRIGERANT CIRCUITS		No.	1	1	1	1	1	1	2	2	2	2
COMPRESSOR(S) TYPE	Operating Mode		i	i	i	i	1 + i	1 + i	2(i)	2(i)	2(1 + i)	2(1 + i)
FILTERS												
FILTERS		No.	2	2	2	3	3	3	4	4	4	4
EFFICIENCY CLASS*3		Coarse	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
SOUND LEVEL												
PRESSURE LEVEL*4	Downflow [under] / Upflow [over]	dB(A)	50 / 69	47 / 65	47 / 64	48 / 66	47 / 65	47 / 64	49 / 68	49 / 67	50 / 69	52 / 69
POWER LEVEL*4	Downflow [under] / Upflow [over]	dB(A)	67 / 86	64 / 82	64 / 81	65 / 83	64 / 82	64 / 81	67 / 86	67 / 85	68 / 87	70 / 87
ELECTRICAL												
POWER SUPPLY		V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
MAX RUNNING CURRENT	FLA	A	30.6	41.5	41.5	47	57.4	57.4	82	82	108	108
DIMENSIONS AND WEIGHT												
FRAME SIZE			M	M	M	L	L	L	XL	XL	XL	XL
DIMENSIONS	Width	mm	1,142	1,142	1,142	1,600	1,600	1,600	2,550	2,550	2,550	2,550
	Depth	mm	885	885	885	885	885	885	885	885	885	885
	Height	mm	1,980	1,980	1,980	1,980	1,980	1,980	1,980	1,980	1,980	1,980
NET WEIGHT	Upflow [over]	kg	363	372	375	459	502	503	799	806	915	916
	Downflow [under]	kg	372	380	383	477	520	521	839	846	955	957
CONNECTIONS*5												
REFRIGERANT PIPE DIAMETER	Gas	Ø mm	18	22	22	22	28	28	2 x 22	2 x 22	2 x 28	2 x 28
	Liquid	Ø mm	16	18	18	18	18	18	2 x 18	2 x 18	2 x 18	2 x 18
CONDENSATE DRAIN*6		Ø mm	19	19	19	19	19	19	19	19	19	19

OUTDOOR REMOTE CONDENSER(S)*7			MEGR-MC-E 034	MEGR-MC-E 049	MEGR-MC-E 067	MEGR-MC-E 067	MEGR-MC-E 082	MEGR-MC-E 110	2 x MEGR-MC-E 049	2 x MEGR-MC-E 055	2 x MEGR-MC-E 067	2 x MEGR-MC-E 082
FAN TYPE*8			Axial EC	Axial EC	Axial EC	Axial EC	Axial EC	Axial EC	Axial EC	Axial EC	Axial EC	Axial EC
FANS		No.	1	2	2	2	3	4	2	2	2	3
AIRFLOW		m^3/h	9,550	15,555	19,000	19,000	25,000	36,600	15,555	18,300	19,000	25,000
POWER SUPPLY		V/ph/Hz	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50	400 / 3 / 50
MAX RUNNING CURRENT	FLA	A	1.92	3.84	3.84	3.84	5.76	7.68	3.84	3.84	3.84	5.76
SOUND LEVEL*4	Pressure	dB(A)	56	54	58	58	59	59	54	57	58	59
DIMENSIONS*9	Width	mm	1,140	1,140	1,140	1,140	1,140	2,200	1,140	1,140	1,140	1,140
	Length	mm	1,360	2,040	2,600	2,600	2,600	2,280	2,040	2,040	2,600	2,600
	Height	mm	1,168	1,168	1,168	1,168	1,168	1,168	1,168	1,168	1,168	1,168
NET WEIGHT		kg	50	82	96	96	114	169	82	82	96	114
CONNECTION SIZE*5	Gas	Ømm	18	22	22	22	28	28	22	22	22	28
REFRIGERANT PIPE DIAMETER	Liquid	Ømm	16	18	18	18	22	22	18	18	18	22

Notes:

*1 Gross Total Values shown for Downflow [under] airflow configuration. Operating Conditions: Return Air Temperature: 30°C / Relative Humidity: 35% / Ambient: 35°C / External Static Pressure: 20Pa

*2 EER for indoor unit only.

*3 As per ISO EN 16890. Other filter options are available.

*4 Average sound level, at 1m distance, unit in a free field on a reflective surface according to ISO 3744.

*5 Equipment connection only; consult x-MEXT / MEGR databooks for interconnecting pipework sizing.

*6 Rubber pipe - refers to internal diameter.

*7 All data is "per condenser". Typical condenser arrangement shown, other condenser sizing combinations are available.

*8 Other type of fans are available.

*9 Based on vertical airflow direction.

These units contain <HFC R410A [GWP_{100} 2088]> fluorinated greenhouse gas.

w-MEXT

Chilled Water
Close Control System

The **w-MEXT** chilled water range incorporates the latest EC Plug fans, advanced controls software and maximises the coil area to bring high efficiency and high SHR performance to smaller data centre and server room environments.

Group controls and smart control strategies are not reserved for larger environments: w-MEXT can operate with intelligent integrated LAN functions for active redundancy and also integrate with the Hydronic Plant Connect (HPC) group control system, bringing harmony between the CRAHs and Chillers.

Additional options for electric heating and humidification further extend control and operational functionality.

Key Features & Benefits

- Compact footprint with Under, Over and Displacement airflows
- Adaptive set-point
- High efficiency EC plug fans
- LAN controls for up to 15 units
- Variety of valve options

CRAH UNITS (Computer Room Air Handler)			w-MEXT U/O 006 F1	w-MEXT U/O 009 F1	w-MEXT U/O 011 F1	w-MEXT U/O 013 F1	w-MEXT U/O 016 F2	w-MEXT U/O 022 F2	w-MEXT U/O 026 F2
PERFORMANCE									
COOLING CAPACITY*1	Total	kW	4.6	7.9	9.7	12.5	15.4	20.4	25.6
SHR	Nominal		1.00	1.00	1.00	1.00	1.00	1.00	1.00
EER*2	Nominal		65.3	37.6	30.2	27.8	38.5	30.0	26.9
FANS									
AIRFLOW		m^3/h	1,500	2,200	2,500	2,700	4,300	5,000	5,400
FAN TYPE			Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC
FANS		No.	1	1	1	1	2	2	2
POWER INPUT		kW	0.07	0.21	0.32	0.45	0.40	0.68	0.95
MAX EXTERNAL STATIC PRESSURE		Pa	201	471	384	276	277	370	254
WATER CIRCUIT									
FLOW RATE		l/s	0.22	0.38	0.46	0.60	0.74	0.97	1.22
PRESSURE DROP*3		kPa	23.5	61.1	32.2	55.7	46.5	80.2	108
FILTERS									
FILTERS		No.	1	1	1	1	2	2	2
EFFICIENCY CLASS*4		Coarse	60%	60%	60%	60%	60%	60%	60%
SOUND LEVEL									
PRESSURE LEVEL*5		dB(A)	43	56	58	60	53	60	62
POWER LEVEL*5		dB(A)	59	72	74	76	69	76	78
ELECTRICAL									
POWER SUPPLY		V/ph/Hz	230 / 1 / 50	230 / 1 / 50	230 / 1 / 50	230 / 1 / 50	230 / 1 / 50	230 / 1 / 50	230 / 1 / 50
MAX RUNNING CURRENT*6	FLA	A	3.6	4.0	4.0	4.0	7.2	8.0	8.0
ELECTRIC HEATER (optional)									
STEPS		No.	2	2	2	2	3	3	3
CAPACITY		kW	2.6	2.6	2.6	2.6	3.9	3.9	3.9
MAX RUNNING CURRENT*7	FLA	A	11.3	11.3	11.3	11.3	16.9	16.9	16.9
HUMIDIFIER (optional)									
QUANTITY		No.	1	1	1	1	1	1	1
CAPACITY		kg/h	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MAX RUNNING CURRENT*8	FLA	A	14.1	14.1	14.1	14.1	14.1	14.1	14.1
DIMENSIONS AND WEIGHT									
FRAME SIZE			F1	F1	F1	F1	F2	F2	F2
DIMENSIONS	Width	mm	600	600	600	600	1,000	1,000	1,000
	Depth	mm	500	500	500	500	500	500	500
	Height	mm	1,980	1,980	1,980	1,980	1,980	1,980	1,980
NET WEIGHT	Upflow [over]	kg	103	109	116	120	163	173	181
	Downflow [under]	kg	110	118	126	130	173	183	191
CONNECTIONS									
WATER*9	Inlet	Ø inch	3/4"	3/4"	3/4"	1"	1 1/4"	1 1/4"	1 1/4"
	Outlet	Ø inch	3/4"	3/4"	3/4"	1"	1 1/4"	1 1/4"	1 1/4"
CONDENSATE DRAIN*10		Ø mm	19	19	19	19	19	19	19

Notes:
*1: Gross total values shown. Operating conditions: Return Air Temperature: 26°C / Relative Humidity: 40% / Water Inlet: 10°C / Water ΔT: 5K / Glycol: 0% / External Static Pressure: 20Pa.
*2: EER for indoor unit only.
*3: For heat exchanger coil and 2-port valve only.
*4: As per ISO EN 16890. Other filter options are available.
*5: Average sound level, at 1m distance, unit in a free field on a reflective surface according to ISO 3744. Values for downflow [under] and upflow [over] only.
*6: Cooling only version. Humidifier / electrical heating options will change value. Refer to databook.
*7: For electric heater only.
*8: For humidifier only.
*9: As per ISO 228/1-G.
*10: Rubber pipe - refers to internal diameter.

w-NEXT

Chilled Water
Close Control System

High precision air conditioners are ideal for applications where high sensible cooling and close control of temperature and humidity are required. The **w-NEXT** chilled water range incorporates the latest EC plug fan(s), advanced controls software and an increased coil area resulting in the highest efficiency.

Key Features & Benefits

- High Efficiency - EC plug fans
- Small footprint
- Adaptive Set Point
- Active Redundancy
- Available in Upflow [over] and Downflow [under] variants

CRAH UNITS (Computer Room Air Handler)		w-NEXT S 045 E3P	w-NEXT S 053 E4	w-NEXT S 072 E5	w-NEXT S 081 E6
CAPACITY (kW)*2	Total	41.0	48.1	66.1	73.5
	Sensible	41.0	48.1	66.1	73.5
SHR*3		1.00	1.00	1.00	1.00
EER		18.6	22.4	22.8	21.2
EC SUPPLY FAN(S)	No.	1	1	2	2
AIRFLOW (m³/h)		10,800	13,100	16,350	20,000
EXTERNAL STATIC PRESSURE (Pa)		20	20	20	20
MAX EXTERNAL STATIC PRESSURE (Pa)		297	194	532	458
POWER INPUT (kW)*4		2.20	2.15	2.90	3.47
AIR FILTERS	No.	2	3	3	4
	Extended filtering surface (m²)	1.71	2.07	2.59	3.16
	Efficiency [ISO EN 16890] (COARSE)	60%	60%	60%	60%
CHILLED WATER FLOW RATE (l/s)		1.96	2.30	3.16	3.51
WATERSIDE PRESSURE DROP (kPa)	Coil + 2-Port Valve	34.1	37.3	42.9	35.6
SOUND LEVEL dB(A) (ISO3774)*5	Downflow - Power / Pressure	73 / 57	74 / 57	73 / 56	75 / 58
	Upflow - Power / Pressure	77 / 61	78 / 61	77 / 60	79 / 62
POWER SUPPLY (V/Ph/Hz)		400 / 3+N / 50	400 / 3+N / 50	400 / 3+N / 50	400 / 3+N / 50
MAX POWER ABSORBED (kW)		2.90	2.70	5.40	5.80
MAX RUNNING CURRENT (A)		4.4	4.2	8.4	8.9
DIMENSIONS (mm)	Width	1085	1305	1630	1875
	Depth	930	930	930	930
	Height	1925	1980	1980	1980
NET WEIGHT (kg)	Downflow	321	345	470	531
	Upflow	329	379	428	483
CONNECTIONS	Water Inlet / Outlet ISO 7/1 (Ø inch)	1 1/4"	1 1/2"	2"	2"
	Condensate (Ømm)*6	19	19	19	19

CRAH UNITS (Computer Room Air Handler)		w-NEXT S 100 E7	w-NEXT S 120 E8	w-NEXT S 138 E9	w-NEXT S 160 E10*1	w-NEXT S 215 E10*1
CAPACITY (kW)*2	Total	91.6	111.0	126.0	147.0	204.0
	Sensible	91.6	111.0	126.0	147.0	177.0
SHR*3		1.00	1.00	1.00	1.00	0.87
EER		23.0	17.8	19.6	22.8	31.7
EC SUPPLY FAN(S)	No.	2	3	3	3	3
AIRFLOW (m³/h)		24,200	28,300	33,100	37,150	37,150
EXTERNAL STATIC PRESSURE (Pa)		20	20	20	20	20
MAX EXTERNAL STATIC PRESSURE (Pa)		247	237	309	207	207
POWER INPUT (kW)*4		3.98	6.22	6.42	6.44	6.44
AIR FILTERS	No.	4	5	6	6	6
	Extended filtering surface (m²)	3.83	4.47	5.24	6.54	6.54
	Efficiency [ISO EN 16890] (COARSE)	60%	60%	60%	60%	60%
CHILLED WATER FLOW RATE (l/s)		4.38	5.33	6.04	7.03	9.74
WATERSIDE PRESSURE DROP (kPa)	Coil + 2-Port Valve	31.7	48.6	47	66.7	62.2
SOUND LEVEL dB(A) (ISO3774)*5	Downflow - Power / Pressure	76 / 59	79 / 61	80 / 62	79 / 61	79 / 61
	Upflow - Power / Pressure	80 / 63	83 / 65	81 / 63	N/A	N/A
POWER SUPPLY (V/Ph/Hz)		400 / 3+N / 50	400 / 3+N / 50	400 / 3+N / 50	400 / 3+N / 50	400 / 3+N / 50
MAX POWER ABSORBED (kW)		5.40	8.10	8.70	8.10	8.10
MAX RUNNING CURRENT (A)		8.3	12.6	13.3	12.5	12.5
DIMENSIONS (mm)	Width	2175	2499	2899	3510	3510
	Depth	930	930	930	930	930
	Height	1980	1980	1980	1980	1980
NET WEIGHT (kg)	Downflow	589	660	753	900	970
	Upflow	535	598	679	N/A	N/A
CONNECTIONS	Water Inlet / Outlet ISO 7/1 (Ø inch)	2 1/2"	2 1/2"	3"	3"	3"
	Condensate (Ømm)*6	19	19	19	19	19

THE COOLING CAPACITY DOES NOT CONSIDER THE SUPPLY FAN MOTOR THERMAL LOAD

*1 Downflow version only.

*2 Gross value based on return air at 24°C - 45%RH; Chiller water 7°C / 12°C.

*3 SHR = Sensible cooling capacity / Total cooling capacity.

*4 Fan(s) input power (ESP=20Pa).

*5 Average level at 1m from unit in free field conditions.

*6 Rubber pipe - refers to internal diameter.

RCWall

Data Centre Fan Wall

When scale is required, **RCWall** brings the performance, flexibility and reliability that is needed. It is ideal for hyperscale datacentres and large co-location customers, so that they can fully utilise their large building structures to deliver improved efficiencies and make every kW count.

By changing the airflow convention, the unit is designed for horizontal airflow at scale. This allows for taller heat exchangers, with elevated water temperatures, improving performance over conventional designs. It also allows for the separation of the white space from the technical corridor, simplifying security arrangements. Most importantly, this design eliminates the need for raised floors: simplifying building design, installation and reducing costs.

Key Features & Benefits

- Eliminates the need for raised floors in your white space
- Flexible and modular design - fully accessible from the front
- Double up - stackable modules to increase cooling density
- High efficiency, proprietary EC fan combined with a design specific heat exchanger
- Options for Automatic Transfer Switches (ATS) and Fast Restart to reduce downtime and increase redundancy

FAN WALL			081	091	131	151	162	182	201	231	262	302	402	462
PERFORMANCE														
COOLING CAPACITY*1	Total	kW	77.7	89.2	131.0	142.0	155.0	178.0	198.0	209.0	262.0	283.0	397.0	418.0
SHR	Nominal		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EER*2	Nominal		17.1	16.1	15.4	16.7	17.0	15.8	17.5	18.5	15.4	16.6	17.6	18.6
FANS														
AIRFLOW	Direction		Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
	Volume	m^3/h	21,150	24,100	34,400	36,300	42,300	48,200	47,400	48,800	68,800	72,600	94,800	97,600
FAN TYPE			Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC	Centrifugal EC
FANS		No.	2	2	3	3	4	4	4	4	6	6	8	8
POWER INPUT*3		kW	4.6	5.5	8.5	8.5	9.1	11.3	11.3	11.3	17.0	17.0	22.6	22.5
WATER CIRCUIT														
FLOW RATE		l/s	1.87	2.14	3.15	3.40	3.73	4.28	4.76	5.02	6.30	6.80	9.52	10.0
PRESSURE DROP*4		kPa	41.3	45.9	49.2	49.6	41.4	45.9	40.1	38.7	49.2	49.6	40.1	38.7
FILTERS														
FILTERS		No.	6	8	12	16	12	16	12	16	24	32	24	32
EFFICIENCY CLASS*5		ePM10	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SOUND LEVEL														
PRESSURE LEVEL*6		dB(A)	60	63	63	64	61	64	65	64	64	65	66	66
POWER LEVEL*6		dB(A)	77	81	81	82	80	83	83	83	84	85	86	86
ELECTRICAL														
POWER SUPPLY		V/ph/Hz	400 / 3 + N / 50	400 / 3 + N / 50	400 / 3 + N / 50	400 / 3 + N / 50	400 / 3 + N / 50	400 / 3 + N / 50	400 / 3 + N / 50	400 / 3 + N / 50	400 / 3 + N / 50	400 / 3 + N / 50	400 / 3 + N / 50	400 / 3 + N / 50
MAX RUNNING CURRENT	FLA	A	11.0	11.0	16.5	16.5	22.0	22.0	22.0	22.0	33.0	33.0	44.0	44.0
DIMENSIONS AND WEIGHT														
FRAME SIZE			1B1	1H1	2B1	2H1	1B2	1H2	3B1	3H1	2B2	2H2	3B2	3H2
DIMENSIONS	Width	mm	1,800	1,800	2,700	2,700	1,800	1,800	3,600	3,600	2,700	2,700	3,600	3,600
	Depth	mm	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
	Height	mm	1,750	2,000	1,750	2,000	3,500	4,000	1,750	2,000	3,500	4,000	3,500	4,000
NET WEIGHT		kg	720	800	950	1,000	1,440	1,600	1,333	1,433	1,900	2,000	2,666	2,866
CONNECTIONS														
WATER*7	Inlet / Outlet	DN	50	50	65	65	50	50	65	80	65	65	65	80
	Inlet / Outlet	Ø inches	2"	2"	2 1/2"	2 1/2"	2"	2"	2 1/2"	3"	2 1/2"	2 1/2"	2 1/2"	3"
CONDENSATE DRAIN*8		Ø mm	19	19	19	19	19	19	19	19	19	19	19	19

Notes:
*1: Gross Total Values shown. Operating Conditions: Return Air Temperature: 37°C. / Relative Humidity: 25% / Water Inlet: 20°C / Water DeltaT: 10K / Glycol: 0%.
*2: EER for indoor unit only.
*3: Coressponding to nominal external static pressure (50Pa).
*4: Modules are in parallel. Pressure drop refers to a single module for the heat exchanger coil and valve (at the listed flow rate) only.
*5: As per ISO EN 16890.
*6: Average sound level, at 1m distance, unit in a free field on a reflective surface according to ISO 3744.
*7: As per UNI EN 10255. The connections refer to the supply manifold for stacked modules. Grooved connection - the grooved flexible joint is not supplied.
*8: Rubber pipe - refers to internal diameter.

m-MRAC / m-MROW

R410A Multi Density Close Coupled Control System

Mitsubishi Electric's **Multi Density** systems combine the efficiency, quality and simplicity of VRF with high performance close coupled air conditioning units. Multi Density is ideal for applications where high sensible cooling and close control of temperature in high density applications is required. This system consists of multiple indoor 'coolside' close coupled air conditioners connected to a City Multi VRF outdoor unit. The result is a full inverter multi-split system, designed according to the best quality standards and dedicated to the most reliable IT environments. The range is particularly suitable for high density racks and blade server cooling in data centres, as it is able to cope with the high density of the thermal load, putting the air conditioning unit directly within the rows of racks to cool the localised heat sources (hot spots).

Key Features & Benefits

- High Efficiency - full Mitsubishi Electric inverter technology
- Small footprint
- Pipe runs up to 165m
- Trusted VRF technology

CRAC UNITS (COMPUTER ROOM AIR CONDITIONING)		m-MRAC G02 009 / M-MROW G02 009	m-MRAC G02 015 / M-MROW G02 015	m-MRAC G02 025 / M-MROW G02 025
COOLING CAPACITY (kW)*1	Total	10.6	16.6	28.6
	Sensible	9.6	15.7	27.4
SHR*2		0.91	0.94	0.96
EC SUPPLY FAN (no.)		2	4	5
AIRFLOW (m^3/h)		1,500	2,700	4,200
NOMINAL EXTERNAL STATIC PRESSURE (Pa)		20	20	20
MAX EXTERNAL STATIC PRESSURE (Pa)		60	60	60
POWER INPUT (kW)*3		0.18	0.34	0.85
REFRIGERANT		R410A	R410A	R410A
REFRIGERANT CIRCUITS (n°)		1	1	1
AIR FILTERS	NO.	2	2	2
	Extended filtering surface (m^2)	0.35	0.35	0.35
	Efficiency [ISO EN 16890] (COARSE)	40%	40%	40%
SOUND LEVEL [ISO 3744] (dB(A))*4	Pressure Level	63.5	64.5	70.5
	Power Level	79	80	86
POWER SUPPLY (V / Ph / Hz)		230 / 1 / 50	230 / 1 / 50	230 / 1 / 50
ABSORBED CURRENT (A)*3		0.8	1.5	4
STARTING CURRENT (A)		2.9	5.8	7.3
DIMENSIONS (mm)	Width	300	300	300
	Depth (MROW / MRAC)	1000 / 1200	1000 / 1200	1000 / 1200
	Height	2,085	2,085	2,085
NET WEIGHT (kg)	In-Row	175	190	193
	Enclosure	185	200	203
CONNECTIONS	Refrigerant pipes diameter - Gas (Ø Inch)	3/4"	7/8"	1"
	Refrigerant pipes diameter - Liquid (Ø Inch)	1/2"	5/8"	3/4"
	Condensate (Ømm)*5	16	16	16
	Power supply wiring cable (no. x mm^2)*6	3G1.5	3G1.5	3G1.5

OUTDOOR UNITS		m-MOCU G02 050	2 X m-MOCU G02 050
RATED COOLING CAPACITY	kW	50	50 x 2
SYSTEM EER*2	kW/kW	2.96	3.24
SOUND PRESSURE LEVEL (dB(A))	Cooling	65	68
WEIGHT (kg)		304	304 x 2
DIMENSIONS (mm)	Width x Depth x Height	1650 x 740 x 1750	1650 x 740 x 1750 [x2]
POWER SUPPLY (V / Hz)		380-415v, 50Hz	380-415v, 50Hz
PHASE		3	3
OUTDOOR POWER INPUT (kW)	Cooling (nominal)	15.2	13.7
STARTING CURRENT (A)		27.8	27.8 x 2
MAX RUNNING CURRENT (A)	Cooling	37.6	37.6 x 2
FUSE RATING (BS88) - HRC (A)		40	40 x 2
MAINS CABLE	No. Cores	5G6	5G6
MAX PIPE LENGTH (m)		165	165
MAX HEIGHT DIFFERENCE (m)		50 (40*7)	50 (40*7)
CHARGE REFRIGERANT (kg) / CO_2 EQUIVALENT (T)	R410A (GWP 2088)	11.8 / 24.6	11.8 / 24.6 x 2
GUARANTEED OPERATING RANGE (°C)	Max Temp	45	45
	Min Temp	-15	-15

Notes:
THE COOLING CAPACITY DOES NOT CONSIDER THE SUPPLY FAN MOTOR THERMAL LOAD.
*1 All data refers to the Rating Configuration with 2x m-MROW-Z G02 F/S 025 @35°C Outdoor Temperature and 35°C/27%rh Indoor Temperature.
*2 SHR = Sensible cooling capacity / Total cooling capacity.
*3 Corresponding to the nominal ESP=20Pa.
*4 Sound pressure level on air return at 1m.
*5 Rubber pipe - refers to internal diameter.
*6 Minimum section. It's possible to connect indoor units with a sum of sizing from 25 to 75.
*7 When outdoor unit is below indoor unit.
These units contain <HFC R410A [GWP_{100} 2088]> fluorinated greenhouse gas.

IT Cooling Accessories / Optional Extras

DESCRIPTION	MODEL REF.
MSY-TP / MUY-TP	
Air outlet guide for MUY-TP35/50VF	MAC-881SG
Standard wired remote controller	PAR-41MAA
Interface for M-NET, MA remote controller (PAR-41MAA), on/off input and run/fault output	MAC-334IF-E
Interface for connection to Wi-Fi MELCloud service	MAC-587IF-E
s-MEXT DX	
s-MEXT-G00 F01 Support Frame H510 P043	
s-MEXT-G00 F02 Support Frame H510 P043	
s-MEXT-G00 F03 Support Frame H510 P043	
s-MEXT-G00 F01 Plenum c/w 3 Grilles P013	
s-MEXT-G00 F02 Plenum c/w 3 Grilles P013	
s-MEXT-G00 F03 Plenum c/w 3 Grilles P013	
s-MEXT-G00 Modbus serial card (RS485)	
s-MEXT-G00 BACnet TCP/IP card (RJ45)	
x-MEXT DX	
Modbus Serial card (RS485)	
BACNet TCP/IP Ethernet card (RJ45)	
Floor stand with rubber holders (350-500mm)	
Floor stand with rubber holders (500-750mm)	
Floor stand with rubber holders (750-1000mm)	
Electric heater	
Steam humidifier	
Air discharge plenum with 3 grilles	
Inlet damper with actuator	
Epoxy coated condenser coil(s)	
w-MEXT / w-NEXT	
Modbus Serial card (RS485)	
BACNet TCP/IP Ethernet card (RJ45)	
Floor stand with rubber holders (255-350mm)	
Floor stand with rubber holders (355-450mm)	
Floor stand with rubber holders (400-510mm)	
Electric heater	
Steam humidifier	
Air discharge plenum with 3 grilles	
Inlet damper with actuator	
m-MRAC / m-MROW	
Multi Density Tee & Adaptor	

Residential Heating

Ecodan Residential Renewable Heating Systems

Contents

ecodan Renewable Heating Systems

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Ecodan Heat Pumps - Renewable Heating Systems

There is now no doubt that the world is in a climate crisis and that we need to act immediately to avoid catastrophic climate change. The UK Government have reacted by being the first major economy to pass net zero (Greenhouse Gas) emission laws. Renewable technologies, such as heat pumps, have become an integral part of the solution to the problem of reducing carbon emissions generated through heating.

As a market leader in both commercial and domestic heat pumps, Mitsubishi Electric is a pioneer in the development of this renewable technology. Around the world, heat pumps have been utilised for decades and Mitsubishi Electric has refined this technology to produce Ecodan - one of the most advanced, efficient heating systems available on the market today.

The award winning Ecodan heat pumps are available from 4kW up to 960kW, making them suitable for virtually any property, from small flats to large detached houses, from an office block to a school. They are the renewable, low carbon alternative to traditional high carbon heating systems.

- **Renewable heating solution capable of reducing emissions and achieving climate targets**
- **Highly efficient, proven and refined technology that can lower energy bills**
- **Range of easy to design, install and maintain systems suitable for a variety of property and application types**

Ecodan heat pumps are a renewable heating technology that efficiently and reliably generates sustainable space heating and hot water all year round, delivering a level of comfort that sets the technology apart from other forms of heating.

TV presenter, architect, lecturer and writer, George Clarke is a passionate advocate of design excellence and high levels of quality in the construction industry.

“ The way we design, build, heat, power and recycle our homes needs to change, and change quickly, and renewable heating is an important part of our future.

I’m therefore delighted to associate myself with Ecodan, the market-leading brand of heat pumps built here in the UK and which can help reduce energy bills and lower emissions for almost any home. ”

George Clarke

Ecodan Brand Ambassador

Range Overview


QUHZ-W40VA


PUZ-WM50VHA


PUZ-WM60VAA


PUZ-WM85VAA
PUZ-WM85YAA

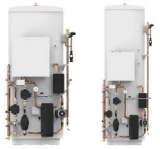

PUZ-WM112VAA
PUZ-WM112YAA


PUZ-HWM140VHA
PUZ-HWM140YHA


QAHV-N560YA-HPB


CAHV-R450YA-HPB


CRHV-P600YA-HPB

System Type		Litres	4kW	5kW	6kW	8.5kW	11.2kW	14kW	40kW	40kW	60kW
Standalone				●	●	●	●	●	●	●	●
Thermal Store		EHPT20Q-VM2EA	200	●							
Packaged Cylinder		EHPT20X-MHEDW	200		●	●	●	●	●			
Pre-Plumbed Slimline Cylinder		EHPT15X-UKHLDW1S	150		●	●	●					
		EHPT17X-UKHLDW1S	170		●	●	●					
Pre-Plumbed Standard Cylinder		EHPT15X-UKHDW1S	150		●	●	●					
		EHPT17X-UKHDW1S	170		●	●	●					
		EHPT21X-UKHDW1S	210		●	●	●					
		EHPT21X-UKHDW1L	210			●	●	●				
		EHPT25X-UKHDW1L	250			●	●	●				
		EHPT30X-UKHDW1L	300				●	●				
Versatile Slimline Cylinder		EHPT18X-UKHLDWB	180		●	●	●	●				
		EHPT21X-UKHLDWB	210		●	●	●	●				
Versatile Standard Cylinder		EHPT21X-UKHDWB	210		●	●	●	●				
		EHPT25X-UKHDWB	250			●	●	●				
		EHPT30X-UKHDWB	300			●	●	●				
Approvals		Manufactured in the United Kingdom			●	●	●	●				
		Red Dot Award				●	●	●				
		Microgeneration Certification Scheme		●								●
		Keymark			●	●	●	●	●			

Notes: For further information on the Ecodan QAHV, CAHV and CRHV models, please refer to the 'Commercial Heat Pumps & Chillers' section of this catalogue.

ecodan

QUHZ-W40VA

Monobloc Air Source Heat Pump with Thermal Store

The Ecodan QUHZ system combines a 4kW outdoor unit with a 200 litre Thermal Store, and is the ideal plug and play heating and hot water solution for properties with a low space heating requirement.

With very low, market leading noise levels for its class and highly efficient hot water generation due to its unique CO_2 (R744) system design, this compact space saving product is capable of providing instantaneous hot water and removes the risk of legionella.

Key Features

- Self contained system, only requires water connections and can be powered via the Thermal Store
- No need for gas supply, flues or ventilation
- Low maintenance and very quiet operation
- Operates with outside temperatures as low as -15°C
- Optimised low ambient defrost control and operation
- Capable of being used in domestic hot water generation mode only
- Energy monitoring as standard

R744

OUTDOOR UNIT		QUHZ-W40VA
HEAT PUMP COMBINATION HEATER - 55°C	ErP Rating	A+
	η_s	117%
	SCOP	2.90
HEAT PUMP COMBINATION HEATER - Large Profile*1	ErP Rating	A
	η_{wh}	129%
	COP	3.00
HEATING*2 (A-3/W55)	Capacity (kW)	4.32
	Power Input (kW)	2.18
	COP	1.98
OPERATING AMBIENT TEMPERATURE (°C DB)		-15 ~ +35
SOUND PRESSURE LEVEL AT 1M (dBA)*3		43
SOUND POWER LEVEL (dBA)*4		53
WATER DATA	Pipework Size (mm)	15
	Flow Rate (l/min)	3 to 8
DISTANCE BETWEEN OUTDOOR UNIT AND THERMAL STORE (m)	Height Difference	5
	Piping Length	15
DIMENSIONS (mm)	Width	809+70*5
	Depth	300+20*5
	Height	715
WEIGHT (kg)		57
ELECTRICAL DATA		Powered from indoor unit
REFRIGERANT CHARGE (kg) / CO_2 EQUIVALENT (t)	R744 (GWP 1)	1.15 / 0.0015

THERMAL STORE		EHPT20Q-VM2EA
NOMINAL THERMAL STORE WATER VOLUME (LITRES)		200
WATER TEMPERATURE RANGE	DHW Mode (°C)	40-70
	Space Heating Mode (°C)	25-60
MECHANICAL ZONES		DHW and 1 Heating Zone (2 Zone capability with 3rd party 2-port valves)
OPERATING AMBIENT TEMPERATURE (°C DB)		0 ~ +35°C (RH<80%)
SOUND PRESSURE LEVEL AT 1M (dBA)		30
SOUND POWER LEVEL (dBA)*4		40
WATER DATA	Primary Pump	Grundfos Solar PML 25-145 180
	Sanitary Hot Water Pump	Grundfos Solar PML 25-145 180
	Connection Size (mm) Heating / DHW	22 / 22
	Primary Expansion Vessel (Litres)	25
	Charge Pressure (MPa (Bar))	0.1 (1)
WATER SAFETY DEVICES	Pressure relief valve (Mpa (Bar))	0.3 (3) - 2 No. devices
	Flow sensor (supplied)	Min. flow 1.3 L/min
	Manual reset thermostat (°C)	90
DIMENSIONS (mm)	Width	595
	Depth	680
	Height	1600
WEIGHT EMPTY / FULL (kg)		77 / 283
ELECTRICAL DATA	Electrical Supply	220-240v, 50Hz
	Phase	Single
	Maximum Running Current (A)	12.8
	Fuse Rating - MCB Sizes (A)*6	20
OPTIONAL SIMPLIFIED WIRELESS ROOM THERMOSTAT AND WIRELESS RECEIVER		PAR-WT60R-E Controller and PAR-WR61-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

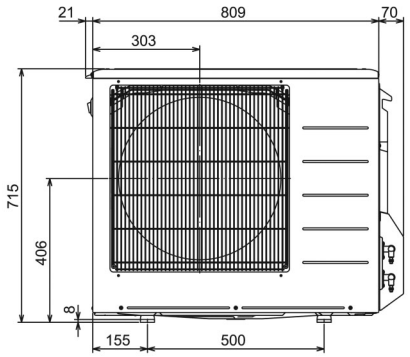
MCS CERTIFIED

Certificate Number: MCS HP0002
Product Type: Heat Pumps
Product Reference: QUHZ-W40VA

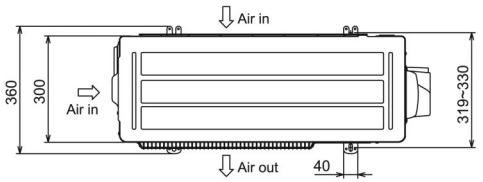
Product Dimensions QUHZ-W40VA

All measurement in mm

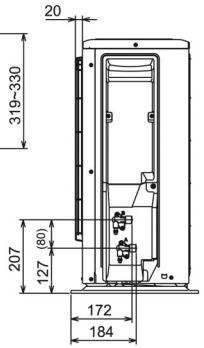
Front View



Upper View



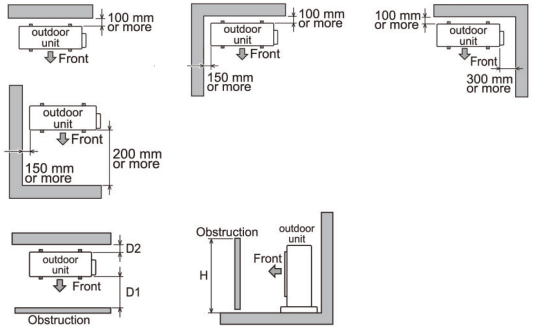
Side View



When there is no obstruction at the front (Discharge side) (Top view)
The area above the unfit must be open (clearance of at least 1m or more).

When there is no obstruction at the back (Suction side) (Top view)
The upward direction must be open (clearance of at least 1m or more).

When there is an obstruction at the front (Discharge side)



The required clearance (D1 and D2) varies depending on the obstruction height (H). If wind guides are mounted, **see the table below**. Note that the operating noise levels may increase for certain installation conditions.

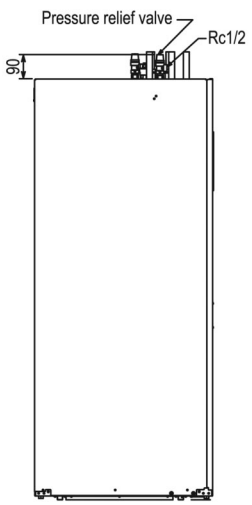
Obstruction height (H)	Required clearance (D1/D2)	
	Without wind guides	With wind guides
1200mm or less	200mm or more / 100mm or more	185mm or more / 30mm or more
More than1200mm	300mm or more / 100mm or more	350mm or more / 30mm or more

*If discharge air is blown against a wall, the wall can become dirty.
*If the area is poorly ventilated and the discharge air becomes sucked in again, heating performance can be reduced by about 10%. Mounting of wind guides (product sold separately) can improve heating performance in certain cases.

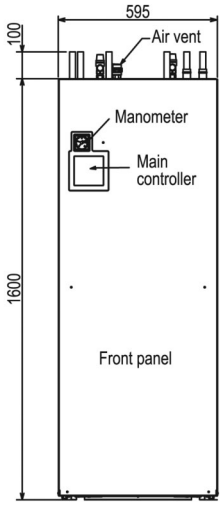
Product Dimensions EHPT20Q-VM2EA

All measurement in mm

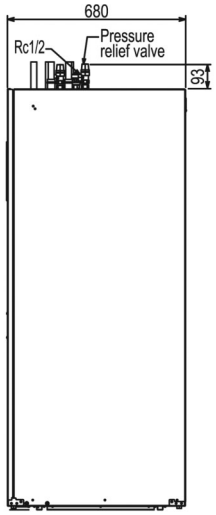
Left View



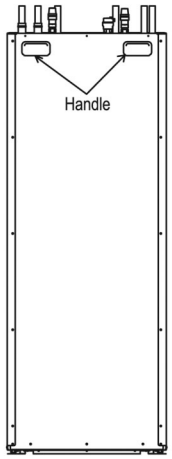
Front View



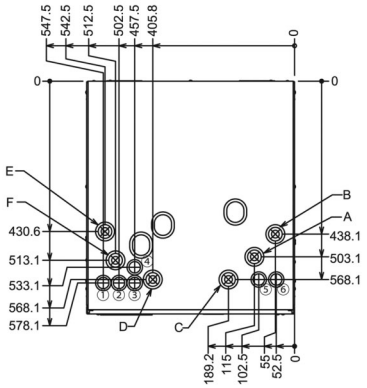
Right View



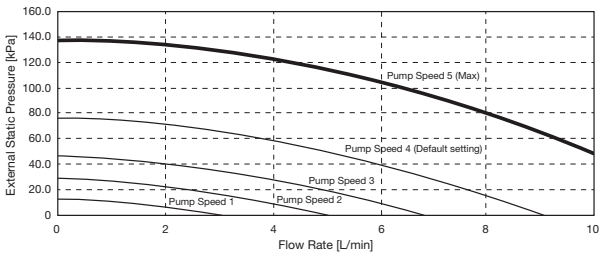
Rear View



Upper View



Water Circulation Pump 1 - Characteristics



The performance showing in the graph includes pressure drop of both cylinder unit and outdoor unit. Before installation, please check if the maximum performance of water circulation pump 1 can accommodate the per user drop of external heating circuit.

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

ecodan®

PUZ-WM50VHA

Monobloc Standalone Air Source Heat Pump

Certificate Number: 037-0032-20
Product Type: Heat Pumps
Product Reference: PUZ-WM50VHA(-BS)

Our range of Ecodan monobloc air source heat pumps includes a 5kW size.

With enhanced performance and efficiencies of the new chassis, combined with the ability to cascade up to six units of the same output, this Ecodan monobloc system can provide a capacity range from 5 through to 30kW. Designed to suit a wide number of applications, this model offers a viable solution for all types of domestic requirements that the UK housing market demands.

Key Features

- Self-contained unit, only requiring water and electric connections
- No need for gas supply, flues or ventilation
- Low maintenance and quiet operation
- Operates with outside temperatures as low as -20ºC
- Optimised low ambient defrost control and operation down to -7°C
- Hybrid function, for use with conventional boilers
- Energy monitoring as standard
- Multiple unit cascade function

Manufactured in the UK

R32

OUTDOOR UNIT		PUZ-WM50VHA(-BS)
HEAT PUMP SPACE HEATER - 55˚C	ErP Rating	A++
	η_s	129%
	SCOP	3.33
HEAT PUMP SPACE HEATER - 35˚C	ErP Rating	A+++
	η_s	183%
	SCOP	4.58
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)	47
	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	923
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

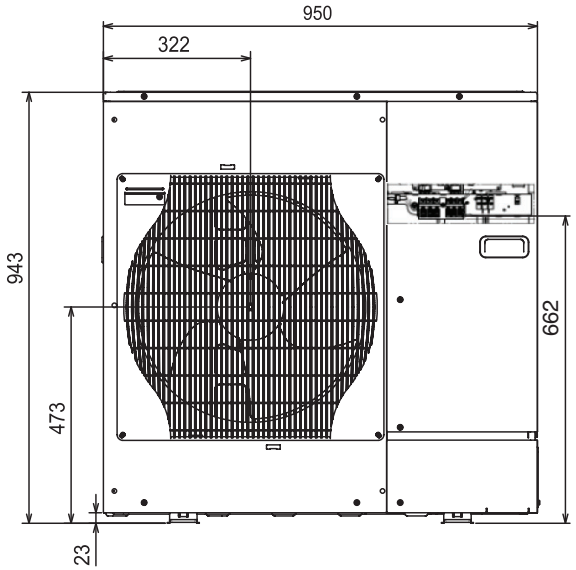
*1 Combination with E*PT20X Cylinder
*2 Under normal heating conditions at outdoor temp: -7°CDB / -8°CWB, outlet water temp 35°C, inlet water temp 30°C.
*3 Under normal heating conditions at outdoor temp: 7°CDB / 6°CWB, outlet water temp 55°C, inlet water temp 47°C as tested to BS EN14511.
*4 Sound power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

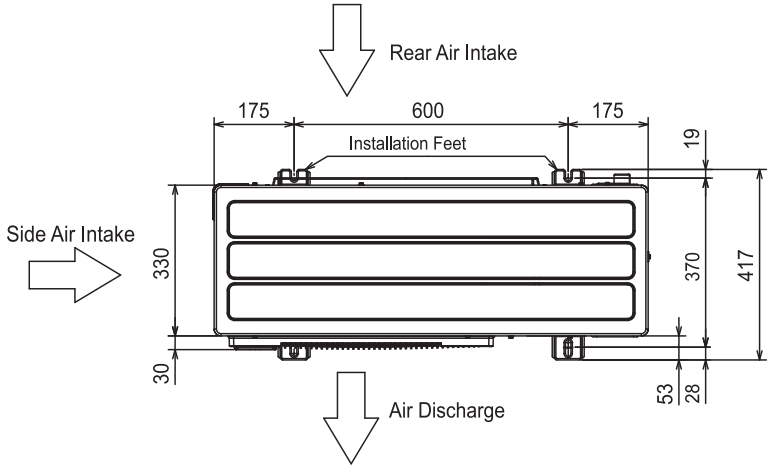
Product Dimensions PUZ-WM50VHA(-BS)

All measurement in mm

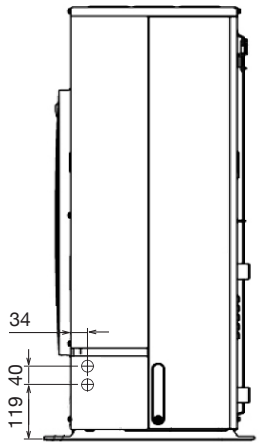
Front View



Upper View

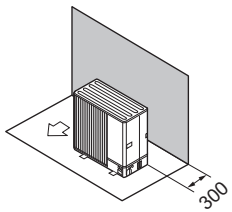


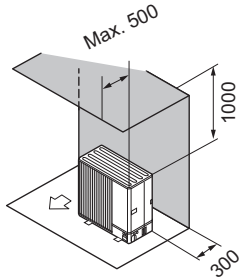
Side View

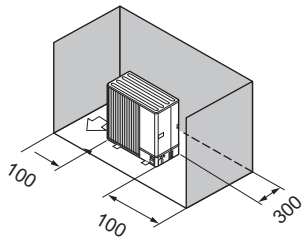


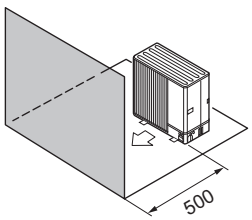
Installation Location PUZ-WM50VHA(-BS)

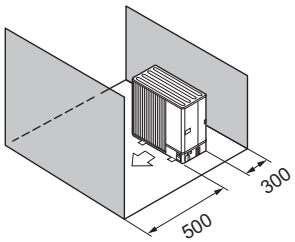
All measurement in mm

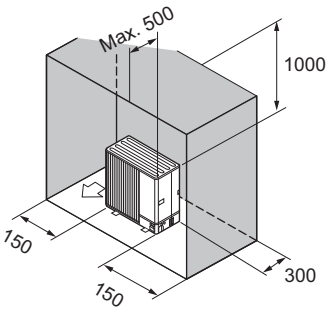












Please refer to Databook and Installation Manual for further details.

ecodan®

PUZ-WM60-112VAA/YAA

Monobloc Standalone Ultra Quiet Air Source Heat Pumps

The multiple award winning range of Ultra Quiet AA chassis Ecodan monobloc air source heat pumps are designed specifically to suit the demands of the UK market and includes 6.0, 8.5 and 11.2kW sizes.

The innovative, stylish and compact single fan outdoor unit utilises advanced technologies to deliver improved efficiencies. Designed for a wide range of applications, the market leading low noise levels virtually eliminate the need for planning permission, maximises installation options and is a viable solution for all types of domestic requirements that the UK housing market demands.

Key Features

- Self-contained unit, only requiring water and electric connections
- No need for gas supply, flues or ventilation
- Low maintenance and ultra quiet operation
- Operates with outside temperatures as low as -25ºC
- Optimised low ambient defrost control and operation down to -7ºC
- Hybrid function, for use with conventional boilers
- Energy monitoring as standard
- Multiple unit cascade function

Manufactured in the UK

R32

OUTDOOR UNIT		PUZ-WM60VAA(-BS)	PUZ-WM85VAA(-BS)	PUZ-WM85YAA(-BS)	PUZ-WM112VAA(-BS)	PUZ-WM112YAA(-BS)
HEAT PUMP SPACE HEATER - 55°C	ErP Rating	A++	A++	A++	A++	A++
	η_s	142%	139%	139%	134%	134%
	SCOP	3.30	3.50	3.47	3.45	3.434
HEAT PUMP SPACE HEATER - 35°C	ErP Rating	A+++	A+++	A+++	A+++	A+++
	η_s	190%	193%	193%	191%	191%
	SCOP	4.62	4.57	4.79	4.58	4.78
HEAT PUMP COMBINATION HEATER - Large Profile*1	ErP Rating	A+	A+	A+	A+	A+
	η_{wh}	145%	145%	145%	148%	148%
HEATING*2 (A-7/W35)	Capacity (kW)	6.0	8.5	8.5	11.2	11.2
	Power Input (kW)	1.88	3.27	3.27	3.73	3.73
	COP	3.20	2.60	2.60	3.00	3.00
OPERATING AMBIENT TEMPERATURE (°C DB)		-20 ~ +35	-20 ~ +35	-25 ~ +35	-25 ~ +35	-25 ~ +35
SOUND DATA*3	Pressure Level at 1m (dBA)	45	45	45	45	45
	Power Level (dBA)*4	58	58	58	60	60
WATER DATA	Pipework Size (mm)	22	28	28	28	28
	Flow Rate (l/min)	17	24	24	32	32
	Water Pressure Drop (kPa)	8.0	15.0	15.0	24.0	24.0
DIMENSIONS (mm)	Width	1050	1050	1050	1050	1050
	Depth	480	480	480	480	480
	Height	1020	1020	1020	1020	1020
WEIGHT (kg)		98	98	111	119	119
ELECTRICAL DATA	Electrical Supply	220-240v, 50Hz	220-240v, 50Hz	400v, 50Hz	220-240v, 50Hz	400v, 50Hz
	Phase	Single	Single	Three	Single	Three
	Nominal Running Current [MAX] (A)*5	5.68 [13]	9.1 [22]	2.9 [11.5]	10.9 [28]	3.6 [13]
	Fuse Rating - MCB Sizes (A)*6	16	25	16	32	16
REFRIGERANT CHARGE (kg) / CO_2 EQUIVALENT (t)	R32 (GWP 675)	2.2 / 1.49	2.2 / 1.49	2.2 / 1.49	3.0 / 2.03	3.0 / 2.03

*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: 7ºC, outlet water temp: 35ºC.
*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

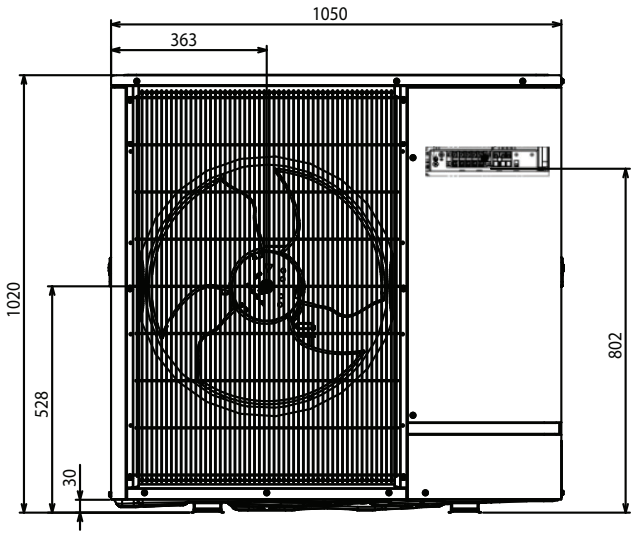
Certificate Number: 037-0033-20 / 037-0034-20
Product Type: Heat Pumps
Product Reference: PUZ-WM60/85VAA(-BS) / PUZ-WM112VAA(-BS)

Product Dimensions

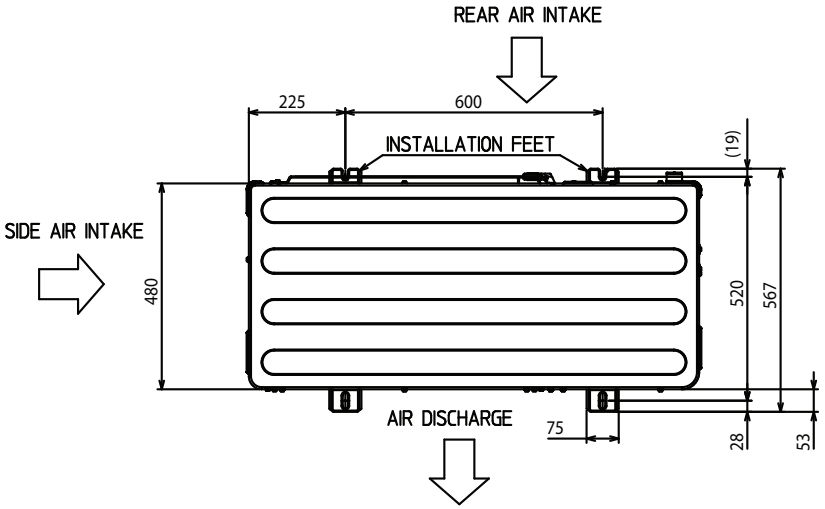
PUZ-WM60-112VAA/YAA(-BS)

All measurement in mm

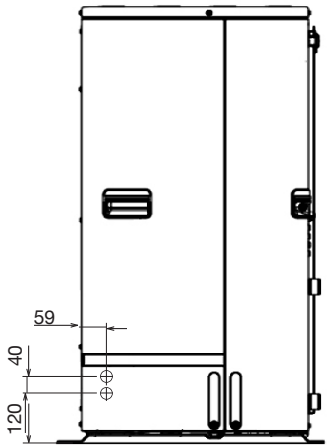
Front View



Upper View



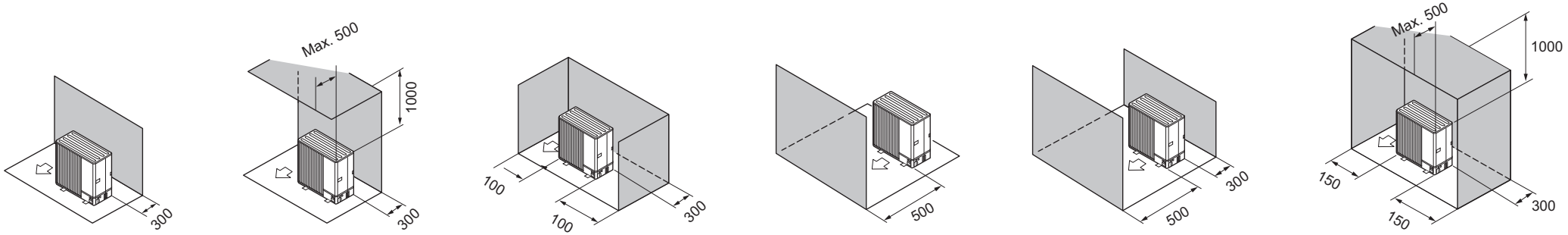
Side View



Installation Location

PUZ-WM60-112VAA/YAA(-BS)

All measurement in mm



Please refer to Databook and Installation Manual for further details.

ecodan®

PUZ-HWM140VHA/YHA

Monobloc Standalone Air Source Heat Pumps

Our range of Zubadan chassis Ecodan monobloc air source heat pumps are suitable for properties with large space heating requirements and are available in single or three phase 14kW sizes.

With its advanced flash injection technology, this product provides a solution to low ambient capacity issues common to standard systems and is a viable solution for all types of domestic requirements that the UK housing market demands.

Key Features

- Self-contained unit, only requiring water and electric connections
- No need for gas supply, flues or ventilation
- Low maintenance and quiet operation
- Operates with outside temperatures as low as -28ºC
- Optimised low ambient defrost control and operation down to -15°C
- Hybrid function, for use with conventional boilers
- Energy monitoring as standard
- Multiple unit cascade function

R32

OUTDOOR UNIT		PUZ-HWM140VHA(-BS)	PUZ-HWM140YHA(-BS)
HEAT PUMP SPACE HEATER - 55°C	ErP Rating	A++	A++
	η_s	3.35	131
	SCOP	3.34	3.35
HEAT PUMP SPACE HEATER - 35°C	ErP Rating	A+++	A+++
	η_s	176	176
	SCOP	4.48	4.45
HEAT PUMP COMBINATION HEATER - Large Profile*1	ErP Rating	A+	A+
	η_{wh}	130	130
HEATING*2 (A-7/W35)	Capacity (kW)	14.0	14.0
	Power Input (kW)	5.72	5.72
	COP	2.45	2.45
OPERATING AMBIENT TEMPERATURE (°C DB)		-28 ~ +35	-28 ~ +35
SOUND DATA*3	Pressure Level at 1m (dBA)	53	53
	Power Level (dBA)*4	67	67
WATER DATA	Pipework Size (mm)	28	28
	Flow Rate (l/min)	40	40
	Water Pressure Drop (kPa)	20	20
DIMENSIONS (mm)	Width	1020	1020
	Depth	330+30*7	330+30*7
	Height	1350	1350
WEIGHT (kg)		132	143
ELECTRICAL DATA	Electrical Supply	220-240v, 50Hz	380-415v, 50Hz
	Phase	Single	3
	Nominal Running Current [MAX] (A)*5	xx [35]	xx [13]
	Fuse Rating - MCB Sizes (A)*6	40	16
REFRIGERANT CHARGE (kg) / CO_2 EQUIVALENT (t)	R32 (GWP 675)	3.3 / 2.23	3.3 / 2.23

For information marked with a "-" please consult the databook or speak to your local sales office.

*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: 7ºC, outlet water temp: 35ºC.
*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

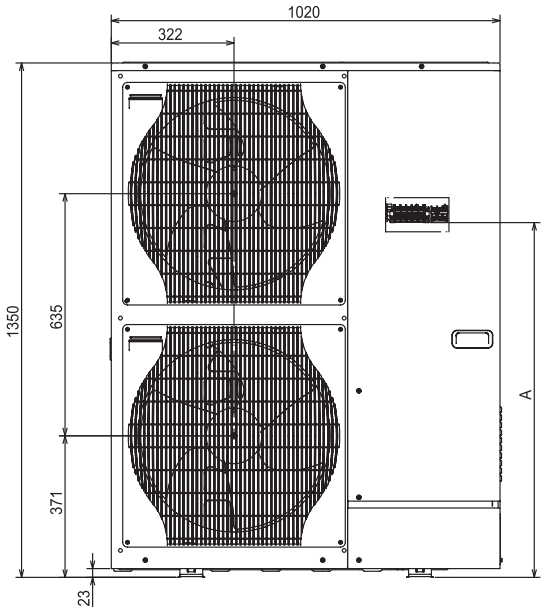
Certificate Number: 037-0035-20
Product Type: Heat Pumps
Product Reference: PUZ-HWM140VHA/YHA(-BS)

Product Dimensions

PUZ-HWM140VHA/YHA(-BS)

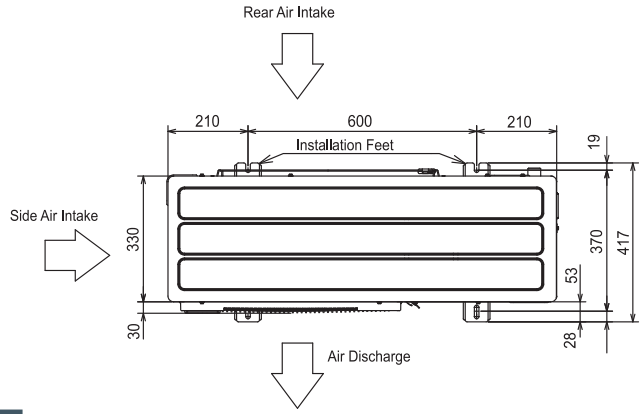
All measurement in mm

Front View

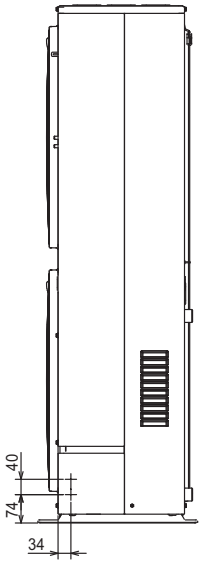


	A
VHA	1079
YHA	931

Upper View



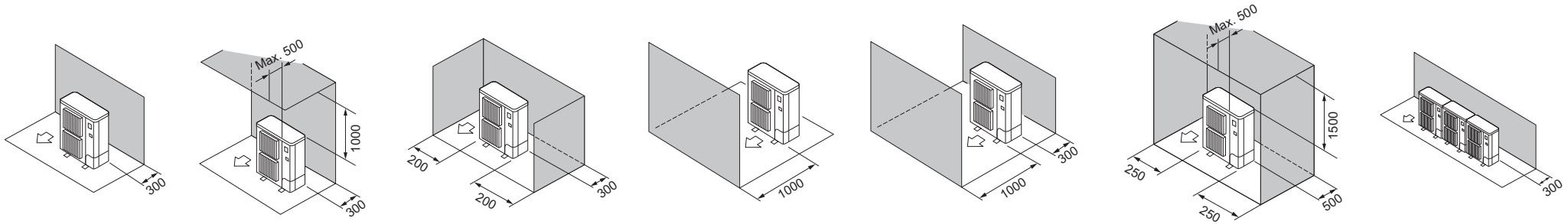
Side View



Installation Location

PUZ-HWM140VHA/YHA(-BS)

All measurement in mm



Please refer to Databook and Installation Manual for further details.

EHPT20X-MHEDW

Packaged Cylinder for Ecodan Monobloc Units

The Packaged Cylinder provides a highly adaptable heating solution for all property types.

Designed to optimise performance within a compact white goods footprint, the plug and play packaged cylinder fully integrates with the Ecodan monobloc air source heat pump range. Advanced plate heat exchanger technology delivers superior heat up times and our rapid SD card commissioning, MELCloud Wi-Fi connectivity and energy monitoring functions are also included as standard.

Key Features

- Optional 2-zone energy efficient space heating control
- Ready-plumbed and wired for faster installation
- Hybrid function, for use with conventional boilers
- Energy monitoring as standard
- MELCloud Wi-Fi connectivity

FTC6 Controller

Mitsubishi Electric's sixth generation controller (FTC6) includes intelligent room temperature control as standard. This together with advanced weather compensation ensures the system delivers efficient, comfortable heating regardless of the season. FTC6 now also includes energy monitoring showing consumed and produced energy.

Manufactured in the UK

R32

CYLINDER			EHPT20X-MHEDW
NOMINAL HOT WATER VOLUME (LITRES)			200
HEAT PUMP COMBINATION HEATER - Large Profile (Average Climate)		ErP Rating	A+
OPERATING AMBIENT TEMPERATURE (°C DB)			0 ~ +35°C (RH<80%)
SOUND PRESSURE LEVEL AT 1M (dBA)			28
WATER DATA		Flow Rate (l/min) - (H)WM 50 / 60 / 85 / 112 / 140	14 / 17 / 24 / 32 / 37
		Primary Circuit Pump	Grundfos UPM3 15-75 130
		Sanitary Hot Water Pump	Grundfos UPSO 15-60 130
		Connection Size (mm) Heating / DHW	28 / 22
WATER SAFETY DEVICES	Heating Water Circuit	Control Thermistor (°C)	1 - 80
		Flow Sensor (minimum flow 5L/min)	Supplied
	DHW Cylinder	Control Thermistor (°C)	75
		Temp and Pressure Relief Valve (°C)/ (MPa (Bar))	90 / 0.7 (7)
DIMENSIONS (mm)		Width	595
		Depth	680
		Height	1600
WEIGHT EMPTY / FULL (kg)			94 / 300
ELECTRICAL DATA	Control Board - *optionally powered by outdoor unit*	Electrical Supply	220-240v, 50Hz
		Phase	Single
		Fuse Rating - MCB Sizes (A)*1	10
	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 Zone*2
OPTIONAL SIMPLIFIED WIRELESS ROOM THERMOSTAT AND WIRELESS RECEIVER			PAR-WT60R-E Controller and PAR-WR61R-E Receiver

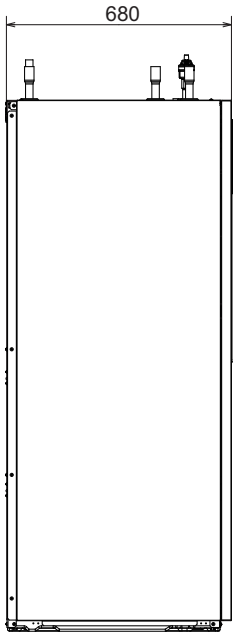
*1 MCB Sizes BS EN60898-2 & BS EN60947-2. *2 Optional 2 zone accessory pack available.

Notes: Cylinder includes: Flow Temperature Controller (FTC6) with Main Controller and Temperature Sensors, Pumps & Valves for Zone 1 and DHW use, Flow Sensor, Plate Heat Exchanger, Scale Trap and 3kW Immersion Heater.

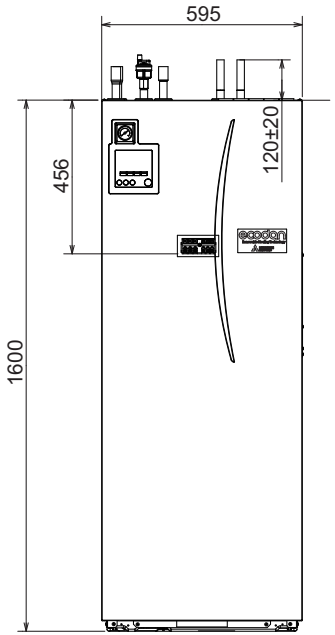
Product Dimensions EHPT20X-MHEDW

All measurement in mm

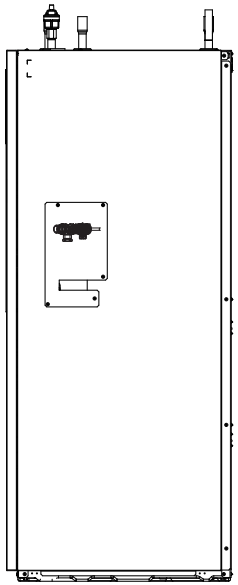
Left View



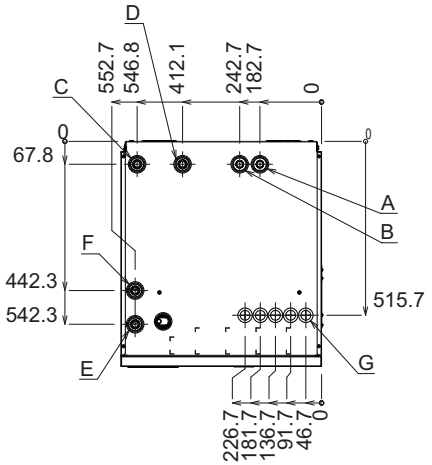
Front View



Right View



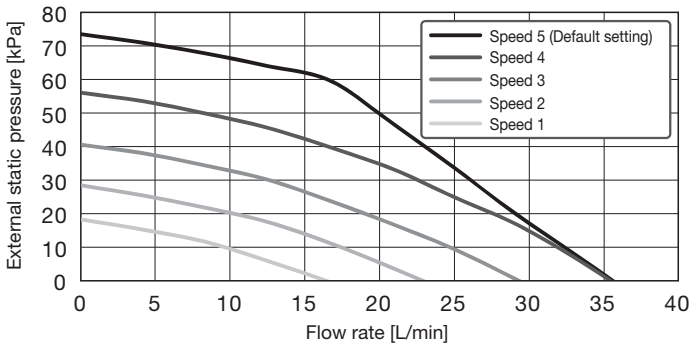
Upper View



Letter	Pipe Description	Connection size/type
A	DHW outlet connection	22mm Compression
B	Cold water inlet connection	22mm Compression
C	Space heating return connection	28mm Compression
D	Space heating flow connection	28mm Compression
E	Flow from heat pump connection	28mm Compression
F	Return to heat pump connection	28mm Compression
G	Electrical cable inlets	

Circulation Pumps EHPT20X-MHEDW

Heat Pump Circuit



Domestic Hot Water Sanitary Circuit

Default setting: Speed 2
DHW circulation pump **MUST** be set to speed 2.

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EHPT15-17X-UKHLDW1S

Pre-Plumbed Slimline Cylinders for Ecodan Monobloc Units

The Pre-Plumbed Slimline Cylinder comes complete with integrated hydraulic components & advanced controls.

Designed to optimise performance and flexibility within a minimal footprint, the slimline cylinder fully integrates with the Ecodan monobloc air source heat pump range. Advanced plate heat exchanger technology delivers superior heat up times and our rapid SD card commissioning, MELCloud Wi-Fi connectivity and energy monitoring functions are also included as standard.

Key Features & Benefits

- Unvented plug & play pre-plumbed DHW cylinder
- Efficient & rapid heating
- Premium quality insulation
- Flexible 2-zone space heating control
- MELCloud enabled
- Minimal installation time
- Excellent hot water recovery times
- Reduced heat losses and running costs
- Improved comfort and reduced energy use
- Remote control, monitoring, maintenance and technical support

FTC6 Controller

Mitsubishi Electric's sixth generation controller (FTC6) includes intelligent room temperature control as standard. This together with advanced weather compensation ensures the system delivers efficient, comfortable heating regardless of the season. FTC6 now also includes energy monitoring showing consumed and produced energy.

Manufactured in the UK

R32

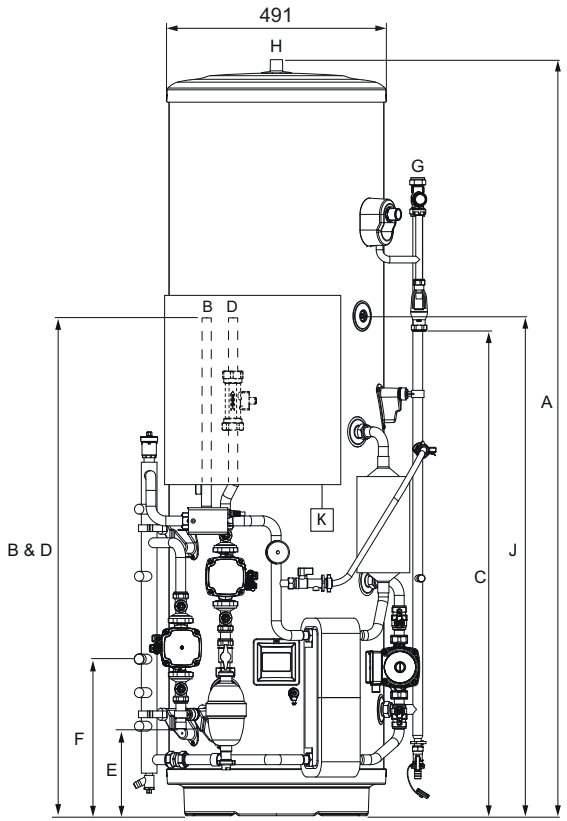
CYLINDER			EHPT15X-UKHLDW1S	EHPT17X-UKHLDW1S
NOMINAL HOT WATER VOLUME (LITRES)			150	170
ErP RATING			C	C
HEAT LOSS (kWh/24hrs)			1.40	1.59
HEAT LOSS (W)			58	66
WATER		Flow Rate (l/min) - WM 50 / 60 / 85	14 / 17 / 24	14 / 17 / 24
		Primary Circuit Pump	Grundfos UPM3L 25-75 130AZA	
		Heating Circuit Pump	Grundfos UPM3 AUTO 25-70 130	
		Sanitary Hot Water Pump	Grundfos UPSO 15-60 CIL2	
		Connection Size (mm) Heating / DHW	22 / 22	22 / 22
		Charge Pressure (MPa (Bar))	0.35 (3.5)	0.35 (3.5)
WATER SAFETY	Water Circuit	Control Thermistor (°C)	80	80
	DHW Cylinder	DHW Expansion Vessel (Litres)	12	18
		Control Thermistor	75	75
		Over Temperature Cut-Out (°C)	80 ± 5	80 ± 5
		Temp and Pressure Relief Valve (°C) / (MPa (Bar))	90 / 1.0 (10)	90 / 1.0 (10)
		Expansion Relief Valve (Cold) (MPa (Bar))	0.8 (8)	0.8 (8)
DIMENSIONS (mm)		Width	676	676
		Depth	654	654
		Height	1516	1690
WEIGHT EMPTY / FULL (kg)			59 / 209	63 / 233
CYLINDER MATERIAL	Cylinder	Cylinder Material	Duplex stainless steel	
	Insulation	Insulation Type	CFC / HCFC-free flame-retardant expanded Polyurethane	
		Insulation Thickness (mm)	50	50
		GWP of Insulation	3.1	3.1
		ODP of Insulation	0	0
ELECTRICAL DATA	Control Board *optionally powered by outdoor unit*	Electrical Supply	220-240v, 50Hz	220-240v, 50Hz
		Phase	Single	Single
		Fuse Rating - MCB Sizes (A)*1	16	16
	Immersion Heater	Electrical Supply	220-240v, 50Hz	220-240v, 50Hz
		Phase	Single	Single
		Capacity (kW)	3	3
		Max Running Current (A)	13	13
		Fuse Rating - MCB Sizes (A)*1	16	16
MECHANICAL ZONES			DHW and 1 Heating Zone*2	
OPTIONAL SIMPLIFIED WIRELESS ROOM THERMOSTAT AND WIRELESS RECEIVER			PAR-WT60R-E Controller and PAR-WR61R-E Receiver	

*1 MCB Sizes BS EN60898-2 & BS EN60947-2. *2 Optional 2 zone accessory pack available.

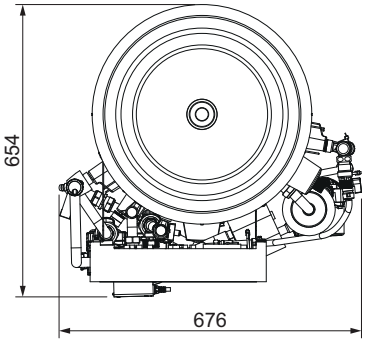
Notes: Cylinder includes: Flow Temperature Controller (FTC6) with Main Controller and Temperature Sensors, Magnetic Particle Filter, Pumps & Valves for Primary Circuit, Zone1 and DHW use, Flow Sensor, Plate Heat Exchanger, Scale Trap, 3kW Immersion Heater, Expansion Vessel, MELCloud Wi-Fi Interface, Diverter Valve and Low Loss Header.

All measurement in mm

Front View



Upper View



Letter	Pipe Description	Connection size/type
A	Overall height	
B	Heat pump flow	22mm O/D Copper
C	Tundish outlet	22mm Compression
D	Heat pump return	22mm O/D Copper
E	Heating zone 1 circuit flow	22mm O/D Copper
F	Heating zone 1 circuit return	22mm O/D Copper
G	Cold water inlet	22mm Compression
H	Hot water outlet	22mm Compression / 3/4" BSP M
J	THW5A sensor pocket	
K	Wi-Fi adaptor (included. installer to locate and mount)	

Capacity	150	170
A	1516	1690
B	1127	1127
C	909	1083
D	1127	1127
E	194	194
F	350	350
J	943	1117
K	Installer to locate and mount	

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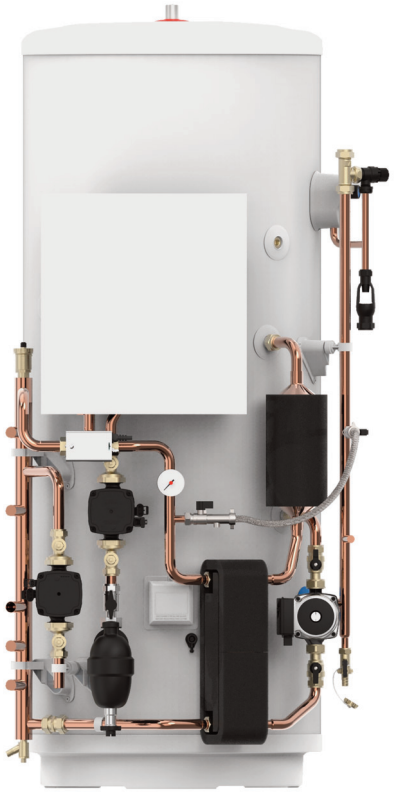
EHPT15-21X-UKHDW1S

Pre-Plumbed Standard Cylinders for Ecodan Monobloc Units



The Pre-Plumbed Standard Cylinder comes complete with integrated hydraulic components & advanced controls.

Designed to optimise performance and flexibility within an average footprint, the standard cylinder fully integrates with the Ecodan monobloc air source heat pump range. Advanced plate heat exchanger technology delivers superior heat up times and our rapid SD card commissioning, MELCloud Wi-Fi connectivity and energy monitoring functions are also included as standard.

Key Features & Benefits

- Unvented plug & play pre-plumbed DHW cylinder
- Efficient & rapid heating
- Premium quality insulation
- Flexible 2-zone space heating control
- MELCloud enabled
- Minimal installation time
- Excellent hot water recovery times
- Reduced heat losses and running costs
- Improved comfort and reduced energy use
- Remote control, monitoring, maintenance and technical support

FTC6 Controller

Mitsubishi Electric's sixth generation controller (FTC6) includes intelligent room temperature control as standard. This together with advanced weather compensation ensures the system delivers efficient, comfortable heating regardless of the season. FTC6 now also includes energy monitoring showing consumed and produced energy.

Manufactured in the UK

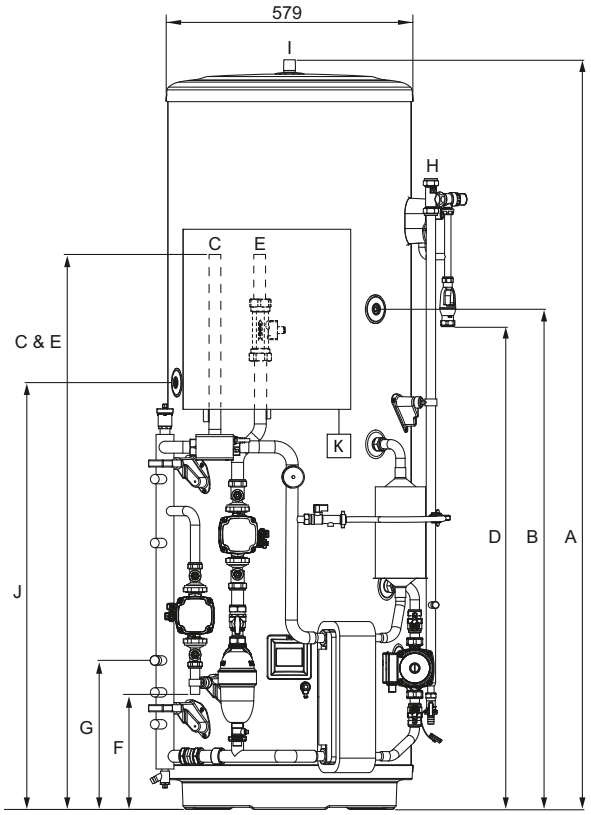
R32

CYLINDER			EHPT15X-UKHDW1S	EHPT17X-UKHDW1S	EHPT21X-UKHDW1S
NOMINAL HOT WATER VOLUME (LITRES)			150	170	210
ErP RATING			B	B	C
HEAT LOSS (kWh/24hrs)			1.15	1.23	1.53
HEAT LOSS (W)			48	51	64
WATER		Flow Rate (l/min) - WM 50 / 60 / 85	14 / 17 / 24	14 / 17 / 24	14 / 17 / 24
		Primary Circuit Pump	Grundfos UPM3L 25-75 130AZA		
		Heating Circuit Pump	Grundfos UPM3 AUTO 25-70 130		
		Sanitary Hot Water Pump	Grundfos UPSO 15-60 CIL2		
		Connection Size (mm) Heating / DHW	22 / 22	22 / 22	22 / 22
		Charge Pressure (MPa (Bar))	0.35 (3.5)	0.35 (3.5)	0.35 (3.5)
WATER SAFETY DEVICES	Water Circuit	Control Thermistor (°C)	80	80	80
	DHW Cylinder	DHW Expansion Vessel (Litres)	12	18	18
		Control Thermistor	75	75	75
		Over Temperature Cut-Out (°C)	80 ± 5	80 ± 5	80 ± 5
		Temp and Pressure Relief Valve (°C) / (MPa (Bar))	90 / 1.0 (10)	90 / 1.0 (10)	90 / 1.0 (10)
		Expansion Relief Valve (Cold) (MPa (Bar))	0.8 (8)	0.8 (8)	0.8 (8)
DIMENSIONS (mm)		Width	730	730	730
		Depth	756	756	756
		Height	1131	1257	1509
WEIGHT EMPTY / FULL (kg)			56 / 205	58 / 228	64 / 274
CYLINDER MATERIAL	Cylinder	Cylinder Material	Duplex stainless steel		
	Insulation	Insulation Type	CFC / HCFC-free flame-retardant expanded Polyurethane		
		Insulation Thickness (mm)	60	60	60
		GWP of Insulation	3.1	3.1	3.1
		ODP of Insulation	0	0	0
ELECTRICAL DATA	Control Board *optionally powered by outdoor unit*	Electrical Supply	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz
		Phase	Single	Single	Single
		Fuse Rating - MCB Sizes (A)*1	16	16	16
	Immersion Heater	Electrical Supply	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz
		Phase	Single	Single	Single
		Capacity (kW)	3	3	3
		Max Running Current (A)	13	13	13
		Fuse Rating - MCB Sizes (A)*1	16	16	16
MECHANICAL ZONES			DHW and 1 Heating Zone*2		
OPTIONAL SIMPLIFIED WIRELESS ROOM THERMOSTAT AND WIRELESS RECEIVER			PAR-WT60R-E Controller and PAR-WR61R-E Receiver		

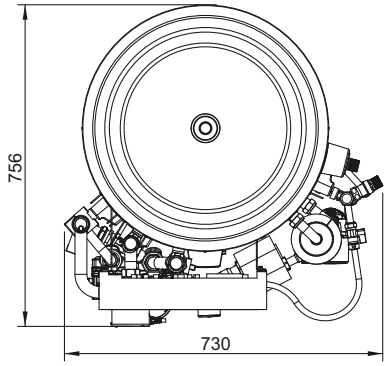
*1 MCB Sizes BS EN60898-2 & BS EN60947-2. *2 Optional 2 zone accessory pack available.

Notes: Cylinder includes: Flow Temperature Controller (FTC6) with Main Controller and Temperature Sensors, Magnetic Particle Filter, Pumps & Valves for Primary Circuit, Zone 1 and DHW use, Flow Sensor, Plate Heat Exchanger, Scale Trap, 3kW Immersion Heater, Expansion Vessel, MELCloud Wi-Fi Interface, Diverter Valve and Low Loss Header.

Front View



Upper View



Letter	Pipe Description	Connection size/type
A	Overall height	
B	Secondary return tapping (Not fitted to EHPT15X-UKHDW1S/ EHPT17X-UKHDW1S)	
C	Heat pump flow	22mm O/D Copper
D	Tundish outlet	22mm Compression
E	Heat pump return	22mm O/D Copper
F	Heating zone 1 circuit flow	22mm O/D Copper
G	Heating zone 1 circuit return	22mm O/D Copper
H	Cold water inlet	22mm Compression
I	Hot water outlet	22mm Compression / 3/4" BSP M
J	THW5A sensor pocket	
K	Wi-Fi adaptor (included. installer to locate and mount)	

Capacity	150	170	210
A	1131	1257	1509
B	Not Fitted	Not Fitted	1050
C	1122	1122	1122
D	505	630	880
E	1122	1122	1122
F	194	194	194
G	350	350	350
J	675	815	925
K	Installer to locate and mount		

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EHPT21-30X-UKHDW1L

Pre-Plumbed Standard Cylinders for Ecodan Monobloc Units

The Pre-Plumbed Standard Cylinder comes complete with integrated hydraulic components & advanced controls.

Designed to optimise performance and flexibility within an average footprint, the standard cylinder fully integrates with the Ecodan monobloc air source heat pump range. Advanced plate heat exchanger technology delivers superior heat up times and our rapid SD card commissioning, MELCloud Wi-Fi connectivity and energy monitoring functions are also included as standard.

Key Features & Benefits

- Unvented plug & play pre-plumbed DHW cylinder
- Efficient & rapid heating
- Premium quality insulation
- Flexible 2-zone space heating control
- MELCloud enabled
- Minimal installation time
- Excellent hot water recovery times
- Reduced heat losses and running costs
- Improved comfort and reduced energy use
- Remote control, monitoring, maintenance and technical support

FTC6 Controller

Mitsubishi Electric's sixth generation controller (FTC6) includes intelligent room temperature control as standard. This together with advanced weather compensation ensures the system delivers efficient, comfortable heating regardless of the season. FTC6 now also includes energy monitoring showing consumed and produced energy.

Manufactured in the UK

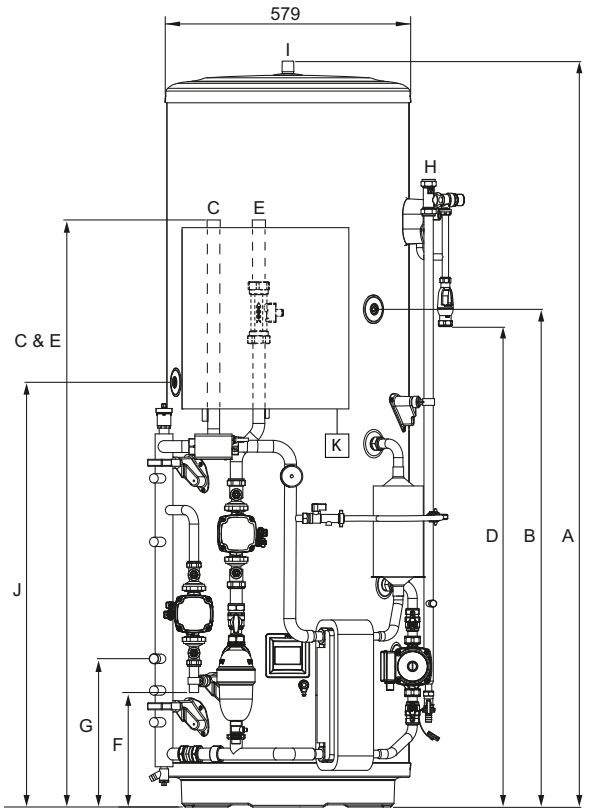
R32

CYLINDER			EHPT21X-UKHDW1L	EHPT25X-UKHDW1L	EHPT30X-UKHDW1L
NOMINAL HOT WATER VOLUME (LITRES)			210	250	300
ErP RATING			C	C	C
HEAT LOSS (kWh/24hrs)			1.53	1.80	2.09
HEAT LOSS (W)			65	75	86
WATER		Flow Rate (l/min) - (H)WM 60 / 85 / 112 / 140	17 / 24 / 32 / 40	17 / 24 / 32 / 40	24 / 32 / 40
		Primary Circuit Pump	Grundfos UPM3L 25-75 130AZA		
		Heating Circuit Pump	Grundfos UPM3 AUTO 25-70 130		
		Sanitary Hot Water Pump	Grundfos UPSO 15-60 CIL2		
		Connection Size (mm) Heating / DHW	28 / 22	28 / 22	28 / 22
		Charge Pressure (MPa (Bar))	0.35 (3.5)	0.35 (3.5)	0.35 (3.5)
WATER SAFETY DEVICES	Water Circuit	Control Thermistor (°C)	80	80	80
	DHW Cylinder	DHW Expansion Vessel (Litres)	18	24	24
		Control Thermistor	75	75	75
		Over Temperature Cut-Out (°C)	80 ± 5	80 ± 5	80 ± 5
		Temp and Pressure Relief Valve (°C) / (MPa (Bar))	90 / 1.0 (10)	90 / 1.0 (10)	90 / 1.0 (10)
		Expansion Relief Valve (Cold) (MPa (Bar))	0.8 (8)	0.8 (8)	0.8 (8)
DIMENSIONS (mm)		Width	748	748	748
		Depth	755	755	755
		Height	1509	1761	2075
WEIGHT EMPTY / FULL (kg)			68 / 278	74 / 324	82 / 382
CYLINDER MATERIAL	Cylinder	Cylinder Material	Duplex stainless steel		
	Insulation	Insulation Type	CFC / HCFC-free flame-retardant expanded Polyurethane		
		Insulation Thickness (mm)	60	60	60
		GWP of Insulation	3.1	3.1	3.1
		ODP of Insulation	0	0	0
ELECTRICAL DATA	Control Board *optionally powered by outdoor unit*	Electrical Supply	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz
		Phase	Single	Single	Single
		Fuse Rating - MCB Sizes (A)*1	16	16	16
	Immersion Heater	Electrical Supply	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz
		Phase	Single	Single	Single
		Capacity (kW)	3	3	3
		Max Running Current (A)	13	13	13
		Fuse Rating - MCB Sizes (A)*1	16	16	16
MECHANICAL ZONES			DHW and 1 Heating Zone*2		
OPTIONAL SIMPLIFIED WIRELESS ROOM THERMOSTAT AND WIRELESS RECEIVER			PAR-WT60R-E Controller and PAR-WR61R-E Receiver		

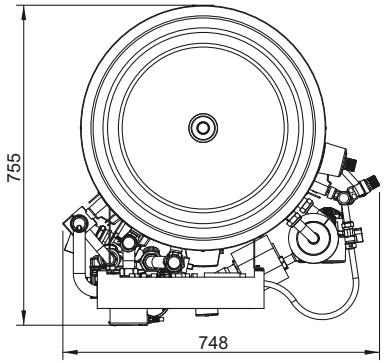
-*1 MCB Sizes BS EN60898-2 & BS EN60947-2. *2 Optional 2 zone accessory pack available.

Notes: Cylinder includes: Flow Temperature Controller (FTC6) with Main Controller and Temperature Sensors, Magnetic Particle Filter, Pumps & Valves for Primary Circuit, Zone 1 and DHW use, Flow Sensor, Plate Heat Exchanger, Scale Trap, 3kW Immersion Heater, Expansion Vessel, MELCloud Wi-Fi Interface, Diverter Valve and Low Loss Header.

Front View



Upper View



Letter	Pipe Description	Connection size/type
A	Overall height	
B	Secondary return tapping	
C	Heat pump flow	28mm O/D Copper
D	Tundish outlet	22mm Compression
E	Heat pump return	28mm O/D Copper
F	Heating zone 1 circuit flow	22mm O/D Copper
G	Heating zone 1 circuit return	22mm O/D Copper
H	Cold water inlet	22mm Compression
I	Hot water outlet	22mm Compression / 3/4" BSP M
J	THW5A sensor pocket	
K	Wi-Fi adaptor (included. installer to locate and mount)	

Capacity	210	250	300
A	1509	1761	2075
B	1050	1175	1385
C	1370	1370	1370
D	880	1136	1450
E	1370	1370	1370
F	270	270	270
G	350	350	350
J	925	1005	1193
K	Installer to locate and mount		

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EHPT18-21X-UKHLDWB

Versatile Slimline Cylinders for Ecodan Monobloc Units

The Versatile Slimline Cylinder comes ready to plumb into the system, containing all of the advanced controls you would expect.

It fully integrates with our Ecodan Monobloc air source heat pump range and is designed to meet the requirements of existing installations and new build applications. It has a minimal footprint and includes a coil heat exchanger, rapid SD card commissioning, MELCLoud Wi-Fi connectivity and energy monitoring functions as standard.

Key Features & Benefits

- Unvented, versatile DHW cylinder
- High capacity coil heat exchanger
- Diverter valve accessory supplied
- Advanced Mitsubishi Electric controls installed
- MELCloud Enabled
- Versatile product placement
- Maximises heat transfer
- Simplified heating & hot water system installation
- Quality assurance, giving peace of mind
- Remote control, monitoring, maintenance and technical support

FTC6 Controller

Mitsubishi Electric's sixth generation controller (FTC6) includes intelligent room temperature control as standard. This together with advanced weather compensation ensures the system delivers efficient, comfortable heating regardless of the season. FTC6 now also includes energy monitoring showing consumed and produced energy.

Manufactured in the UK

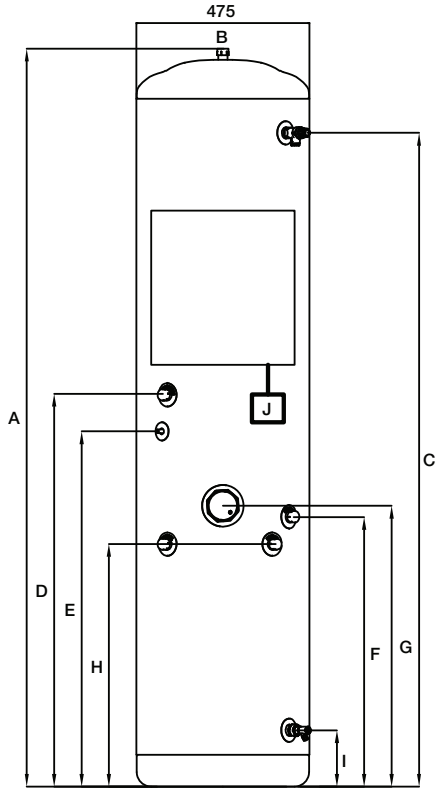
R32

CYLINDER			EHPT18X-UKHLDWB	EHPT21X-UKHLDWB
NOMINAL HOT WATER VOLUME (LITRES)			180	210
ErP RATING			C	C
HEAT LOSS (kWh/24hrs)			1.72	2.08
HEAT LOSS (W)			72	87
WATER		Flow Rate (l/min) - (H)WM 50 / 60 / 85 / 112 / 140	14 / 17 / 24 / 32 / 40	14 / 17 / 24 / 32 / 40
		Primary Circuit Pump	Local supply	
		Heating Circuit Pump	Local supply	
		Sanitary Hot Water Pump	N/A	
		Connection Size (mm) Heating / DHW	22 / 22	22 / 22
		Charge Pressure (MPa (Bar))	0.30 (3.0)	0.30 (3.0)
WATER SAFETY	Water Circuit	Control Thermistor (°C)	80	80
	DHW Cylinder	DHW Expansion Vessel (Litres)	18	18
		Control Thermistor	75	75
		Over Temperature Cut-Out (°C)	85 ± 5	85 ± 5
		Temp and Pressure Relief Valve (°C) / (MPa (Bar))	90°C / 7 Bar	90°C / 7 Bar
		Expansion Relief Valve (Cold) (MPa (Bar))	6 Bar	6 Bar
DIMENSIONS (mm)		Width	475+0.2*3	475+0.2*3
		Depth	569.5	569.5
		Height	1712	2025
WEIGHT EMPTY / FULL (kg)			50 / 218	55 / 258
CYLINDER MATERIAL	Cylinder	Cylinder Material	Stainless Steel	
	Insulation	Insulation Type	CFC / HCFC-free Polyurethane	
		Insulation Thickness (mm)	50	50
		GWP of Insulation	1	1
		ODP of Insulation	0	0
ELECTRICAL DATA	Control Board *optionally powered by outdoor unit*	Electrical Supply	220-240v, 50Hz	220-240v, 50Hz
		Phase	Single	Single
		Fuse Rating - MCB Sizes (A)*1	16	16
	Immersion Heater	Electrical Supply	220-240v, 50Hz	220-240v, 50Hz
		Phase	Single	Single
		Capacity (kW)	3	3
		Max Running Current (A)	13	13
		Fuse Rating - MCB Sizes (A)*1	16	16
MECHANICAL ZONES			DHW and 1 Heating Zone*2	
OPTIONAL SIMPLIFIED WIRELESS ROOM THERMOSTAT AND WIRELESS RECEIVER			PAR-WT60R-E Controller and PAR-WR61R-E Receiver	

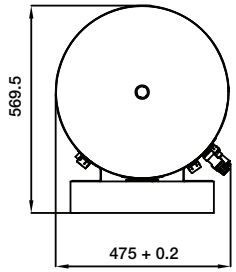
*1 MCB Sizes BS EN60898-2 & BS EN60947-2. *2 Optional 2 zone accessory pack available. *3 Temperature and Pressure Relief Valve.

Notes: Cylinder includes: Flow Temperature Controller (FTC6) with Main Controller and Temperature Sensors, Diverter Valve, Coil Heat Exchanger, 3kW Immersion Heater, Expansion Vessel, MELCloud Wi-Fi Interface, Drain Valve, Tundish and Cold Water Combination Valve.

Front View



Upper View



Letter	Pipe Description	Connection size/type
A	Overall height	
B	Hot Water Outlet	22mm Compression (3/4" Male BSP)
C	Temperature & Pressure Relief Valve	
D	Secondary Return Tapping	22mm Compression (3/4" Male BSP)
E	THW5A Sensor Pocket	
F	Cold Water Inlet	22mm Compression (3/4" Male BSP)
G	Immersion heater	
H	Heat Pump Flow & Return Coil Connections	22mm Compression (3/4" Male BSP)
I	Drain Valve	22mm Compression (3/4" Male BSP)
J	Wi-Fi Adaptor (Installer to locate and mount)	

Capacity	180	210
A	1712	2025
C	1479	1795
D	N/A	1078
E	862	1020
F	726	726
G	756	769
H	668	668
I	158	158
J	Installer to locate and mount	

ecodan

EHPT21-30X-UKHDWB

Versatile Standard Cylinders for Ecodan Monobloc Units

The Versatile Standard Cylinder comes ready to plumb into the system, containing all of the advanced controls you would expect.

It integrates with our Ecodan Monobloc air source heat pump range and is designed to meet the requirements of existing installations and new build applications. It has a standard footprint and includes a coil heat exchanger, rapid SD card commissioning, MELCLoud Wi-Fi connectivity and energy monitoring functions as standard.

Key Features & Benefits

- Unvented, versatile DHW cylinder
- High capacity coil heat exchanger
- Diverter valve accessory supplied
- Advanced Mitsubishi Electric controls installed
- MELCloud Enabled
- Versatile product placement
- Maximises heat transfer
- Simplified heating & hot water system installation
- Quality assurance, giving peace of mind
- Remote control, monitoring, maintenance and technical support

FTC6 Controller

Mitsubishi Electric's sixth generation controller (FTC6) includes intelligent room temperature control as standard. This together with advanced weather compensation ensures the system delivers efficient, comfortable heating regardless of the season. FTC6 now also includes energy monitoring showing consumed and produced energy.

Manufactured in the UK

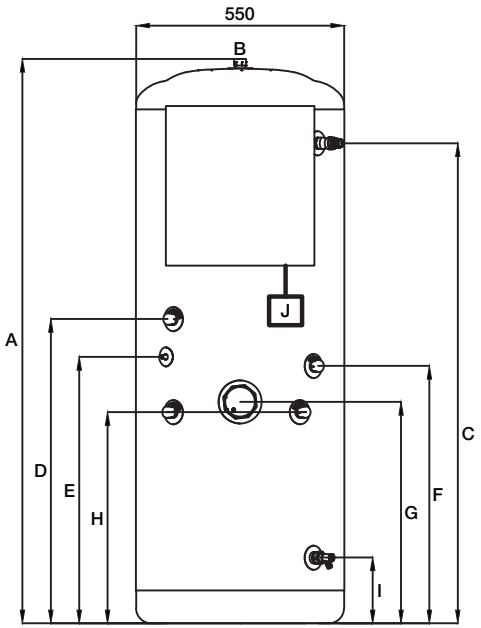
R32

CYLINDER			EHPT21X-UKHDWB	EHPT25X-UKHDWB	EHPT30X-UKHDWB
NOMINAL HOT WATER VOLUME (LITRES)			210	250	300
ErP RATING			C	C	C
HEAT LOSS (kWh/24hrs)			1.79	2.02	2.24
HEAT LOSS (W)			75	84	93
WATER		Flow Rate (l/min) - (H)WM 50 / 60 / 85 / 112 / 140	14 / 17 / 24 / 32 / 40	17 / 24 / 32 / 40	24 / 32 / 40
		Primary Circuit Pump		Local supply	
		Heating Circuit Pump		Local supply	
		Sanitary Hot Water Pump		N/A	
		Connection Size (mm) Heating / DHW	22 / 22	22 / 22	22 / 22
		Charge Pressure (MPa (Bar))	0.30 (3.0)	0.30 (3.0)	0.30 (3.0)
WATER SAFETY DEVICES	Water Circuit	Control Thermistor (°C)	80	80	80
	DHW Cylinder	DHW Expansion Vessel (Litres)	18	18	24
		Control Thermistor	75	75	75
		Over Temperature Cut-Out (°C)	85 ± 5	85 ± 5	85 ± 5
		Temp and Pressure Relief Valve (°C) / (MPa (Bar))	90°C / 7 Bar	90°C / 7 Bar	90°C / 7 Bar
		Expansion Relief Valve (Cold) (MPa (Bar))	6 Bar	6 Bar	6 Bar
DIMENSIONS (mm)		Width	550	550	550
		Depth	651	651	651
		Height	1495	1745	2058
WEIGHT EMPTY / FULL (kg)			53 / 256	59 / 300	65 / 363
CYLINDER MATERIAL	Cylinder	Cylinder Material		Stainless Steel	
	Insulation	Insulation Type		CFC / HCFC-free Polyurethane	
		Insulation Thickness (mm)	50	50	50
		GWP of Insulation	1	1	1
		ODP of Insulation	0	0	0
ELECTRICAL DATA	Control Board *optionally powered by outdoor unit*	Electrical Supply	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz
		Phase	Single	Single	Single
		Fuse Rating - MCB Sizes (A)*1	16	16	16
	Immersion Heater	Electrical Supply	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz
		Phase	Single	Single	Single
		Capacity (kW)	3	3	3
		Max Running Current (A)	13	13	13
		Fuse Rating - MCB Sizes (A)*1	16	16	16
MECHANICAL ZONES				DHW and 1 Heating Zone*2	
OPTIONAL SIMPLIFIED WIRELESS ROOM THERMOSTAT AND WIRELESS RECEIVER				PAR-WT60R-E Controller and PAR-WR61R-E Receiver	

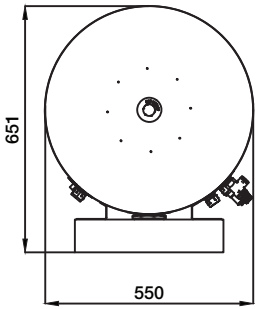
-*1 MCB Sizes BS EN60898-2 & BS EN60947-2. *2 Optional 2 zone accessory pack available.

Notes: Cylinder includes: Flow Temperature Controller (FTC6) with Main Controller and Temperature Sensors, Diverter Valve, Coil Heat Exchanger, 3kW Immersion Heater, Expansion Vessel, MELCloud Wi-Fi Interface, Drain Valve, Tundish and Cold Water Combination Valve.

Front View



Upper View



Letter	Pipe Description	Connection size/type
A	Overall height	
B	Hot Water Outlet	22mm Compression (3/4" Male BSP)
C	Temperature & Pressure Relief Valve	
D	Secondary Return Tapping	22mm Compression (3/4" Male BSP)
E	THW5A Sensor Pocket	
F	Cold Water Inlet	22mm Compression (3/4" Male BSP)
G	Immersion heater	
H	Heat Pump Flow & Return Coil Connections	22mm Compression (3/4" Male BSP)
I	Drain Valve	22mm Compression (3/4" Male BSP)
J	Wi-Fi Adaptor (Installer to locate and mount)	

Capacity	210	250	300
A	1495	1745	2058
C	1273	1523	1836
D	819	944	1101
E	793	916	1072
F	681	681	681
G	584	654	654
H	554	554	554
I	174	174	174
J	Installer to locate and mount		

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FTC6 / FTC2BR Flow Temperature Controllers

For use with Ecodan Monobloc Units and Third Party BEMS

The FTC6 Flow Temperature Controller is designed specifically by Mitsubishi Electric to integrate with the Ecodan PUZ monobloc air source heat pump range and a third party cylinder.

The FTC2BR has been developed to allow the Ecodan PUZ range to interface with third party or BEMS (Building Energy Management System) controls. A combination of volt free and voltage inputs allow the Ecodan PUZ monobloc range to be used in applications where only simple on/off and temperature control is required.

Functions that can be controlled and monitored by third party controls:

Controlled

- On/Off heating mode
- On/Off heating ECO mode
- On/Off hot water mode
- On/Off holiday mode
- On/Off legionella mode
- Change water flow temperature

Monitored

- Unit running
- Error
- Defrost

The ability to interface with third party controls opens up a huge number of application opportunities. Many processes simply require a heat source that provides hot water, without polished end user controls. The FTC2BR controller allows the Ecodan PUZ to be used in these applications. FTC2BR inputs and outputs can be used in conjunction with local BEMS.

R32

FLOW TEMPERATURE CONTROLLERS		FTC6 (PAC-IF072B-E)	FTC2BR (PAC-IF033B-E)
COMPATIBILITY	PUZ-WM50VHA(-BS)	✓	✓
	PUZ-WM60VAA(-BS)	✓	✓
	PUZ-WM85V(Y)AA(-BS)	✓	✓
	PUZ-WM112V(Y)AA(-BS)	✓	✓
	PUZ-HWM140V(Y)HA(-BS)	✓	✓
BUILT-IN FEATURES	Initial Setting Wizard	✓	
	Commissioning Aide	✓	
	Smart Grid Ready	✓	
	PV Connection	✓	
	Energy Monitoring	✓	
	Dual Set-Point DHW	✓	
	Silent-Mode	✓	
	Cascade*1	✓	
	Hybrid	✓	
MELCloud*2		✓	
BEMS INTERFACE			✓
DIMENSIONS (MM)	Width	393	336
	Depth	86.7	69
	Height	422	278
WEIGHT (kg)		4.1	3.2
OPERATING AMBIENT TEMPERATURE (°C) / HUMIDITY		0~ +35°C (RH<80%)	0~ +35°C (RH<80%)
ELECTRICAL DATA	Electrical Supply	Via Outdoor Unit or Independent Source (230v)	Via Outdoor Unit or Independent Source (230v)
	Phase	Single	Single

*1 Requires Optional part(s) PAC-SIF051B-E. Please contact your regional sales office technical team. *2 Requires Wi-Fi interface MAC-567IF-E.

Energy Monitoring Packs

All Ecodan Flow Temperature Control systems come with free energy monitoring as standard. System users are able to measure both consumed electrical energy and produced heat energy to the nearest kWh.

In addition to the basic system functionality features, i.e. hot water and heating status, the system's energy performance can also now be viewed. Historic energy consumption, heat production and run cost reports are available via the main controller, SD card or MELCloud.

MELCloud


QUHZ-W40VA


PUZ-WM50VHA


PUZ-WM60VAA


PUZ-WM85VAA
PUZ-WM85YAA


PUZ-WM112VAA
PUZ-WM112YAA


PUZ-HWM140VHA
PUZ-HWM140YHA

PACK	4kW	5kW	6kW	8.5kW	11.2kW	14kW
EMP1	✓	✓	✓	✓	✓	✓
EMP2	✓	✓	✓	✓	✓	✓
EMP3-M-1PH		✓	✓	✓ *VAA	✓ *VAA	✓ *VHA
EMP3-Q-1PH	✓					
EMPH-M-1PH		✓	✓	✓	✓	✓

DESCRIPTION	ELECTRIC METER	HEAT METER	DATA STORAGE
Energy input & output estimation included as standard			
Electrical energy measurement consumption pack	2		
MMSP compliant electrical energy consumption and heat generation pack with cloud data storage	2	1	✓
MMSP compliant electrical energy consumption and heat generation pack with cloud data storage	2	1	✓
Electrical energy consumption and heat generation pack for hybrid systems	2	1	

MELCloud Wi-Fi Connectivity

MELCloud™

Featuring the award-winning

MELConsole
Remote Maintenance & Technical Support

MELCloud is a cloud based solution for controlling your Mitsubishi Electric Ecodan heating system either locally or remotely by PC, Mac, Tablet or Smartphone via the internet.

The set up and remote operation of your Ecodan heating system via MELCloud is simple and straight forward. All you need is a wireless connection where the Ecodan is located and an internet connection on your mobile or fixed device. To set up the system, the router and the Ecodan Wi-Fi interface need pairing and this is done simply and quickly via the WPS button found on all mainstream routers, or using access point pairing via a mobile phone.

Key Features

- Access to remote maintenance and technical support
- View and control your heating and hot water from anywhere in the world
- Reports on energy use, temperature history and more
- Live weather feed at location of Ecodan
- Share / restrict access and control of the Ecodan system
- Compatible with Amazon Alexa or Google Assistant-enabled devices
- Available for any FTC6 based system, new or retrofit using a MAC-587IF-E interface

Available on the App Store

GET IT ON Google Play

Windows Store

works with Google Home

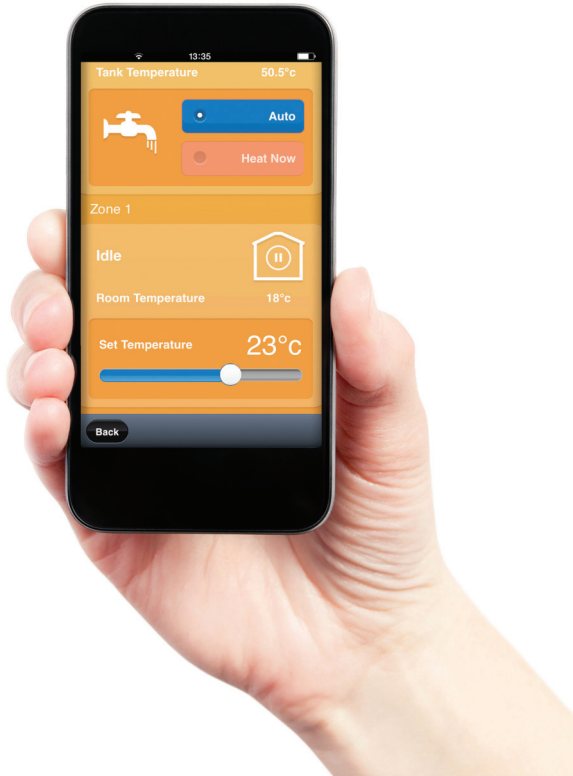
MELConsole

Ecodan Helpdesk

Once connected, you can also enjoy the benefits of **MELConsole** which provides **remote maintenance & technical support** reducing the need of a visit from an engineer.

MELConsole
Remote Maintenance & Technical Support

24/7 Technical Support



MELCloud™

For a demonstration of Mitsubishi Electric's MELCloud visit our website: **melcloud.com** and click 'Login'

Available for PC, Mac, Tablet or Smartphone

Supported Ecodan Models

All **Ecodan FTC6** systems have energy monitoring functionality as standard and the ability to connect to MELCloud. A MAC-587IF-E Wi-Fi Interface is required to use MELCloud.

Wi-Fi Interface		MAC-587IF-E
DESCRIPTION		Wi-Fi Interface
CONNECT TO		Indoor Unit
MAX NUMBER OF UNITS		1
COMPATIBILITY		Ecodan FTC6
POWER SUPPLY		From indoor unit
DIMENSIONS (WxDxH) mm		73.5 x 18.5 x 41.5
CONTROL	On/Off	✓
	Mode	✓
	Heating Setpoint	✓
	Hot Water Boost	✓
	2-Zone Control	✓
	Holiday Mode	✓
	Timer	✓
	Frost Protection	✓
MONITOR	On/Off	✓
	Mode	✓
	Heating Setpoint	✓
	Tank Temperature	✓
	Tank Target Temperature	✓
	Outside Temperature	✓
	Fault Codes	✓
	Consumed Electrical Energy	✓
	Produced Heat Energy	✓

Supported Hardware / Software

Tablets (Apps or Web Client)
- Apple iPad / iPad mini
- Samsung Galaxy Tab / Note
- Google Nexus
- Dell Latitude 10
- Microsoft Surface
- BlackBerry PlayBook

Smartphones (Apps or Web Client)
- Apple iPhone
- Samsung Galaxy S
- Google Nexus
- Nokia Lumia
- BlackBerry Z10

Operating Systems
- Android™
- Apple iOS / OS
- Microsoft Windows
- BlackBerry

Internet Browsers (Web Client only)
- Microsoft Internet Explorer
- Google Chrome
- Apple Safari
- Mozilla Firefox
- Opera

Please Note:
This is not definitive list of all compatible devices, other similar devices which use supported Operating Systems or Internet Browsers should also work either via dedicated Apps or via Web Browser / Web Client options. Please note that user experience may vary slightly depending on hardware and software combination. Google, Android, Google Play, Google Chrome and other marks are trademarks of Google LLC.

i-LIFE2 Slim

Fan Assisted Radiator

The i-Life2 Slim Fan Assisted Radiator is designed to work seamlessly with existing heating or renewable technologies.

Key Features

- Stylish - At only 13cm deep, the sleek and elegant satin-white, wall mounted cabinet is designed to blend seamlessly into any setting
- Flexible - Packed with advanced controls and functions, the i-Life2 Slim will work with traditional heating or renewable systems such as heat pumps
- Easy to Use - Airflow is managed by deflectors at the top of the unit, which open and close automatically, ensuring fast and even heat distribution

i-Life2 Slim units are managed by a variable speed fan motor that continuously modulates the fan speed

MODEL		i-LIFE2 SLIM DLMV 80	i-LIFE2 SLIM DLMV 170
CAPACITY (W)*2 *6 *8		500 / 780 / 880	1060 / 1660 / 2130
ELECTRICAL DATA	Electrical Supply	230v, 50Hz	230v, 50Hz
	Phase	Single	Single
	Fan Power Input (W) - (Lo-Mi-Hi)*1 *8	0.7 / 4.6 / 10.7	1.62 / 10.1 / 19.0
WATER DATA	Water Flow Rate (l/min) - (Lo-Mi-Hi)*2	1.2 / 2.4 / 2.4	3 / 4.8 / 6
	Water Pressure Drop (kPa) - (Lo-Mi-Hi)*2 *8	3 / 6 / 8	2 / 5 / 8
AIR DATA	Air Flow Rate (m3/h) - (Lo-Mi-Hi)*1	51 / 93 / 125	122 / 221 / 277
SOUND DATA	Sound Pressure (dB(A)) - (Lo-Mi-Hi)*3	24 / 35 / 41	26 / 36 / 42
	Sound Power (dB(A)) - (Lo-Mi-Hi)*4 *7 *8	33 / 44 / 50	35 / 45 / 51
DIMENSIONS (mm)*5	Width	737	937
	Depth	131	131
	Height	579	579
WEIGHT (kg)*5		17	20

1. Room temperature 27°C d.b./19°C w.b.; Chilled water (in/out) 7/12°C.
2. Room temperature 20°C d.b.; Hot water (in/out) 45/40 °C.
3. Sound pressure level in free field on a reflective surface, 1m from fan front and 1m from the ground. Non-binding value obtained from sound power level.
4. Sound power on the basis of measurements made in compliance with ISO 374 and Eurovent 8/2.
5. Unit in standard configuration/execution, without optional accessories.
6. Values in compliance with EN14511-3:2013.
7. Values in compliance with [REGULATION (UE) N.2016/2281].
8. Certified data in EUROVENT.

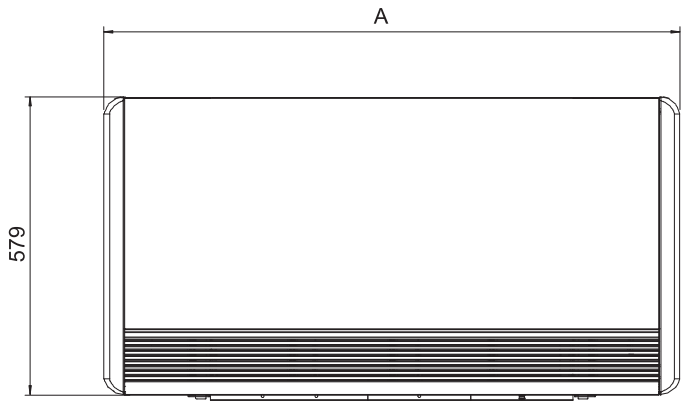
CLIMAVENETA
SUSTAINABLE COMFORT

Product Dimensions

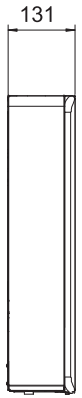
i-LIFE2 SLIM DLMV 80 & i-LIFE2 SLIM DLMV 170

All measurement in mm

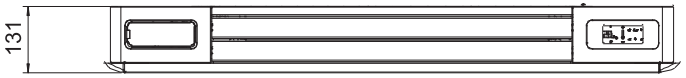
Front View



Side View



Upper View

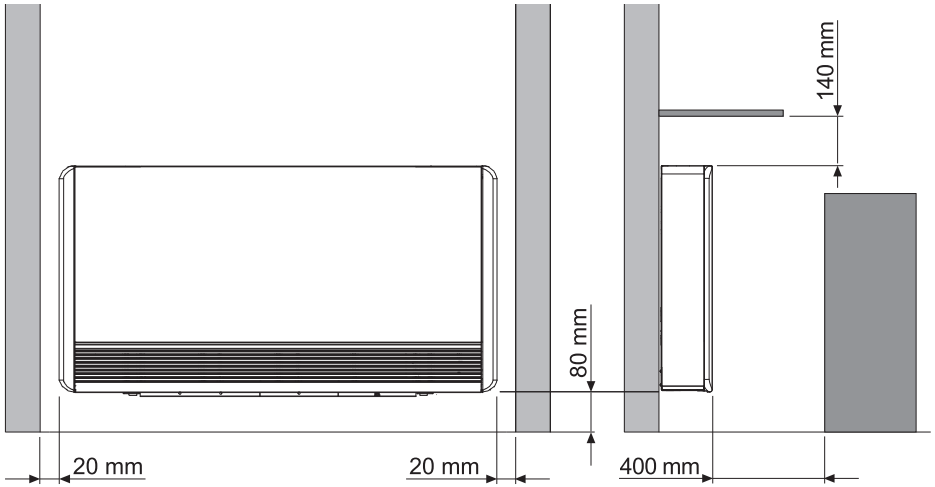


Dimensions	080	170
A	720	920

Installation Location

i-LIFE2 SLIM DLMV 80 & i-LIFE2 SLIM DLMV 170

All measurement in mm



ecodan®

Accessories / Optional Extras

PAR-WT60R-E
FTC Wireless Controller Transmitter

DESCRIPTION	MODEL REF.
QUHZ / PUZ	
FTC Wireless Controller Transmitter	PAR-WT60R-E
FTC Wireless Controller Receiver 2m Cable	PAR-WR61R-E
Modbus CN105 Interface	ACC-BEMS-A1M
FTC6 High Temperature Sensor 5m Cable	PAC-TH012HT-E
FTC6 High Temperature Sensor 30m Cable	PAC-TH012HTL-E
FTC Flow and Return Temperature Sensors 5m Cable	PAC-TH011-E
FTC6 Cylinder DHW Temp Sensor 5m Cable	PAC-TH011TK2-E
FTC6 Cylinder DHW Temp Sensor 30m Cable	PAC-TH011TKL2-E
FTC Service Diagnostic Tool	PAC-SK52ST
Ecodan Anti-Vibration Fix-It-Foot 600mm Kit	ACC-AVM-001
Ecodan Reinforced Lightweight Slab +Anti-Vibration Fix-It-Foot Kit	ACC-AVS-001
Std Drain Socket Kit	PAC-SG61DS-E
10L Anti Freeze	ACC-AFZ-010A
20L Anti Freeze	ACC-AFZ-020A
Insulated Through Wall Sleeve Kit (85mm)	ACC-FCP-TW1
External Pipework Trunking Length (1m x 140mm Black x2)	ACC-TRU-LE1
External Pipework Trunking Length (2m x 140mm Black x1)	ACC-TRU-LE2
External Pipework Trunking Length Connector (140mm Black)	ACC-TRU-JO1
External Pipework Trunking Wall Cover (140mm Black)	ACC-TRU-CO1
External Pipework Trunking Elbow (140mm Black)	ACC-TRU-EL1
External Pipework Trunking External Corner (140mm Black)	ACC-TRU-EC1
External Pipework Trunking Internal Corner (140mm Black)	ACC-TRU-IC1
Pack for 2 Zone Systems with Equal Temperatures	ACC-2ZP-K01
Pack for 2 Zone Systems with Different Temperatures	ACC-2ZP-K02
ALL Flow Balancing Valve	ACC-FBV-40L
Insulated Flexible Connection Pipes (QUHZ: 750mm x 15mm) Standard Pair	ACC-FCP-QUHZ
Insulated Flexible Connection Pipes (22mm x 500mm) Standard Pair	ACC-FCP-S22
Insulated Flexible Connection Pipes (28mm x 500mm) Standard Pair	ACC-FCP-S28
Insulated Flexible Connection Pipes (28mm x 300mm) Elbow Pair	ACC-FCP-E28
12L Exp Vessel +PRV	PAC-EVP12-E1
MELCloud Wi-Fi Interface	MAC-587IF-E

Ventilation

Fresh Air Ventilation Range

Contents

Fresh Air Ventilation Range

Why Do We Need **Fresh Air Ventilation**?

The build-up of health damaging pollutants, mould and rot are all attributed to poor indoor air quality and the lack of effective ventilation.

With highly airtight buildings on the rise, alongside increasingly strict legislation on air quality, the need is growing for an effective solution such as mechanical ventilation, which is also energy efficient. Mitsubishi Electric systems are perfectly placed to address this need and are the ideal solution to provide fresh air.

Our range includes single and multi-room Mechanical Ventilation with Heat Recovery (MVHR) units and medium to large scale ventilation solutions including Air Handling Units (AHUs). All systems have been designed to provide the best ventilation solution for the chosen application, by delivering the required amount of fresh air, whilst extracting the right amount of stale air, in the most energy efficient way possible.

Fresh air benefits include:

- A healthy and better maintained building
- Improved air quality for occupants
- Improved comfort via the recovery of heat to incoming fresh air

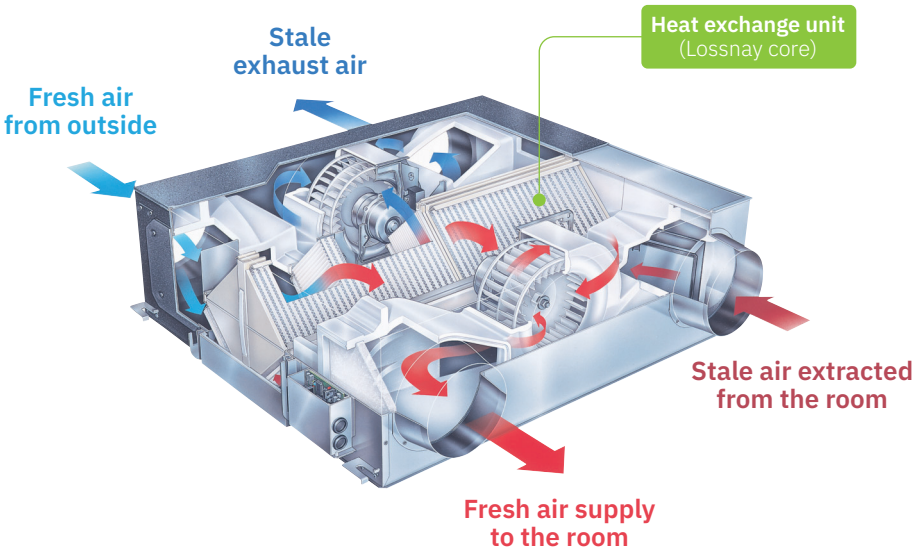
Excellent Air Quality and Heat Exchange Efficiency

How Lossnay Works

Our Lossnay systems have perfected the recovery of energy that would have otherwise been wasted. They do this by either warming or cooling incoming air, a feature which makes Mitsubishi Electric MVHR units extremely energy efficient.

Heat Recovery is made possible via the unique Lossnay ultra-thin paper core technology, which is constructed in a corrugated form and layered in alterative directions.

This design allows a cross airflow to maximise heat recovery without the supply and exhaust air mixing, ensuring only fresh air is introduced to the building.



How Air Handling Units work

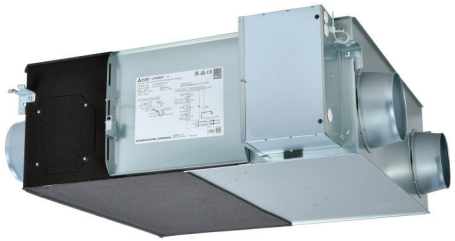
Packaged Air Handling Units (AHUs) are designed to provide a tempered fresh air supply into commercial buildings. They work in conjunction with the building's air conditioning system to provide occupants with a fresh and comfortable environment.

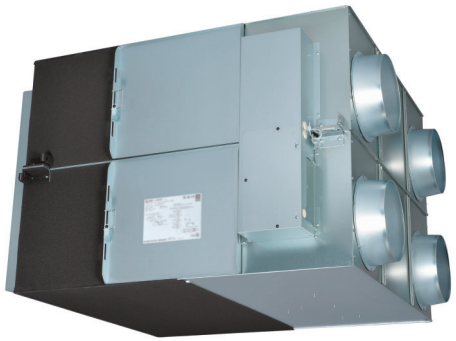
The technology behind the Climaveneta WizardX AHU includes a highly efficient heat recovery thermal wheel to transfer heat between the supply and return air. By capturing and reusing this heat before it leaves the building, substantial energy savings can be made.

This technology can also provide free cooling and benefits from fully integrated, intelligent controls.

LGH-RVX3-E

Commercial Lossnay





Compatible with Mitsubishi Electric plug-and-play CO_2 sensor (powered by the Lossnay unit)

Notes: Running current, power consumption, recovery efficiency, and sound levels are based on the above default airflow rates at 25%, 50%, 75%, and 100%. Specific duty point data is available upon request. Supply and exhaust fan speeds can be individually commissioned between 25% and 100% in 5% increments. Sound Pressure Level measured at 1.5m under the centre of the bottom panel. Air flow rates, external static pressure and specific fan powers tested to BS EN13053: 2019. Energy recovery efficiencies tested to BS EN308: 2022.

*1: EN 779 G4 equivalent according to 'REHVA Filter Class Conversion between EN 779 and EN ISO 16890-1'.

The new Lossnay **LGH-RVX3-E** Mechanical Ventilation Heat Recovery (MVHR) systems are designed to supply clean, fresh air into any commercial building, whilst simultaneously extracting stale air, ensuring good indoor air quality for occupant wellbeing. These units are also able to recover valuable heat energy from inside the building, maximising energy efficiency and reducing running costs.

Key Features & Benefits

- Lossnay paper core enables total heat exchange (sensible and latent) to achieve higher levels of heat recovery, resulting in both cost and energy savings
- Flexible supply and exhaust fan commissioning in 5% increments, offering low running costs and easier compliance with Part L
- Optional Mitsubishi Electric energy saving CO_2 sensor allows automatic incremental fan control for a healthy indoor environment
- Full airflow in bypass mode, promoting good indoor air quality during free cooling
- Dual-Barrier coating on the fan prevents dust and grease accumulation, ensuring long-term efficient operation
- Lightweight structure ideal for easy ceiling installation
- Vertical installation available for flexibility of application
- Control compatibility with Mr Slim and City Multi air conditioning systems for a complete and highly effective system operation

MODEL			LGH-15RVX3-E	LGH-25RVX3-E	LGH-35RVX3-E	LGH-50RVX3-E	LGH-65RVX3-E	LGH-80RVX3-E	LGH-100RVX3-E	LGH-160RVX3-E	LGH-200RVX3-E
25% (Default speed 1)	Air Volume	m^3/h	38	63	88	125	163	200	250	400	500
		l/s	10	17	24	35	45	56	69	111	139
	External Static Pressure	Pa	8	8	10	10	10	11	12	11	11
	Temperature Exchange Efficiency	Heating %	81.5	88.0	82.0	75.0	82.0	80.0	83.5	80.0	83.5
		Cooling %	78.0	85.0	79.0	73.0	80.0	78.0	82.5	78.0	82.5
	Enthalpy Exchange Efficiency	Heating %	80.5	84.0	80.0	73.0	80.0	73.5	75.5	73.5	76.0
		Cooling %	68.0	73.0	69.5	65.0	69.0	68.0	71.5	68.0	70.0
	Specific Fan Power	W/(l/s)	0.96	0.63	0.62	0.43	0.44	0.41	0.39	0.41	0.41
	Input Power	W	10	11	15	15	20	23	27	45	57
	Sound Pressure Level	dB(A)	17.0	17.0	17.0	17.0	17.5	18.0	18.5	18.0	18.0
50% (Default speed 2)	Air Volume	m^3/h	75	125	175	250	325	400	500	800	1000
		l/s	21	35	49	69	90	111	139	222	278
	External Static Pressure	Pa	30	30	40	38	38	43	48	43	43
	Temperature Exchange Efficiency	Heating %	78.0	81.0	79.0	73.5	78.5	78.0	79.5	78.0	79.5
		Cooling %	73.5	79.0	74.0	71.0	74.5	75.5	77.0	75.5	76.0
	Enthalpy Exchange Efficiency	Heating %	76.5	75.5	77.5	72.0	76.5	70.5	68.5	70.5	67.5
		Cooling %	61.0	65.0	63.5	60.0	61.5	62.5	64.0	62.5	64.5
	Specific Fan Power	W/(l/s)	0.72	0.60	0.60	0.49	0.56	0.58	0.60	0.58	0.59
	Input Power	W	15	21	29	34	51	64	83	128	163
	Sound Pressure Level	dB(A)	18.0	19.5	19.0	21.0	24.0	25.0	27.0	26.0	27.5
75% (Default speed 3)	Air Volume	m^3/h	113	188	263	375	488	600	750	1200	1500
		l/s	31	52	73	104	135	167	208	333	417
	External Static Pressure	Pa	68	68	90	85	85	96	107	96	96
	Temperature Exchange Efficiency	Heating %	75.5	78.5	77.0	71.5	75.0	76.5	77.0	76.5	77.5
		Cooling %	70.5	76.5	71.0	67.0	70.0	70.0	72.0	70.0	71.5
	Enthalpy Exchange Efficiency	Heating %	73.5	72.0	74.5	69.5	72.0	65.0	63.0	65.0	64.0
		Cooling %	57.0	60.5	59.5	55.0	55.0	56.0	59.0	56.0	59.5
	Specific Fan Power	W/(l/s)	0.96	0.81	0.84	0.78	0.89	0.96	1.01	0.97	1.00
	Input Power	W	30	42	61	81	120	160	210	324	416
	Sound Pressure Level	dB(A)	22.0	25.0	24.5	27.0	31.5	33.5	35.0	35.0	36.0
100% (Default speed 4)	Air Volume	m^3/h	150	250	350	500	650	800	1000	1600	2000
		l/s	42	69	97	139	181	222	278	444	556
	External Static Pressure	Pa	120	120	160	150	150	170	190	170	170
	Temperature Exchange Efficiency	Heating %	73.5	75.5	75.0	70.5	72.5	75.0	75.5	75.0	76.5
		Cooling %	65.5	70.5	66.5	63.5	65.0	65.0	67.5	65.0	66.5
	Enthalpy Exchange Efficiency	Heating %	70.5	69.0	72.0	68.5	69.5	62.0	60.5	62.0	60.5
		Cooling %	52.5	56.0	55.0	51.5	50.5	52.0	53.5	52.0	57.0
	Specific Fan Power	W/(l/s)	1.32	1.08	1.23	1.33	1.36	1.54	1.58	1.55	1.54
	Input Power	W	55	75	120	185	245	343	438	687	855
	Sound Pressure Level	dB(A)	27.0	30.5	30.5	35.0	37.5	39.0	40.0	41.0	41.5
DUCT SIZE		mm	100	150	150	200	200	250	250	(SA,RA)250 (OA,EA)270 x 700	(SA,RA)250 (OA,EA)270 x 700
WEIGHT		kg	20	22	30	33	41	47	53	96	108
DIMENSIONS	Width x Depth x Height	mm	780 x 610 x 289	780 x 735 x 289	888 x 874 x 331	888 x 1016 x 331	908 x 954 x 404	1144 x 1004 x 404	1144 x 1231 x 404	1144 x 1004 x 808	1144 x 1231 x 808
ELECTRICAL POWER SUPPLY			220-240V, 50Hz								
MAXIMUM CURRENT		A	0.57	0.88	1.37	1.86	2.37	3.23	3.77	4.74	5.40
FUSE RATING (BS88) – HRC (A)		A	6	6	6	6	6	6	6	10	10
HEAT EXCHANGER			Paper with specially treated Cellulose Membrane								
STANDARD FILTER			ISO 16890 Coarse 60%*1								

Accessories

Remote Controllers

PZ-62DR-EB

Lossnay remote controller for LGH-RVX3-E

Filters

PZ-15RF3-E

Standard replacement filter (Coarse 60%) for LGH-15RVX3-E

PZ-25RF3-E

Standard replacement filter (Coarse 60%) for LGH-25RVX3-E

PZ-35RF3-E

Standard replacement filter (Coarse 60%) for LGH-35RVX3-E

PZ-50RF3-E

Standard replacement filter (Coarse 60%) for LGH-50RVX3-E

PZ-65RF3-E

Standard replacement filter (Coarse 60%) for LGH-65RVX3-E

PZ-80RF3-E

Standard replacement filter (Coarse 60%) for LGH-80RVX3-E / LGH-160RVX3-E (2 sets required)

PZ-100RF3-E

Standard replacement filter (Coarse 60%) for LGH-100RVX3-E / LGH-200RVX3-E (2 sets required)

PZ-15RFP3-E

ePM$_1$ 75% grade filter for LGH-15RVX3-E

PZ-25RFP3-E

ePM$_1$ 75% grade filter for LGH-25RVX3-E

PZ-35RFP3-E

ePM$_1$ 75% grade filter for LGH-35RVX3-E

PZ-50RFP3-E

ePM$_1$ 75% grade filter for LGH-50RVX3-E

PZ-65RFP3-E

ePM$_1$ 75% grade filter for LGH-65RVX3-E

PZ-80RFP3-E

ePM$_1$ 75% grade filter for LGH-80RVX3-E / LGH-160RVX3-E (2 sets required)

PZ-100RFP3-E

ePM$_1$ 75% grade filter for LGH-100RVX3-E / LGH-200RVX3-E (2 sets required)

CO_2 Sensors

PZ-70CSW-E

Wall mounted plug and play CO_2 sensor with traffic light signals for LGH-RVX3-E

PZ-70CSD-E

Duct mounted plug and play CO_2 sensor for LGH-RVX3-E

Vertical Mounting Brackets

PZ-1VS-E

Vertical mounting bracket for LGH-15-50RVX3-E

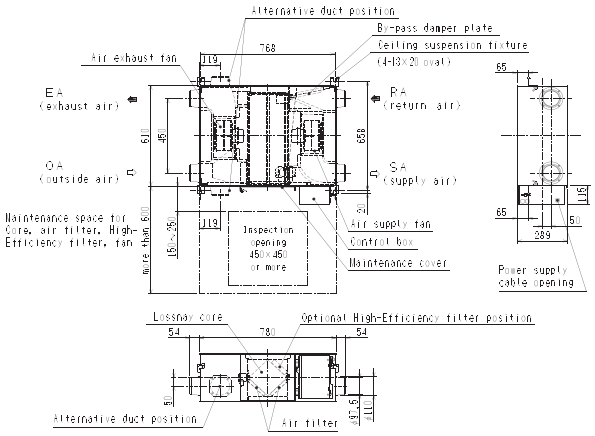
PZ-2VS-E

Vertical mounting bracket for LGH-65-100RVX3-E

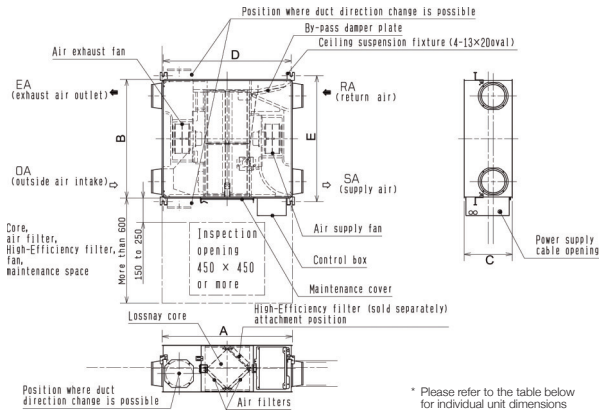
Weather Proof Housings

Weather proof housings are also available

Product Dimensions LGH-15RVX3-E



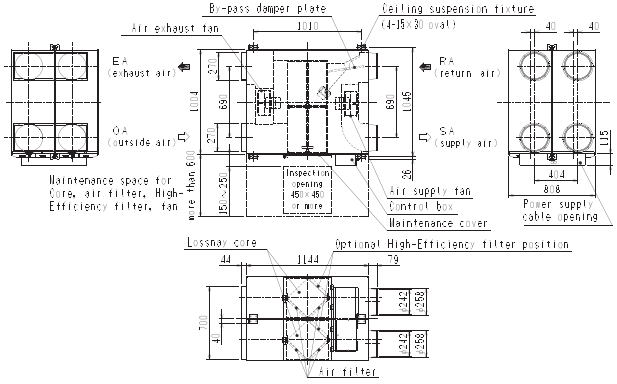
Product Dimensions LGH-25-100RVX3-E



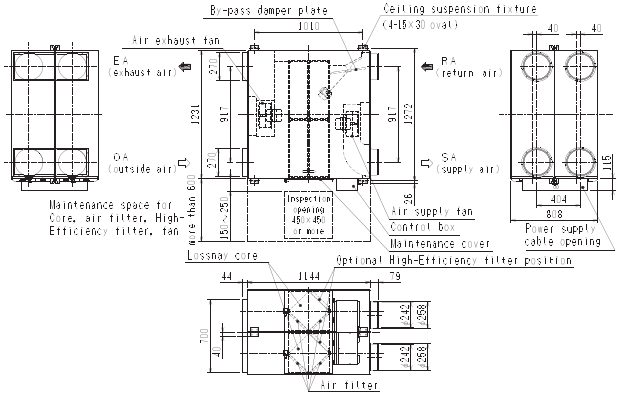
* Please refer to the table below for individual unit dimensions

MODEL REFERENCE	DIMENSIONS			CEILING SUSPENSION FIXTURE PITCH		NOMINAL DUCT DIAMETER
	A	B	C	D	E	
LGH-25RVX3-E	780	735	289	768	782	150
LGH-35RVX3-E	888	874	331	875	921	150
LGH-50RVX3-E	888	1016	331	875	1063	200
LGH-65RVX3-E	908	954	404	895	1001	200
LGH-80RVX3-E	1144	1004	404	1131	1051	250
LGH-100RVX3-E	1144	1231	404	1131	1278	250

Product Dimensions LGH-160RVX3-E



Product Dimensions LGH-200RVX3-E



LGH-RVXT-E

Commercial Lossnay

Lossnay **LGH-RVXT-E** Mechanical Ventilation Heat Recovery (MVHR) systems are designed to supply clean, fresh air into any commercial building, whilst simultaneously extracting stale air, ensuring good indoor air quality for occupant wellbeing. Offering a significantly reduced height, whilst maintaining a large airflow, these units are designed for installation in ceiling voids within commercial properties.

Key Features & Benefits

- Lossnay paper core enables total heat exchange (sensible and latent) to achieve higher levels of heat recovery, resulting in both cost and energy savings
- Lightweight structure, ideal for ceiling installation
- No condensate drain requirement
- Unit height of 500mm for ease of application
- Compatible with Mr Slim and City Multi air conditioning systems, creating a complete and highly effective system

MODEL			LGH-150RVXT-E	LGH-200RVXT-E	LGH-250RVXT-E
ELECTRICAL POWER SUPPLY			220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz
RUNNING CURRENT (A)		SP1	0.36	0.39	0.57
		SP2	1.10	1.10	1.40
		SP3	2.40	2.70	3.60
		SP4	4.30	5.40	7.60
INPUT POWER (W)		SP1	48	56	82
		SP2	176	197	244
		SP3	421	494	687
		SP4	792	1000	1446
AIRFLOW (m^3/h)*2		SP1	375	500	625
		SP2	750	1000	1250
		SP3	1125	1500	1875
		SP4	1500	2000	2500
AIRFLOW (l/s)*2		SP1	104	139	174
		SP2	208	278	347
		SP3	313	417	521
		SP4	417	556	694
SPECIFIC FAN POWER (W/(l/s))		SP1	0.46	0.40	0.47
		SP2	0.85	0.71	0.70
		SP3	1.35	1.18	1.32
		SP4	1.90	1.80	2.08
EXTERNAL STATIC PRESSURE (Pa)		SP1	11	11	11
		SP2	44	44	44
		SP3	98	98	98
		SP4	175	175	175
SOUND PRESSURE LEVEL (dBA)		SP1	22	22	24
		SP2	29.5	28	32
		SP3	35.5	35.5	39
		SP4	39.5	39.5	43
TEMPERATURE EXCHANGE EFFICIENCY (%)		SP1	81.5	84	82.5
		SP2	81	82.5	80.5
		SP3	80.5	81	79
		SP4	80	80	77
ENTHALPY EXCHANGE EFFICIENCY (%)	Heating	SP1	75	83	79
		SP2	73	77	74
		SP3	71	73.5	71.5
		SP4	70	72.5	68
	Cooling	SP1	74	80.5	76.5
		SP2	72	74.5	71.5
		SP3	70	71	69
		SP4	69	70	65.5
WEIGHT (kg)			156	159	198
DIMENSIONS (mm)		Width x Depth x Height	1980 x 1500 x 500	1980 x 1500 x 500	1980 x 1500 x 500
DUCT SIZE (mm)			250 x 750	250 x 750	250 x 750
STANDARD FILTER*1			EU-G3	EU-G3	EU-G3
FUSE RATING (BS88) – HRC (A)			10	10	10

Notes: Running Current, Input Power and Recovery Efficiency are based on the above airflow rate, power supply 240v, 50Hz. Sound Pressure Level measured at 1.5m under the centre of panel.
*1: M6 medium efficiency filter and F8 high efficiency filter available as optional parts. *2: Airflow tested to Japan industrial standard JIS B 8628. SP1, SP2, SP3 & SP4 relate to the fan speeds of the Lossnay RVXT units i.e. fanspeed 1, 2, 3 & 4.

Accessories

Remote Controllers

PZ-62DR-EB

Lossnay remote controller for LGH-RVXT-E

Filters

PZ-M6RTFM-E

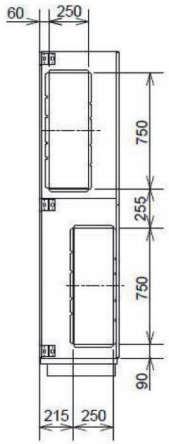
ePM$_{10}$ 75% / M6 filter for LGH-RVXT-E

PZ-F8RTFM-E

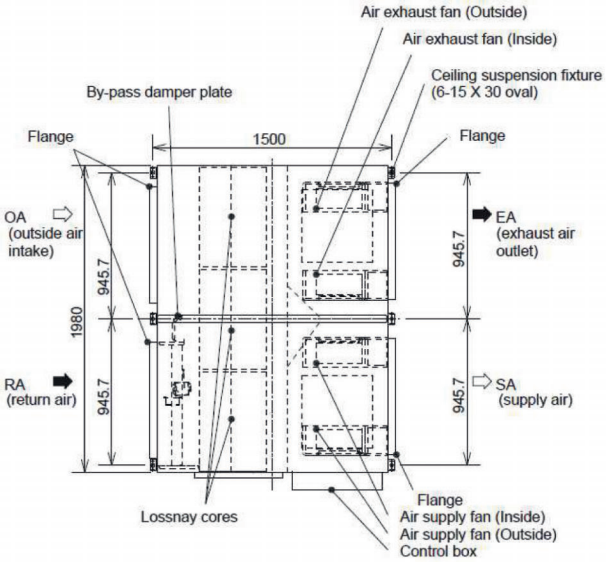
ePM$_1$ 65% / F8 filter for LGH-RVXT-E

Product Dimensions LGH-150/200/250RVXT-E

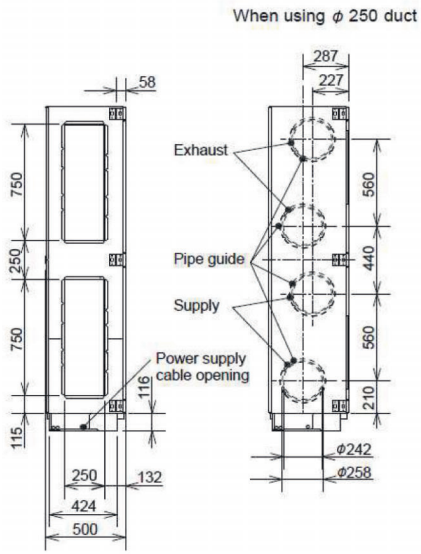
Left Side View



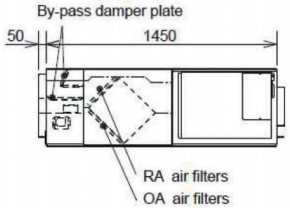
Upper View



Right Side View



Front View



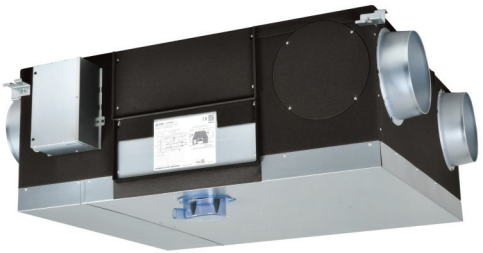
LGH-RVS-E

Commercial Lossnay

The **LGH-RVS-E** is designed to simultaneously extract stale air from a commercial building and supply fresh filtered air. Whilst doing this the Lossnay units also recover valuable heat energy for maximum efficiency.

Key Features & Benefits

- Fresh air ventilation with energy efficient heat recovery
- Plastic heat exchanger - perfect for higher humidity environments
- Optional plug and play CO_2 sensor control including power
- Digital commissioning of fan speed increments
- Easy control interlock with Mr Slim and City Multi air conditioning systems
- M-NET connection for centralised control
- Integrated bypass damper for free cooling
- In-built condensate drainage traps



Compatible with Mitsubishi Electric plug-and-play CO_2 sensor (powered by the Lossnay unit)

MODEL			LGH-50RVS-E	LGH-80RVS-E	LGH-100RVS-E
25%	Air Volume	l/s	35	56	69
		m^3/hr	125	200	250
	External Static Pressure	Pa	9	11	12
	Temperature Exchange Efficiency	%	93	90	90
	Specific Fan Power	W/(l/s)	0.72	0.58	0.5
	Input Power	W	25	32	35
	Sound Pressure Level	dB(a)	18	18	18
50%	Air Volume	l/s	69	111	139
		m^3/hr	250	400	500
	External Static Pressure	Pa	38	43	48
	Temperature Exchange Efficiency	%	91	86	86
	Specific Fan Power	W/(l/s)	0.86	0.77	0.72
	Input Power	W	60	85	100
	Sound Pressure Level	dB(a)	22	25	24
75%	Air Volume	l/s	104	167	208
		m^3/hr	375	600	750
	External Static Pressure	Pa	84	96	107
	Temperature Exchange Efficiency	%	89	84	84
	Specific Fan Power	W/(l/s)	1.06	1.05	1.08
	Input Power	W	110	175	225
	Sound Pressure Level	dB(a)	27	30	32
100%	Air Volume	l/s	139	222	278
		m^3/hr	500	800	1000
	External Static Pressure	Pa	150	170	190
	Temperature Exchange Efficiency	%	87	82	82
	Specific Fan Power	W/(l/s)	1.37	1.46	1.6
	Input Power	W	190	325	445
	Sound Pressure Level	dB(a)	33	36	37
DUCT SIZE		mm	200	250	250
WEIGHT	(with full condensate drain)	kg	55 (67)	63 (77)	73 (89)
DIMENSIONS	Width x Depth x Height	mm	974 x 946 x 465	1185 x 997 x 465	1185 x 1224 x 465
ELECTRICAL POWER SUUPPLY			220-240V, 50Hz	220-240V, 50Hz	220-240V, 50Hz
MAXIMUM RUNNING CURRENT		A	2.2	3.7	4.2
FUSE RATING (BS88) - HRC (A)		A	6	6	6
HEAT EXCHANGER			Plastic Counter Flow		
CONDENSATE CONNECTION		mm	32	32	32
STANDARD FILTER		ISO 16890:2016 / EN779:2012	Coarse 35% / G3		
OPTIONAL FILTER(S)		ISO 16890:2016 / EN779:2012	ePM_1 65%, $ePM_{2.5}$ 75%, ePM_{10} 90% / F8 ePM_{10} 80% / M6		

Notes: Airflow rate, static pressure, power input, running current, and heat exchange efficiency tested to ISO 16494 (winter condition), 230v 50Hz. A-Weighted Sound Pressure Level measured at 1.5m under the centre of the unit in an anechoic chamber.

Accessories

Remote Controllers

PZ-62DR-EB

Lossnay remote controller for LGH-RVS-E

Filters

PZ-S50RF-E

Replacement Coarse 35% / G3 filter for LGH-50RVS-E

PZ-S80RF-E

Replacement Coarse 35% / G3 filter for LGH-80RVS-E

PZ-S100RF-E

Replacement Coarse 35% / G3 filter for LGH-100RVS-E

PZ-S50RFM-E

ePM_{10} 80% / M6 filter for LGH-50RVS-E

PZ-S80RFM-E

ePM_{10} 80% / M6 filter for LGH-80RVS-E

PZ-S100RFM-E

ePM_{10} 80% / M6 filter for LGH-100RVS-E

PZ-S50RFH-E

ePM_{1} 65% / F8 filter for LGH-50RVS-E

PZ-S80RFH-E

ePM_{1} 65% / F8 filter for LGH-80RVS-E

PZ-S100RFH-E

ePM_{1} 65% / F8 filter for LGH-100RVS-E

CO_2 Sensors

PZ-70CSW-E

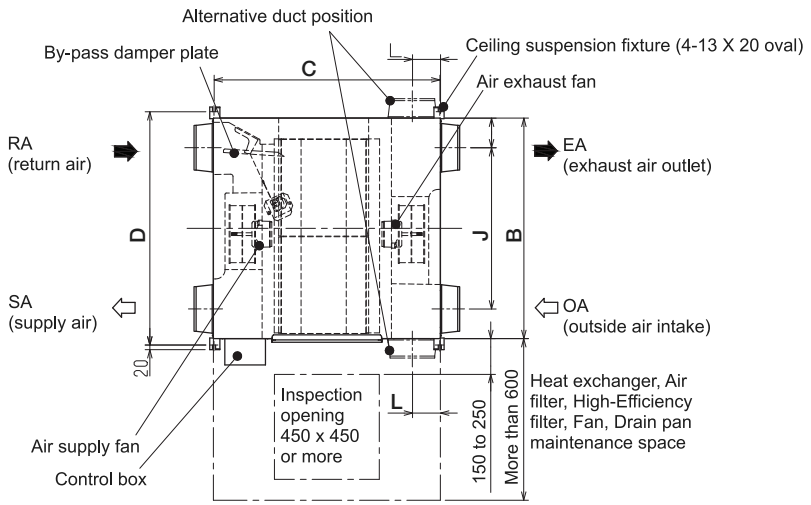
Wall mounted plug and play CO_2 sensor with traffic light signals for LGH-RVS-E

PZ-70CSD-E

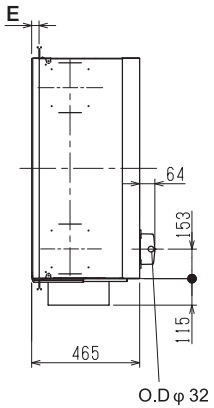
Duct mounted plug and play CO_2 sensor for LGH-RVS-E

Product Dimensions LGH-50/80/100RVS-E

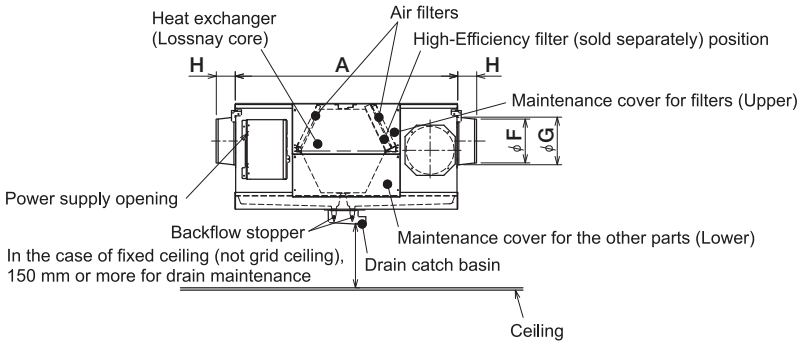
Upper View



Side View



Front View



	A	B	C	D	E	F	G	H	J	L
LGH-50RVS-E	974	946	969	1001	32	192	208	83	692	120
LGH-80RVS-E	1185	997	1179	1051	55	242	258	82	683	161
LGH-100RVS-E	1185	1224	1179	1279	55	242	258	82	910	161

VL-100EU$_5$-E

Wall Mounted Lossnay

The **VL-100** wall mounted Lossnay supplies fresh air into a room, simultaneously extracting stale air in an energy efficient manner. The recovery of both latent heat and sensible heat ensures a comfortable internal environment, minimising heat loss and saving both energy and costs. Easy to install, this compact unit is ideal for single room applications, such as small offices, bedrooms, and spaces where a ducted system is not an option.

Key Features & Benefits

- Effective fresh air ventilation for improved air quality
- Lossnay paper core enables total heat exchange (sensible and latent) to achieve higher levels of heat recovery, resulting in both cost and energy savings
- Simple installation
- Optional extension pipe kit and joint available

MODEL		VL-100EU$_5$-E
ELECTRICAL POWER SUPPLY		220-240V, 50Hz
PHASE		Single
POWER CONSUMPTION (W)	Low	17
	High	34
AIRFLOW (m^3/h)	Low	61
	High	106
SOUND PRESSURE LEVEL (dBA)	Low	27
	High	38
TEMPERATURE EXCHANGE EFFICIENCY (%)	Low	79
	High	72
WEIGHT (kg)		7.5
DIMENSIONS (mm)	Width	620
	Depth	200
	Height	265
DUCT SIZE (mm)		2 x Ø75
FUSE RATING (BS88) - HRC (A)		6
MAINS CABLE No. Cores		3
CONTROL ON/OFF		Field Supplied

Notes: The VL-100EU$_5$-E includes the option to fit a field supplied external wall switch.

Accessories

Filters

P-100HF$_5$-E

M6 filter for VL-100EU$_5$-E

Extension Pipe Kits

P-100P-E

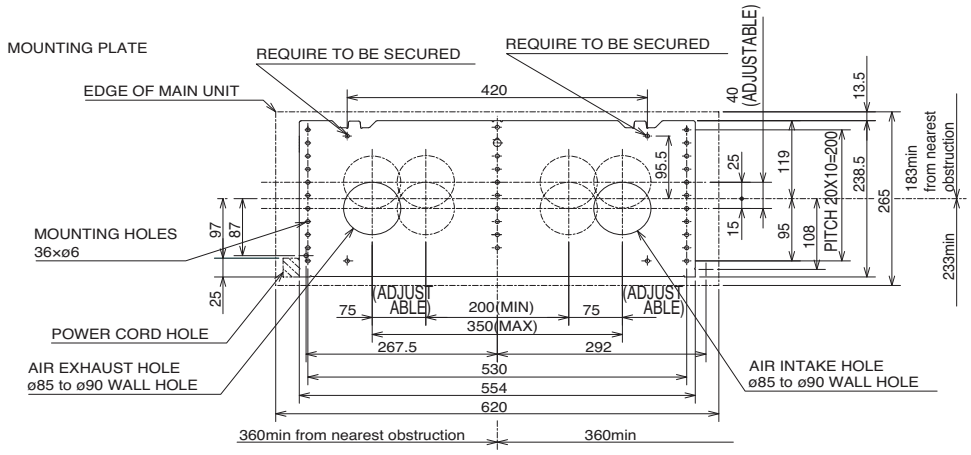
Extension pipe for VL-100EU$_5$-E (300mm)

P-100PJ-E

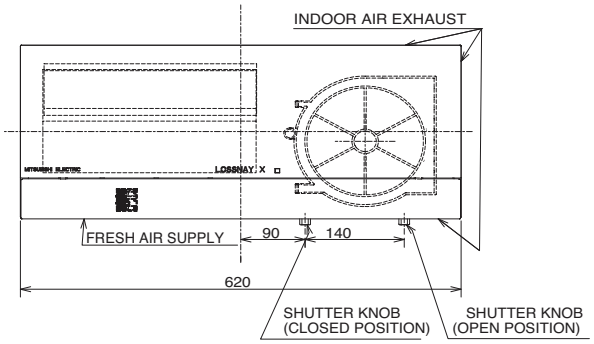
Extension pipe joint for VL-100EU$_5$-E (300mm)

Product Dimensions VL-100EU$_5$-E

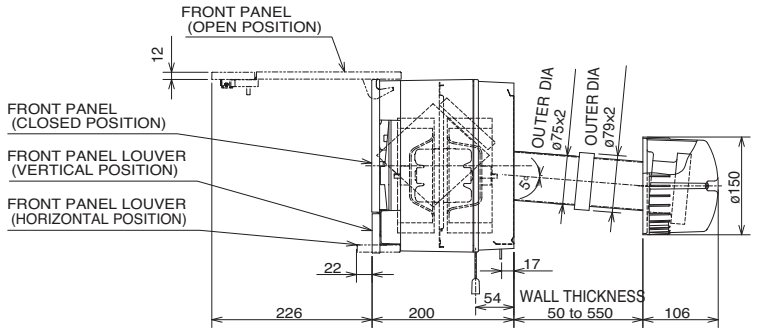
Front View



Upper View



Side View



Unit: mm

VL-CZPVU-R/L-E

Residential Lossnay

The **VL-CZPVU-R/L-E** residential Lossnay range of Mechanical Ventilation with Heat Recovery (MVHR) units create an environment of constant clean and healthy air at home. These systems are designed to continuously extract from bathrooms, kitchens, toilets and utility rooms where air can become polluted, whilst supplying a balanced flow of fresh air from outside to spaces such as bedrooms and living rooms. The Lossnay unit minimises the energy lost by recovering the heat from the extracted air, transferring this to the supplied fresh air.

Key Features & Benefits

- Ultra quiet noise levels
- Optional filters placed within the MVHR unit for particulate matter and NOx
- Full summer bypass function with auto mode and settable temperature parameters
- Digital controller included for ease of commissioning and use
- Boost signal via live switch or volt free contact, with settable delay and overrun timers
- Cloud control
- Suitable for use in individual houses or in multi-residential apartment applications

MODEL		VL-250CZPVU-R/L-E	VL-350CZPVU-R/L-E	VL-500CZPVU-R/L-E
DIMENSIONS (mm)	Width x Depth x Height	595 x 386 x 563	658 x 462 x 623	725 x 586 x 632
WEIGHT (kg)		26	32	39
ELECTRICAL POWER SUPPLY		220-240V 50Hz	220-240V 50Hz	220-240V 50Hz
MAX RUNNING CURRENT (A)		1.0	1.32	2.3
SUMMER BYPASS		Full Bypass	Full Bypass	Full Bypass
SPIGOT DIAMETER (mm)		125	150	160 / 180
STANDARD FILTER (ISO 16890:2016/EN779:2012)	Outside Air	Coarse 55% / G3	Coarse 55% / G3	Coarse 55% / G3
	Return Air	Coarse 55% / G3	Coarse 55% / G3	Coarse 55% / G3
OPTIONAL FILTER(S)	Supply Air	NOx 90%	NOx 90%	NOx 90%
	Outside Air	ePM2.5 50%	ePM2.5 50%	ePM2.5 50%

SAP 2012 PCDB DATA	SFP W/(l/s)	HEAT EXCHANGE EFFICIENCY (%)	SFP W/(l/s)	HEAT EXCHANGE EFFICIENCY (%)	SFP W/(l/s)	HEAT EXCHANGE EFFICIENCY (%)
K + 1 (21 l/s)	0.62	90	0.86	90	0.80	91
K + 2 (29 l/s)	0.67	89	0.80	90	0.72	90
K + 3 (37 l/s)	0.79	88	0.84	89	0.74	90
K + 4 (45 l/s)	1.00	87	0.96	89	0.82	89
K + 5 (53 l/s)	1.19	87	1.08	88	0.91	88
K + 6 (61 l/s)	-	-	1.28	87	1.09	88
K + 7 (69 l/s)	-	-	-	-	1.24	88

Accessories

Remote Controllers

P-RCC-E

Remote controller cover and 1m cable with noise filter for VL-CZPVU-E

Filters

P-250F-E

Replacement Coarse 55% / G3 filter for VL-250CZPVU-E

P-350F-E

Replacement Coarse 55% / G3 filter for VL-350CZPVU-E

P-500F-E

Replacement Coarse 55% / G3 filter for VL-500CZPVU-E

P-250PF-E

ePM$_{2.5}$ 50% / M6 filter for VL-250CZPVU-E

P-350PF-E

ePM$_{2.5}$ 50% / M6 filter for VL-350CZPVU-E

P-500PF-E

ePM$_{2.5}$ 50% / M6 filter for VL-500CZPVU-E

P-250NF-E

NOx 90% supply air filter for VL-250CZPVU-E

P-350NF-E

NOx 90% supply air filter for VL-350CZPVU-E

P-500NF-E

NOx 90% supply air filter for VL-500CZPVU-E

Noise Attenuators

P-250SB-E

Acoustic top box for VL-250CZPVU-E

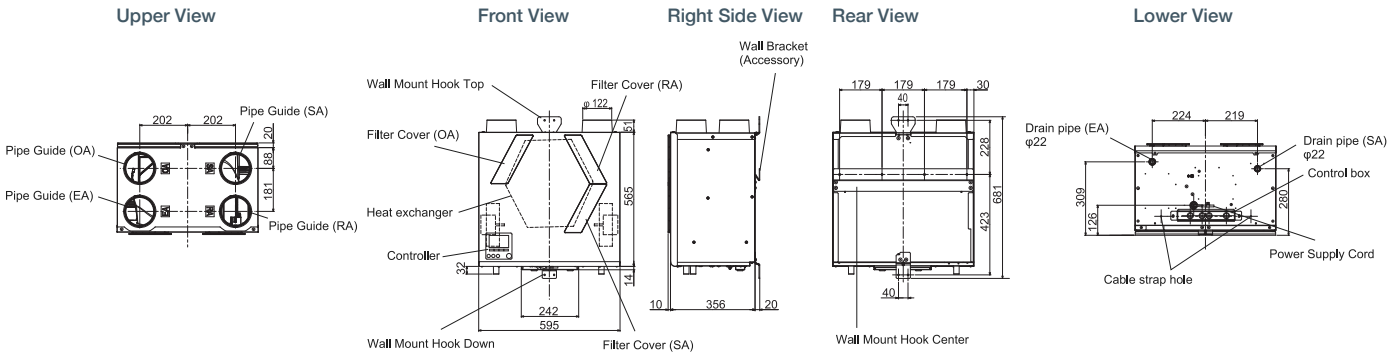
P-350SB-E

Acoustic top box for VL-350CZPVU-E

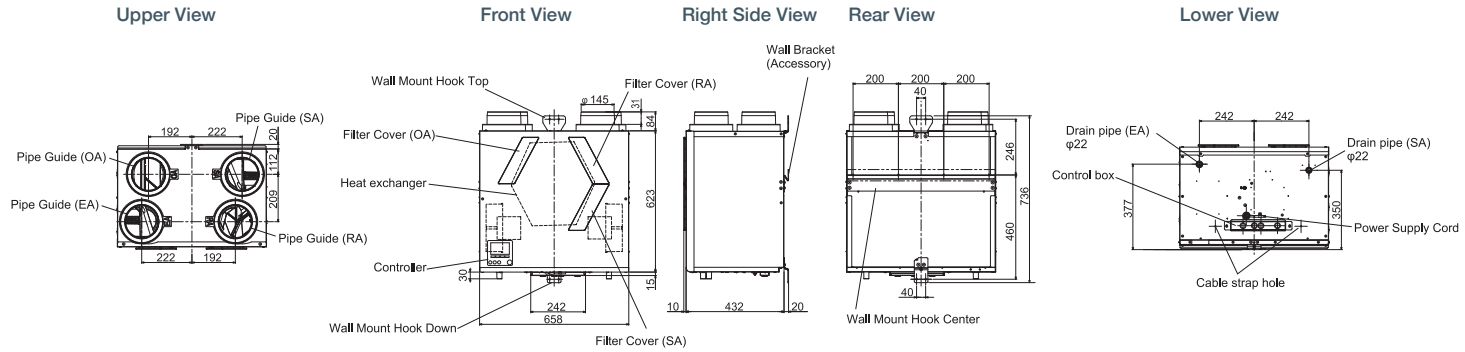
P-500SB-E

Acoustic top box for VL-500CZPVU-E

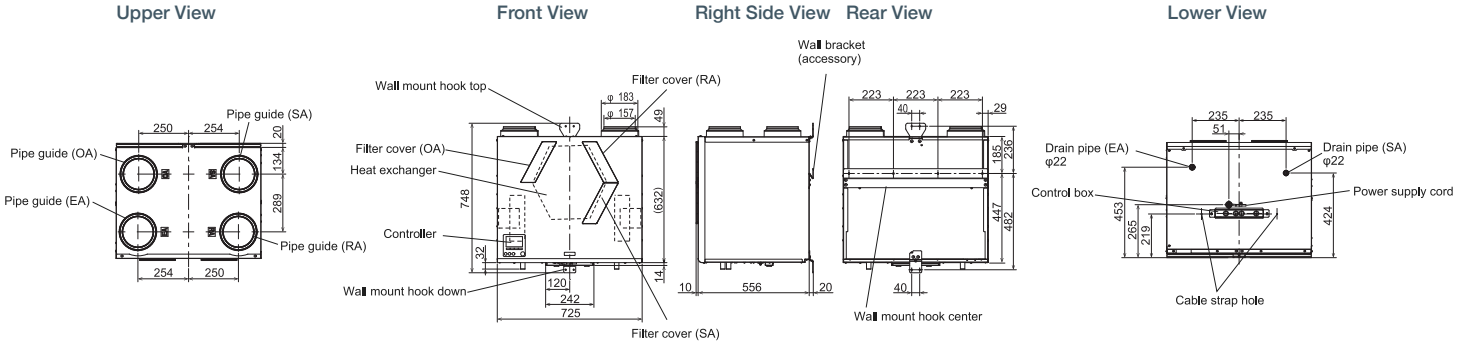
Product Dimensions VL-250CZPVU-R/L-E



Product Dimensions VL-350CZPVU-R/L-E



Product Dimensions VL-500CZPVU-R/L-E



Notes: The above dimensional drawings are for a left sided unit. For the right sided unit dimensional drawings, please see the databook.

GUG-SL-E

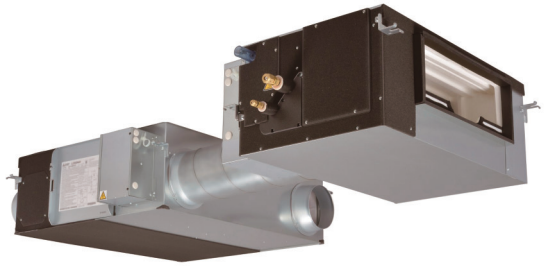
Lossnay Air Processing DX Unit

Return Air Temperature Control
(5.1 to 14.1kW)

The **GUG-SL-E** combines a Lossnay Mechanical Ventilation with Heat Recovery (MVHR) unit with a Mr Slim Power Inverter outdoor heat pump, to heat and cool the supply air delivered to the space. In return-temperature control mode, the combination of these technologies provides both the fresh air and temperature control to a space from a single system, offering an ideal solution for offices, schools & retail.

Key Features & Benefits

- Effective fresh air ventilation for improved air quality
- Provides heat recovery ventilation and air conditioning from the same system
- Single system reduces installation time, cost and space
- Heating / cooling with no recirculation of extracted air in the space



MODEL		GUG50-51RAV3	GUG65-60RAV3	GUG80-75RAV3	GUG100-103RAV3	GUG150-157RAVT	GUG150-157RAYT	GUG160-141RAV3
FAN SPEED 3 (75%)	Air Volume (l/s)	104	135	167	208	313	313	313
	External Static Pressure (Pa)	76	70	84	84	84	84	95
FAN SPEED 4 (100%)	Air Volume (l/s)	139	181	222	278	417	417	417
	External Static Pressure (Pa)	135	125	150	150	150	150	169
HEATING CAPACITY*1 (kW)	DX Coil Capacity	4.1	4.5	6.0	8.1	13.0	13.0	13.0
	Heat Recovery Capacity	2.4	3.2	3.5	4.3	7.4	7.4	6.6
	Total Capacity	6.5	7.7	9.5	12.4	20.4	20.4	19.6
COOLING CAPACITY*1 (kW)	DX Coil Capacity	3.6	4.0	5.0	7.1	9.5	9.5	9.5
	Heat Recovery Capacity	1.5	2.0	2.5	3.2	6.2	6.2	4.6
	Total Capacity	5.1	6.0	7.5	10.3	15.7	15.7	14.1
SHF	Nominal	0.64	0.66	0.66	0.62	0.68	0.68	0.65
SYSTEM POWER INPUT (kW)	Heating (nominal)	1.61	1.62	2.17	3.00	5.01	5.01	4.90
	Cooling (nominal)	1.21	1.31	1.75	2.29	3.12	3.12	3.02
PERFORMANCE INDEX*2	Heating (nominal)	4.04	4.74	4.37	4.13	4.07	4.07	4.00
	Cooling (nominal)	4.20	4.60	4.28	4.50	5.03	5.03	4.68
MAX PIPE LENGTH (m)		50	50	50	50	75	75	75
MAX HEIGHT DIFFERENCE (m)		30	30	30	30	30	30	30
PIPE SIZE mm(in)	Gas	12.7 (1/2")	12.7 (1/2")	12.7 (1/2")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")
	Liquid	6.35 (1/4")	6.35 (1/4")	6.35 (1/4")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")
GUG DIMENSIONS (mm)	Width x Depth x Height	812 x 607 x 330	812 x 607 x 330	1034 x 607 x 394	1034 x 607 x 394	1130 x 576 x 404	1130 x 576 x 404	1130 x 576 x 404
GUG WEIGHT (kg)		21	21	26	26	28	28	28
GUG ELECTRICAL SUPPLY (supplied from outdoor unit)*3		220-240v / 50Hz	220-240v / 50Hz	220-240v / 50Hz	220-240v / 50Hz	220-240v / 50Hz	220-240v / 50Hz	220-240v / 50Hz
GUG UNIT*4		GUG-01SL-E	GUG-01SL-E	GUG-02SL-E	GUG-02SL-E	GUG-03SL-E	GUG-03SL-E	GUG-03SL-E
MR SLIM OUTDOOR UNIT		PUHZ-ZRP35VKA2	PUHZ-ZRP35VKA2	PUHZ-ZRP50VKA2	PUHZ-ZRP71VHA2	PUHZ-ZRP100VKA3	PUHZ-ZRP100YKA3	PUHZ-ZRP100VKA3
LOSSNAY UNIT		LGH-50RVX3-E	LGH-65RVX3-E	LGH-80RVX3-E	LGH-100RVX3-E	LGH-150RVXT-E	LGH-150RVXT-E	LGH-160RVX3-E
LOSSNAY CONTROLLER		PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB

Notes:
*1 The cooling and heating capacities are based on the rated airflow of fan speed 4 and the following air conditions: Cooling Indoor: 27°CDB/19°CWB Outdoor: 35°CDB/24°CWB. Heating Indoor: 20°CDB/15°CWB Outdoor: 7°CDB/6°CWB
*2 Performance index is the total capacity divided by the total power consumption of the outdoor unit and Lossnay at the conditions above.
*3 For electrical power requirements for Lossnay and Mr Slim outdoor unit, please refer to their respective sections
*4 GUG unit includes a dedicated controller

GUG-SL-E

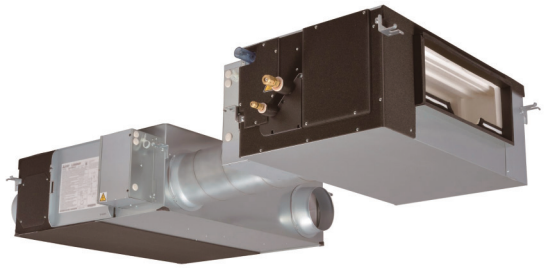
Lossnay Air Processing DX Unit

Return Air Temperature Control
(14.1 to 22.3kW)

The **GUG-SL-E** combines a Lossnay Mechanical Ventilation with Heat Recovery (MVHR) unit with a Mr Slim Power Inverter outdoor heat pump, to heat and cool the supply air delivered to the space. In return-temperature control mode, the combination of these technologies provides both the fresh air and temperature control to a space from a single system, offering an ideal solution for offices, schools & retail.

Key Features & Benefits

- Effective fresh air ventilation for improved air quality
- Provides heat recovery ventilation and air conditioning from the same system
- Single system reduces installation time, cost and space
- Heating / cooling with no recirculation of extracted air in the space



POWER INVERTER

MODEL		GUG160-141RAY3	GUG200-168RAV3	GUG200-168RAY3	GUG200-184RAVT	GUG200-184RAYT	GUG250-223RAVT	GUG250-223RAYT
FAN SPEED 3 (75%)	Air Volume (l/s)	313	417	417	417	417	521	521
	External Static Pressure (Pa)	95	71	71	82	82	79	79
FAN SPEED 4 (100%)	Air Volume (l/s)	417	556	556	556	556	694	694
	External Static Pressure (Pa)	169	125	125	145	145	140	140
HEATING CAPACITY*1 (kW)	DX Coil Capacity	13	13.5	13.5	13.5	13.5	14	14
	Heat Recovery Capacity	6.6	8.6	8.6	10.3	10.3	12.1	12.1
	Total Capacity	19.6	22.1	22.1	23.8	23.8	26.1	26.1
COOLING CAPACITY*1 (kW)	DX Coil Capacity	9.5	10.0	10.0	10.0	10.0	12.5	12.5
	Heat Recovery Capacity	4.6	6.8	6.8	8.4	8.4	9.8	9.8
	Total Capacity	14.1	16.8	16.8	18.4	18.4	22.3	22.3
SHF	Nominal	0.65	0.74	0.74	0.76	0.76	0.87	0.87
SYSTEM POWER INPUT (kW)	Heating (nominal)	4.90	4.75	4.75	4.89	4.89	5.49	5.49
	Cooling (nominal)	3.02	3.14	3.14	3.29	3.29	4.86	4.86
PERFORMANCE INDEX*2	Heating (nominal)	4.00	4.66	4.66	4.86	4.86	4.75	4.75
	Cooling (nominal)	4.68	5.34	5.34	5.59	5.59	4.59	4.59
MAX PIPE LENGTH (m)		75	75	75	75	75	75	75
MAX HEIGHT DIFFERENCE (m)		30	30	30	30	30	30	30
PIPE SIZE mm(in)	Gas	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")
	Liquid	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")
GUG DIMENSIONS (mm)	Width x Depth x Height	1130 x 576 x 404	1130 x 576 x 404	1130 x 576 x 404	1130 x 576 x 404	1130 x 576 x 404	1130 x 576 x 404	1130 x 576 x 404
GUG WEIGHT (kg)		28	28	28	28	28	28	28
GUG ELECTRICAL SUPPLY (supplied from outdoor unit)*3		220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz
GUG UNIT*4		GUG-03SL-E	GUG-03SL-E	GUG-03SL-E	GUG-03SL-E	GUG-03SL-E	GUG-03SL-E	GUG-03SL-E
MR SLIM OUTDOOR UNIT		PUHZ-ZRP100YKA3	PUHZ-ZRP100VKA3	PUHZ-ZRP100YKA3	PUHZ-ZRP100VKA3	PUHZ-ZRP100YKA3	PUHZ-ZRP125VKA3	PUHZ-ZRP125YKA3
LOSSNAY UNIT		LGH-160RVX3-E	LGH-200RVX3-E	LGH-200RVX3-E	LGH-200RVXT-E	LGH-200RVXT-E	LGH-250RVXT-E	LGH-250RVXT-E
LOSSNAY CONTROLLER		PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB

Notes:
*1 The cooling and heating capacities are based on the rated airflow of fan speed 4 and the following air conditions: Cooling Indoor: 27°CDB/19°CWB Outdoor: 35°CDB/24°CWB. Heating Indoor: 20°CDB/15°CWB Outdoor: 7°CDB/6°CWB
*2 Performance index is the total capacity divided by the total power consumption of the outdoor unit and Lossnay at the conditions above.
*3 For electrical power requirements for Lossnay and Mr Slim outdoor unit, please refer to their respective sections
*4 GUG unit includes a dedicated controller

GUG-SL-E

Lossnay Air Processing DX Unit

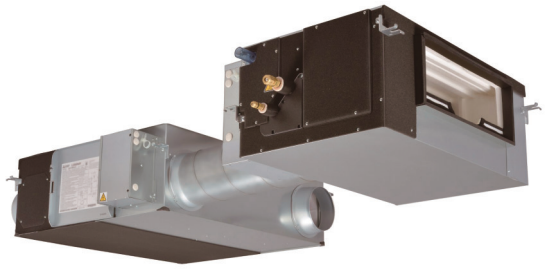
Supply Air Temperature Control (7.5-17.6kW)

The **GUG-SL-E** combines a Lossnay Mechanical Ventilation with Heat Recovery (MVHR) unit with a Mr Slim Power Inverter outdoor heat pump, to heat and cool the supply air delivered to the space. In supply air temperature control mode, the combination of both technologies provides effective tempering of fresh air entering a space, taking the load off other cooling/heating services, whilst elimating any chance of draughts.

Key Features & Benefits

- Effective fresh air ventilation for improved air quality
- Provides heat recovery ventilation and air conditioning from the same system
- Single system reduces installation time, cost and space
- Heating / cooling with no recirculation of extracted air in the space

R410A



POWER INVERTER

MODEL		GUG80-75SAV3	GUG100-85SAV3	GUG150-133SAVT	GUG160-117SAV3	GUG200-142SAV3	GUG200-159SAVT	GUG250-176SAVT
FAN SPEED 3 (75%)	Air Volume (l/s)	167	208	313	313	417	417	521
	External Static Pressure (Pa)	84	84	84	95	71	82	79
FAN SPEED 4 (100%)	Air Volume (l/s)	222	278	417	417	556	556	694
	External Static Pressure (Pa)	150	150	150	169	125	145	140
HEATING CAPACITY*1 (kW)	DX Coil Capacity	6.0	6.3	8.9	8.9	9.2	9.2	9.5
	Heat Recovery Capacity	3.5	4.3	7.4	6.6	8.6	10.3	12.1
	Total Capacity	9.5	10.6	16.3	15.5	17.8	19.5	21.6
COOLING CAPACITY*1 (kW)	DX Coil Capacity	5.0	5.3	7.1	7.1	7.4	7.4	7.8
	Heat Recovery Capacity	2.5	3.2	6.2	4.6	6.8	8.5	9.8
	Total Capacity	7.5	8.5	13.3	11.7	14.2	15.9	17.6
SHF	Nominal	0.66	0.69	0.86	0.81	0.87	0.90	0.95
SYSTEM POWER INPUT (kW)	Heating (nominal)	2.17	2.26	3.16	3.06	3.10	3.25	3.62
	Cooling (nominal)	1.75	1.77	2.64	2.54	2.72	2.87	3.32
PERFORMANCE INDEX*2	Heating (nominal)	4.37	4.70	5.16	5.07	5.74	6.01	5.97
	Cooling (nominal)	4.28	4.81	5.03	4.61	5.21	5.54	5.31
MAX PIPE LENGTH (m)		50	50	50	50	50	50	50
MAX HEIGHT DIFFERENCE (m)		30	30	30	30	30	30	30
PIPE SIZE mm(in)	Gas	12.7 (1/2")	12.7 (1/2")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")
	Liquid	6.35 (1/4")	6.35 (1/4")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")
GUG DIMENSIONS (mm)	Width x Depth x Height	1034 x 607 x 394	1034 x 607 x 394	1130 x 576 x 404	1130 x 576 x 404	1130 x 576 x 404	1130 x 576 x 404	1130 x 576 x 404
GUG WEIGHT (kg)		26	26	28	28	28	28	28
GUG ELECTRICAL SUPPLY (supplied from outdoor unit)*3		220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz	220-240V / 50Hz
GUG UNIT*4		GUG-02SL-E	GUG-02SL-E	GUG-03SL-E	GUG-03SL-E	GUG-03SL-E	GUG-03SL-E	GUG-03SL-E
MR SLIM OUTDOOR UNIT		PUHZ-ZRP50VKA2	PUHZ-ZRP50VKA2	PUHZ-ZRP71VHA2	PUHZ-ZRP71VHA2	PUHZ-ZRP71VHA2	PUHZ-ZRP71VHA2	PUHZ-ZRP71VHA2
LOSSNAY UNIT		LGH-80RVX3-E	LGH-100RVX3-E	LGH-150RVXT-E	LGH-160RVX3-E	LGH-200RVX3-E	LGH-200RVXT-E	LGH-250RVXT-E
LOSSNAY CONTROLLER		PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB	PZ-62DR-EB

Notes:

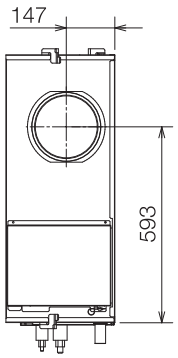
*1 The cooling and heating capacities are based on the rated airflow of fan speed 4 and the following air conditions: Cooling Indoor: 27°CDB/19°CWB Outdoor: 35°CDB/24°CWB. Heating Indoor: 20°CDB/15°CWB Outdoor: 7°CDB/6°CWB

*2 Performance index is the total capacity divided by the total power consumption of the outdoor unit and Lossnay at the conditions above.

*3 For electrical power requirements for Lossnay and Mr Slim outdoor unit, please refer to their respective sections

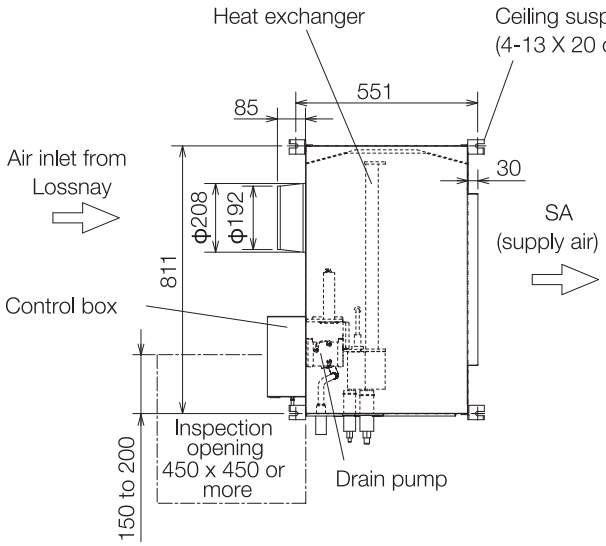
*4 GUG unit includes a dedicated controller

Left Side View

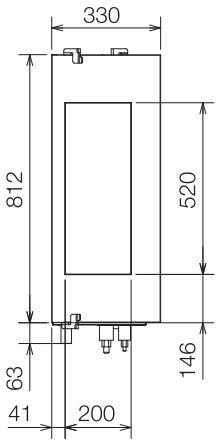


An inspection opening is required for installation and regular maintenance (check) of the drain pump.

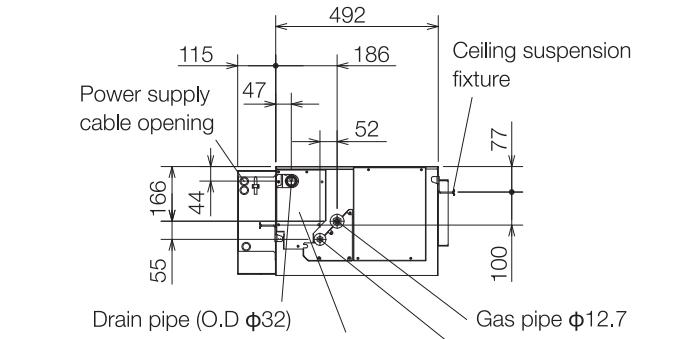
Upper View



Right Side View



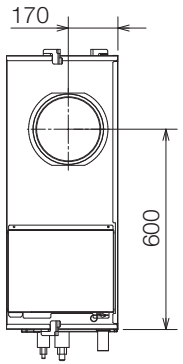
Front View



Unit (mm)

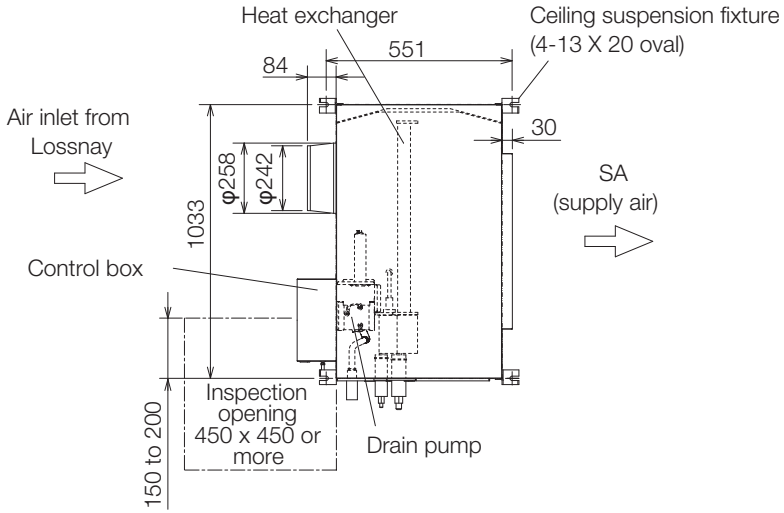
Product Dimensions GUG-02SL-E

Left Side View

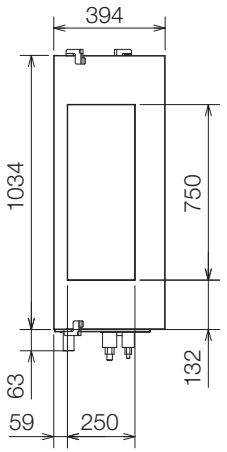


An inspection opening is required for installation and regular maintenance (check) of the drain pump. When SA temp. control is selected, another inspection opening may be required in front of the unit for SA thermistor replacement only when an error occured on the SA thermistor.

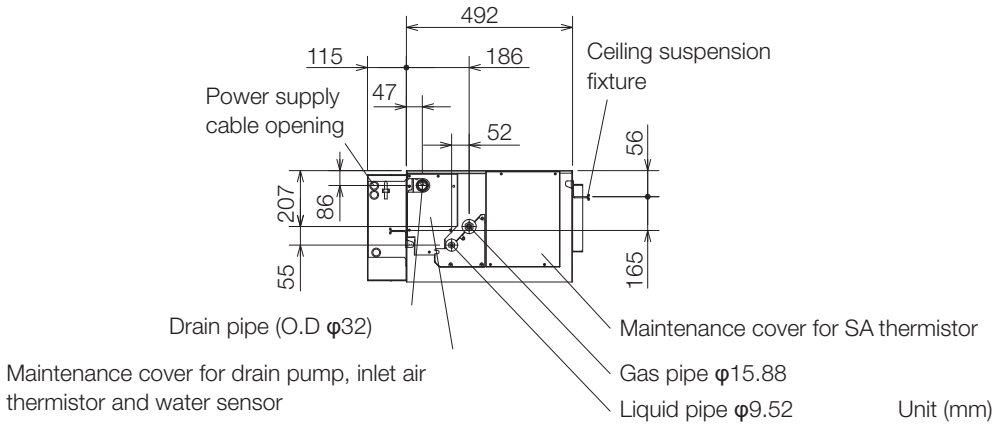
Upper View



Right Side View

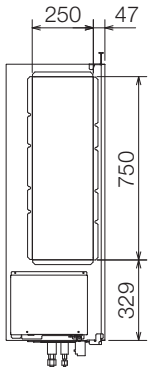


Front View



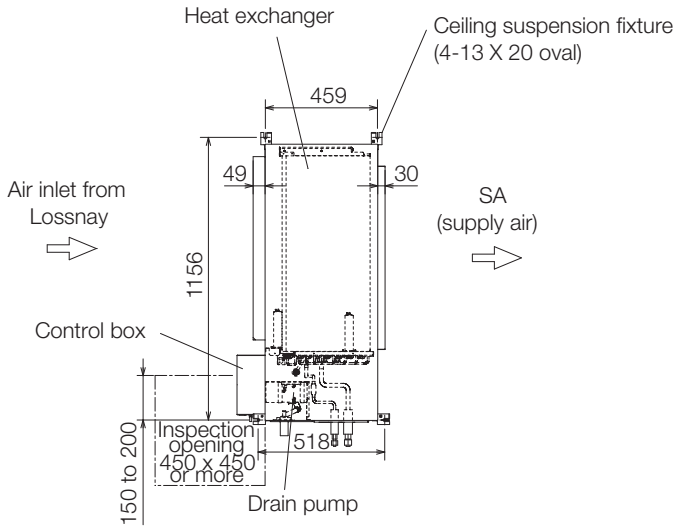
Unit (mm)

Left Side View

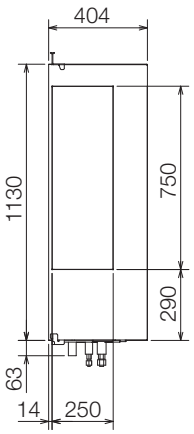


An inspection opening is required for installation and regular maintenance (check) of the drain pump. When SA temp. control is selected, another inspection opening may be required in front of the unit for SA thermistor replacement only when an error occured on the SA thermistor.

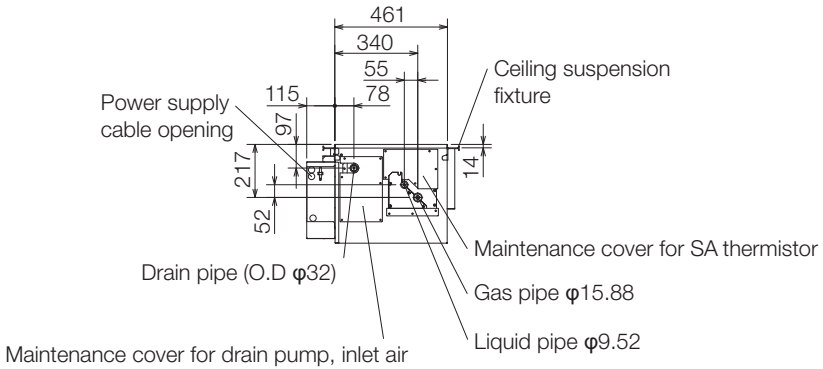
Upper View



Right Side View



Front View



Unit (mm)

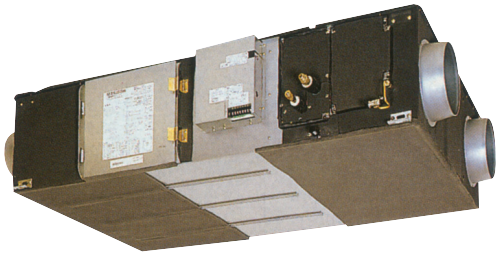
GUF-RD4

Lossnay Outdoor Air Processing Unit

The **GUF-RD4** fresh air processing units combine a Lossnay Mechanical Ventilation with Heat Recovery (MVHR) unit with a DX coil connectable to a VRF system, to heat and cool the supply air delivered to the space. The combination of these technologies provides effective tempering of fresh air entering commercial spaces, taking the load off other cooling/heating services, and eliminating any chance of draughts.

Key Features & Benefits

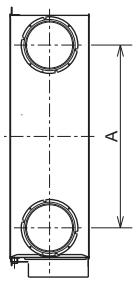
- Smart combination of a Lossnay & City Multi indoor unit, integrated into one model
- Single unit saves on space and installation costs
- Uses heat recovery technology for maximium energy efficiency
- Heating / cooling with no recirculation of extracted air in the space
- Benefits from free cooling when ambient conditions allow



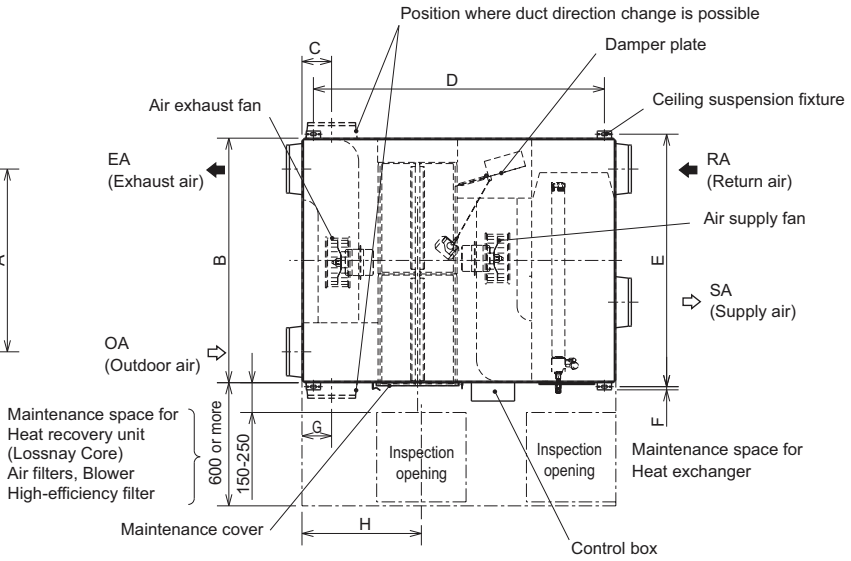
MODEL		GUF-50RD4	GUF-100RD4
CAPACITY (kW)	Heating (nominal)	6.21 (2.04)	12.56 (4.26)
	Cooling (nominal)	5.57 (1.94)	11.44 (4.12)
	UK Heating (High Performance)	6.42 (2.25)	13.00 (4.70)
	UK Heating (COP Priority)	5.93 (2.08)	12.01 (4.34)
	UK Total Cooling	5.03 (1.58)	10.27 (3.32)
POWER INPUT (kW)	Lo-Hi	0.150 / 0.265	0.370 / 0.505
AIRFLOW (m^3/h)	Lo-Hi	400-500	800-1000
EXTERNAL STATIC PRESSURE (Pa)	Lo-Hi	90 - 140	90 - 140
TEMPERATURE EXCHANGE EFFICIENCY (%)	Lo-Hi	80 - 77.5	81.5 - 79.5
SOUND PRESSURE LEVEL (dBA)	Lo-Hi	29.5 - 34.5	34 - 39
WEIGHT (kg)		54	92
DIMENSIONS (mm)	Width	1016	1231
	Depth	1288	1580
	Height	317	398
ELECTRICAL SUPPLY		220-240v, 50Hz	220-240v, 50Hz
PHASE		Single	Single
RUNNING CURRENT (A)	Lo-Hi	0.70-1.15	1.73-2.20
FUSE RATING (BS88) - HRC (A)		6	6
MAINS CABLE No. Cores		3	3

Notes: The figures in ( ) indicate the heat recovery at Lossnay core. Total value is capacity of Lossnay core and refrigerant coil. The current and input are based on the above air volume.
The sound pressure at the air outlets (45° angle 1.5m ahead) is about 6dBA greater than the indicated value (high speed). Specifications may be subject to change without notice.

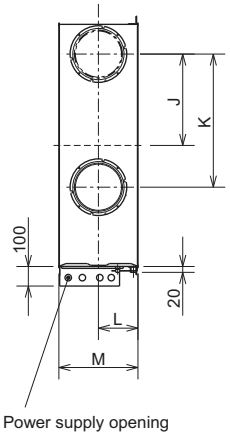
Side View



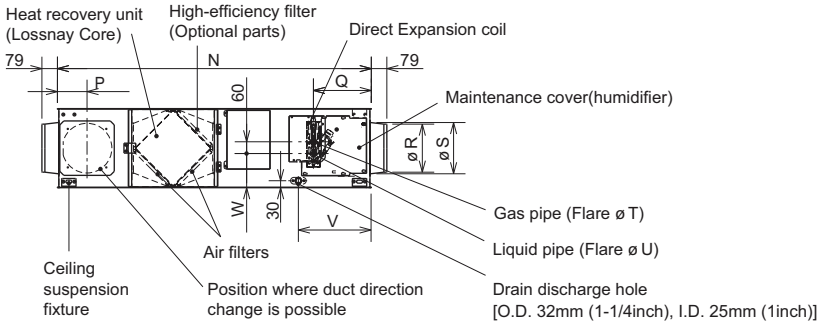
Upper View



Side View



Front View



Model	A	B	C	D	E	F	G	H	J	K	L
GUF-50RD4	745	1,016	124	1,185	1,048	22	124	450	372.5	435	158.5
GUF-100RD4	920	1,231	149	1,465	1,271	16	149	600	460	670	199
Model	M	N	P	Q	R	S	T	U	V	W	Y
GUF-50RD4	317	1,288	124	266	192	208	12.7	6.35	347	99	135
GUF-100RD4	398	1,580	149	280	242	258	15.88	9.52	361	110	169

WizardX-G07 E-OU

Air Handling Unit

The **Climaveneta WizardX Air Handling Units (AHUs)** utilise a combination of Mr Slim R32 Power Inverter heat pump technology, efficient thermal wheel heat recovery technology and an integrated controls system. This integration of technologies results in highly advanced, efficient systems which are easy to install and commission.

Key Features & Benefits

- Mr Slim R32 Power Inverter heat pump technology enables energy efficient tempering of fresh air
- Thermal wheel with hygroscopic coating enables energy efficient heat recovery
- Fully integrated controls and single point power supply as standard for ease of installation
- Easy air flow commissioning with selectable target air volume control
- Class 4 dampers as standard on both supply and return for maximum occupant safety
- Units available in sections with all fixings, wiring and electrical connectors included, reducing install costs and time on site
- Weatherproofed as standard for outdoor installation

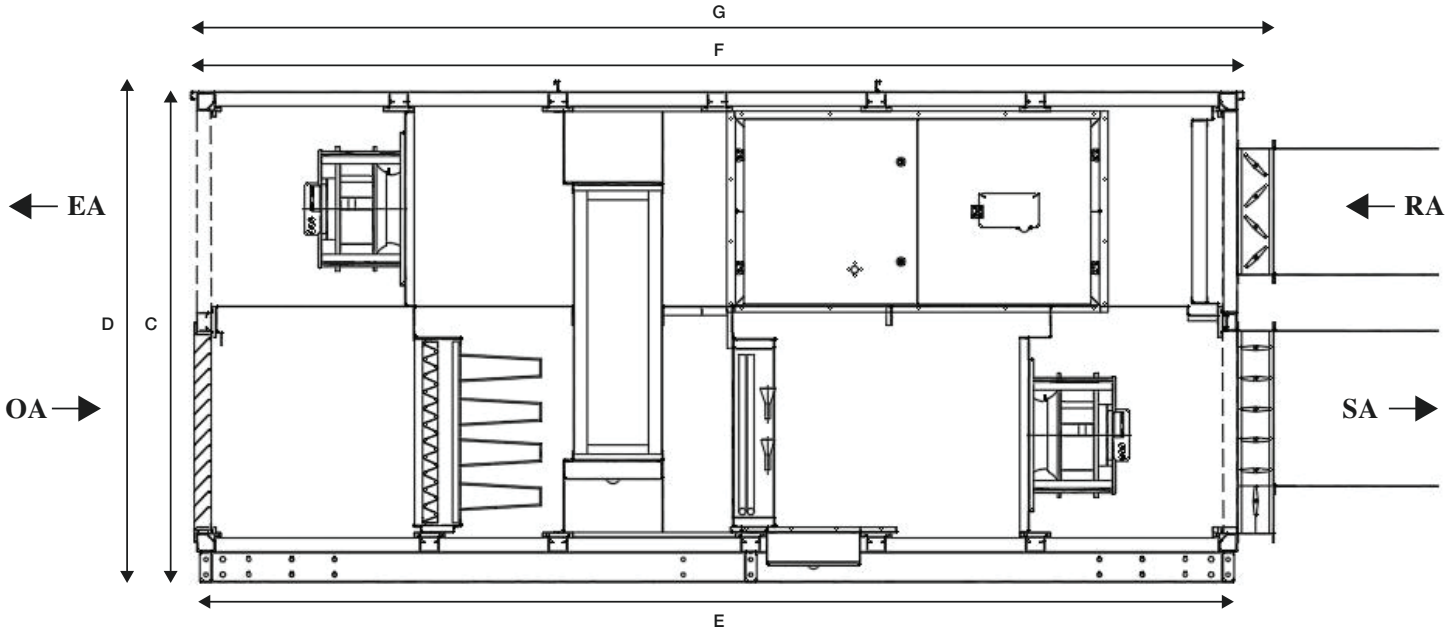
R32

MODEL		WIZARDX-G07 E-OU 3000	WIZARDX-G07 E-OU 5000	WIZARDX-G07 E-OU 7500	WIZARDX-G07 E-OU 10000	WIZARDX-G07 E-OU 12500	WIZARDX-G07 E-OU 15000	WIZARDX-G07 E-OU 20000
RATED AIR VOLUME (m^3/s)		0.83	1.39	2.08	2.78	3.47	4.17	5.56
AIR VOLUME RANGE (m^3/s)		0.56 - 0.83	0.83 - 1.39	1.39 - 2.08	2.08 - 2.78	2.78 - 3.47	3.47 - 4.17	4.17 - 5.56
EXTERNAL STATIC PRESSURE (Pa)	Standard fans	300	300	300	300	300	300	300
	Uprated fans	500	500	500	500	500	500	500
COOLING CAPACITY (kW)	DX Coil Capacity	9.41	19.1	23.7	38.1	39.7	47.5	70.4
	Wheel Recovery Capacity	24	39.4	57.7	77.8	96.2	115	160
	Total Capacity	33.41	58.5	81.4	115.9	135.9	162.5	230.4
HEATING CAPACITY (kW)	DX Coil Capacity	8.57	16.6	20.6	33	35.2	39.7	59.6
	Wheel Recovery Capacity	30.9	49.9	73.6	98.9	123	147	206
	Total Capacity	39.47	66.5	94.2	131.9	158.2	186.7	265.6
HEAT RECOVERY EFFICIENCY (%)		79	75.5	74.7	75.1	74.7	74.6	78.9
SPECIFIC FAN POWER (SFPint) (W/(l/s))		1.007	0.753	0.751	0.736	0.76	0.794	0.892
SOUND POWER LEVEL (dB(A))	Fresh/Outdoor	69	74	75	78	75	78	81
	Supply	79	82	85	86	84	88	89
	Return	67	74	74	76	75	77	79
	Exhaust	77	81	81	84	83	84	87
UNIT DIMENSIONS (WxDxH)*1 (mm)		3700x1040x1600	3700x1440x1600	3700x1540x2200	3700x1840x2200	3700x2040x2300	4100x2240x2360	4100x2540x2820
BASE WEIGHT (kg)		877	1039	1197	1409	1668	2030	2400
STANDARD FILTRATION	Fresh air 1st stage	ISO Coarse 50% / G4						
	Fresh air 2nd stage	ISO ePM1 50% / F7 Bag Filter						
	Return air	ISO Coarse 50% / G4						
CONSTRUCTION	Profiles	60mm aluminium						
	Panels	45mm sandwich panels, galvinised steel sheets with a pre-plastified external finish						
	Insulation	45 kg/m^3 density polyurethane foam						
*EN1886 ACHIEVED CLASSES (Deflection/Leakage/Filter bypass/Thermal transmittance/Thermal bridging)		D1(M), L3, T2, TB4						
OPERATING RANGES (°C DB)	Target Supply Air Setpoint	17 - 28						
	DX On Coil Cooling	15 - 32						
	DX On Coil Heating	5 - 28						
ELECTRICAL POWER REQUIREMENTS		400VAC / 3ph+Positive Earth / 50Hz						
COMPATIBLE OUTDOOR UNITS	Power Inverter (R32)	2 x PUZ-ZM50	2 x PUZ-ZM100	2 x PUZ-ZM125	2 x PUZ-ZM200	3 x PUZ-ZM140	2 x PUZ-ZM250	3 x PUZ-ZM250

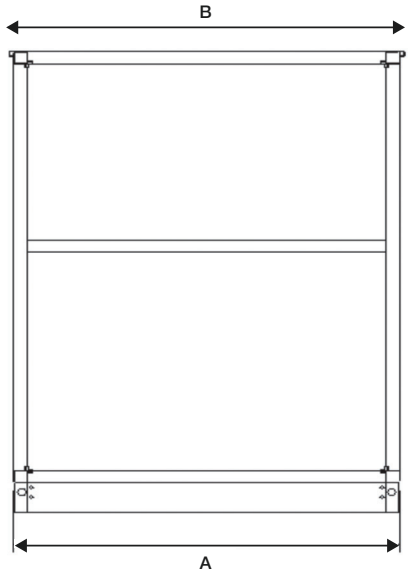
Note: Please refer to Mr Slim section for outdoor unit specification data. The specification data is based on the rated conditions below, at the rated air flows.
*1 Units in sections as an option will include extra profiles, increasing the weight and dimensions of the final unit.

RATED CONDITIONS	SUMMER		WINTER	
INDOOR	23°C DB	50% RH	21°C DB	50% RH
OUTDOOR	35°C DB	50% RH	-5°C DB	85% RH

Front View



Side View



Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Standard Weight (kg)
E-OU 3000	1000	1040	1600	1635	3400	3440	3550	877
E-OU 5000	1400	1440	1600	1635	3400	3440	3550	1039
E-OU 7500	1500	1540	2200	2235	3400	3440	3550	1197
E-OU 10000	1800	1840	2200	2235	3400	3440	3550	1409
E-OU 12500	2000	2040	2300	2335	3400	3440	3550	1668
E-OU 15000	2200	2240	2360	2395	3800	3840	3950	2030
E-OU 20000	2500	2540	2820	2855	3800	3840	3950	2400

Ventilation Accessories / Optional Extras

DESCRIPTION	MODEL REF.
Remote Controllers	
Lossnay Remote Controller for LGH-RVX3-E, LGH-RVXT-E and LGH-RVS-E	PZ-62DR-EB
LGH-RVX3-E	
Standard replacement filter (Coarse 60%) for LGH-15RVX3-E	PZ-15RF3-E
Standard replacement filter (Coarse 60%) for LGH-25RVX3-E	PZ-25RF3-E
Standard replacement filter (Coarse 60%) for LGH-35RVX3-E	PZ-35RF3-E
Standard replacement filter (Coarse 60%) for LGH-50RVX3-E	PZ-50RF3-E
Standard replacement filter (Coarse 60%) for LGH-65RVX3-E	PZ-65RF3-E
Standard replacement filter (Coarse 60%) for LGH-80RVX3-E / LGH-160RVX3-E (2 sets required)	PZ-80RF3-E
Standard replacement filter (Coarse 60%) for LGH-100RVX3-E / LGH-200RVX3-E (2 sets required)	PZ-100RF3-E
ePM_1 75% grade filter for LGH-15RVX3-E	PZ-15RFP3-E
ePM_1 75% grade filter for LGH-25RVX3-E	PZ-25RFP3-E
ePM_1 75% grade filter for LGH-35RVX3-E	PZ-35RFP3-E
ePM_1 75% grade filter for LGH-50RVX3-E	PZ-50RFP3-E
ePM_1 75% grade filter for LGH-65RVX3-E	PZ-65RFP3-E
ePM_1 75% grade filter for LGH-80RVX3-E / LGH-160RVX3-E (2 sets required)	PZ-80RFP3-E
ePM_1 75% grade filter for LGH-100RVX3-E / LGH-200RVX3-E (2 sets required)	PZ-100RFP3-E
Wall mounted plug and play CO_2 sensor with traffic light signals for LGH-RVX3-E	PZ-70CSW-E
Duct mounted plug and play CO_2 sensor for LGH-RVX3-E	PZ-70CSD-E
Vertical mounting bracket for LGH-15-50RVX3-E	PZ-1VS-E
Vertical mounting bracket for LGH-65-100RVX3-E	PZ-2VS-E
LGH-RVXT-E	
ePM_{10} 75% / M6 filter for LGH-RVXT-E	PZ-M6RTFM-E
ePM_1 65% / F8 filter for LGH-RVXT-E	PZ-F8RTFM-E
LGH-RVS-E	
Replacement Coarse 35% / G3 filter for LGH-50RVS-E	PZ-S50RF-E
Replacement Coarse 35% / G3 filter for LGH-80RVS-E	PZ-S80RF-E
Replacement Coarse 35% / G3 filter for LGH-100RVS-E	PZ-S100RF-E
ePM_{10} 80% / M6 filter for LGH-50RVS-E	PZ-S50RFM-E
ePM_{10} 80% / M6 filter for LGH-80RVS-E	PZ-S80RFM-E
ePM_{10} 80% / M6 filter for LGH-100RVS-E	PZ-S100RFM-E
ePM_1 65% / F8 filter for LGH-50RVS-E	PZ-S50RFH-E
ePM_1 65% / F8 filter for LGH-80RVS-E	PZ-S80RFH-E
ePM_1 65% / F8 filter for LGH-100RVS-E	PZ-S100RFH-E
Wall mounted plug and play CO_2 sensor with traffic light signals for LGH-RVS-E	PZ-70CSW-E
Duct mounted plug and play CO_2 sensor for LGH-RVS-E	PZ-70CSD-E
VL-100EU_5-E	
ePM_{10} 70% / M6 filter for VL-100EU_5-E	P-100HF5-E
Extension pipe for VL-100EU_5-E	P-100P-E
Extension pipe joint for VL-100EU_5-E	P-100PJ-E
VL-CZPVU-E	
Replacement Coarse 55% / G3 filter for VL-250CZPVU-E	P-250F-E
Replacement Coarse 55% / G3 filter for VL-350CZPVU-E	P-350F-E
Replacement Coarse 55% / G3 filter for VL-500CZPVU-E	P-500F-E
$ePM_{2.5}$ 50% / M6 filter for VL-250CZPVU-E	P-250PF-E
$ePM_{2.5}$ 50% / M6 filter for VL-350CZPVU-E	P-350PF-E
$ePM_{2.5}$ 50% / M6 filter for VL-500CZPVU-E	P-500PF-E
NOx 90% supply air filter for VL-250CZPVU-E	P-250NF-E
NOx 90% supply air filter for VL-350CZPVU-E	P-350NF-E
NOx 90% supply air filter for VL-500CZPVU-E	P-500NF-E
Acoustic top box for VL-250CZPVU-E	P-250SB-E
Acoustic top box for VL-350CZPVU-E	P-350SB-E
Acoustic top box for VL-500CZPVU-E	P-500SB-E
Remote controller cover and 1m cable with noise filter for VL-CZPVU-E	P-RCC-E
Weather Proof Housings	
Lossnay weather proof housings are also available for LGH-RVX3-E	

Ventilation Accessories / Optional Extras

DESCRIPTION	MODEL REF.
WizardX-G07 E-OU	
Fans	
High static pressure supply fan (500 Pa)	B503
High static pressure exhaust fan (500 Pa)	B513
Two speed fan via VFC	B631
Variable airflow with CO_2 probe	B611
Dampers	
Fresh Air (Class 4)	B551
Exhaust Air (Class 4)	B581
Pre/Post Heating	
Pre-heating electric coil	B531
Post-heating electrical coil	1333
Pre-heating water coil	B532
Post-heating water coil	1331
Filters	
Bag Filters F9 ePM1 85%	2521A
Activated charcoal filters F7	2529
Energy Efficiency	
Variable speed thermal wheel	B521
Connectivity and Integration	
Modbus connection for BEMS	4181
Bacnet TCP-IP connection for BEMS	4185
Connection to AE-200E for on/off and general alarm monitoring	PAC-YG66DCA
Remote keyboard - wiring up to 200m	C9261063
Remote keyboard - wiring up to 500m	C9261064
Structural	
Weather protection grille on fresh air intake	B621
Sub divided delivery into 5 sections*1	B482 (& B542)
Left handed configuration	2963

Notes: *1 All electrical wiring is included with suitable plug connectors for mistake-proof assembly. Each section is structural with extra profiles and panels, therefore total assembled AHU dimensions may be increased. Size 15000 is sub divided into 3 sections as standard.

Controls

Control Solutions


culture hub
newsroom
the observer
sport
lifts
toilets

Contents

The Importance of **Controls**

Time to take control

Operating an air conditioning, ventilation or heating system without effective controls can be costly in more ways than one. Not only are you likely to face higher monthly energy bills, it will also lead to an increase in carbon emissions - something that will become ever more important as businesses strive to keep up with tougher environmental legislation.

The right controls take building performance to the next level. With them, building systems become more responsive, easier to automate, monitor and maintain, and less costly to operate in the long-term.

The right controls can deliver a cost-effective solution that helps manage, monitor and report on the performance of all building services systems.

In order to achieve the UK's national objective of net-zero carbon emissions by 2050, commercial buildings will have to become much more energy efficient, and building controls will have a significant part in ensuring that happens.

Control technology is now widely available for buildings of all sizes, so it is possible to access the benefits whatever the scale or scope of your project.

Mitsubishi Electric technology

Mitsubishi Electric has been dedicated to producing energy efficient technology for over ninety years. Controls are an essential part of that. Mitsubishi Electric has long heritage in factory automation where the company leads the field in providing controls that enhance productivity, efficiency and energy use.

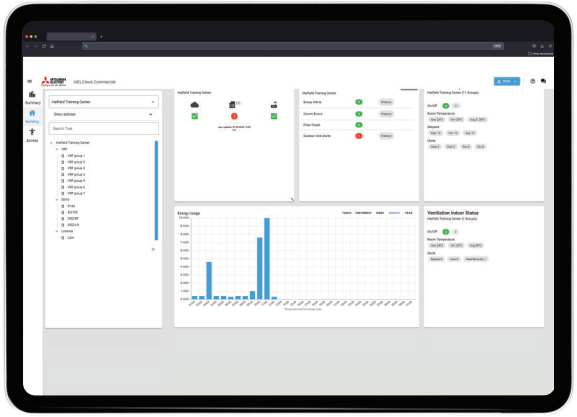
We have taken this extensive knowledge and experience and transferred it to the heart of our building services equipment.

We were also one of the first manufactures to provide an open gateway to our products to make integration easier for our customers. This enables direct connection of equipment into many common building energy management system (BEMS) platforms.

Mitsubishi Electric now offer the MELCloud platform to help you control, monitor and service your HVAC equipment. This includes performance and energy monitoring, as well as remote management of one or multiple systems, in order to save energy, cost and downtime.

From a simple hand-held controller to a centralised BEMS, Mitsubishi Electric puts its customers in control.

MELCloud COMMERCIAL



The European Standard EN 15232

"Energy Performance of Buildings - Impact of Building Automation, Controls and Building Management" was compiled in conjunction with the Europe-wide implementation of the directive for energy efficiency in buildings (Energy Performance of Buildings Directive EPBD) 2002/91/EG.

The Standard is incorporated into UK law and describes methods for evaluating the influence of building automation and technical building management on the energy consumption of buildings.

Four efficiency classes A to D have been introduced to this purpose. After a building has been equipped with building automation and control systems, it will be assigned one of these classes. The potential savings for thermal and electrical energy can be calculated for each class based on the building type and building purpose. The values of the energy class C are used as the reference for comparing the efficiency.

The diagram on the right, shows the differences in energy consumption for three building types in the energy efficiency classes A, B and D relative to the basis values in rating C. For example, by using class A, 30 % of the thermal energy can be saved in offices.

BS EN 15232: Function list and assignment to energy performance classes

	Heating / Cooling Control	Ventilation / Air Conditioning Control	Lighting	Sun Protection
A	Individual room control with communication between controllers Indoor temperature control of distribution network water temperature Total interlock between heating and cooling control	Demand or presence dependent air flow control at room level Variable set point with load dependant compensation of supply temperature control Room or exhaust or supply air humidity control	Automatic daylight control Automatic occupancy detection manual on / auto off Automatic occupancy detection manual on / dimmed Automatic occupancy detection auto on / auto off Automatic occupancy detection auto on / dimmed	Combined light / blind / HVAC control
B	Individual room control with communication between controllers Indoor temperature control of distribution network water temperature Partial interlock between heating and cooling control (dependent on HVAC system)	Time dependent air flow control at room level Variable set point with outdoor temperature compensation of supply temperature control Room or exhaust or supply air humidity control	Manual daylight control Automatic occupancy detection manual on / auto off Automatic occupancy detection manual on / dimmed Automatic occupancy detection auto on / auto off Automatic occupancy detection auto on / dimmed	Motorised operation with automatic blind control
C	Individual room control with communication between controllers Indoor temperature control of distribution network water temperature Partial interlock between heating and cooling control (dependent on HVAC system)	Time dependent air flow control at room level Constant set point of supply temperature control Supply air humidity limitation	Manual daylight control Manual on / off switch + additional sweeping extinction signal Manual on / off switch	Motorised operation with manual blind control
D	No automatic control No control of distribution network water temperature No interlock between heating and cooling control	No air flow control at room level No supply temperature control No air humidity control	Manual daylight control Manual on/off switch + additional sweeping extinction signal Manual on/off switch	Manual operation for blinds

Section from table 1 of the BSEN 15232:2007 [D]

Building Automation and Control (BAC) efficiency classes to EN 15232

		Efficiency factor for thermal energy			Efficiency factor for electrical energy		
		Office	School	Hotel	Office	School	Hotel
A	High energy performance building automation and control system (BACS) and technical building management (TBM)	0.70	0.80	0.68	0.87	0.86	0.90
B	Advanced BACS and TBM	0.80	0.88	0.85	0.93	0.93	0.95
C	Standard BACS	1	1	1	1	1	1
D	Non energy efficient BACS	1.51	1.20	1.31	1.10	1.07	1.07

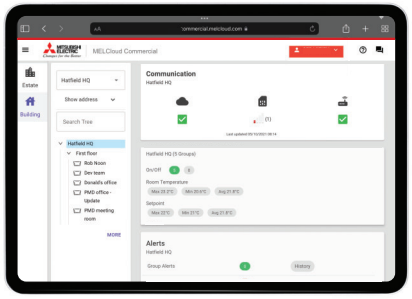
Control Solutions

The Importance of Controls

The Internet of Things

The Internet of Things (or IoT) describes the revolution already under way, with a growing number of internet-enabled devices that can network and communicate with each other and with other web-enabled devices.

Mitsubishi Electric is at the forefront of this revolution and all our products are now connectable to the internet using the following solutions*1.

Features	MELCloud	MELCloud Commercial
		
Connect to	Wi-Fi	Ethernet or Cellular
Compatibility	Air Conditioning, Ventilation and Heating	Air Conditioning and Ventilation
Third party control	x	✔ (with option PAC-YG60/63MCA/66DCA)
SIM card provided	x	✔ (eSIM)
Smartphone application	✔	✔
Tablet application	✔	✔
Web portal	✔	✔

*1 VL-100 is not connectable to the Internet

Which Controls Product for Which Application?

Good controls will benefit any application. With a wide portfolio of control products, it is important to select the right control solution for each application.





APPLICATION	SIZE	TYPICAL PRODUCT INSTALLED	CONTROL SOLUTIONS	CASE STUDY
OFFICE	SMALL	City Multi VRF Systems Mr Slim Split-Systems Mr Slim IT Room Applications	PAR-41MAA or AE-200E-WEB USER AE-200E or AT-50B PAC-YG66DCA or PAC-YG60MCA MELCloud Commercial MELCOBEMS SIP+	Wholesaler PACAIR uses an AE-200E Centralised Controller to provide complete control of the office air conditioning. The 10.4" touch screen controller and easy to use interface gives PACAIR the ability to set up a weekly time schedule, as well as offering a host of energy saving features.
	LARGE	City Multi VRF Systems City Multi Air Curtains City Multi PWFY Heat Pumps	PAR-41MAA or AE-200E-WEB USER AE-200E or AT-50B MELCloud Commercial MELCOBEMS SIP+	Mitsubishi Electric's Hatfield headquarters has been updated to new AE-200E/EW-50E HTML5 controls to monitor and control all of the air conditioning equipment across 3 floors and 2 wings. This enables the system to operate as efficiently as possible, incorporating easy to use controls and allows for fully programmable scheduling that accommodates flexible working patterns.
HOTEL	SMALL	City Multi VRF Systems	PAR-CT01MAA-S/PB AE-200E MELCloud Commercial MELCOBEMS SIP+	The luxury 4-star Kingsmills Hotel provides a chic and contemporary venue for discerning Highlands travellers and focuses on relaxation, revitalisation and calm. The centralised controller delivers the efficiency and flexibility that both the hotel and its guests need, with air conditioning integrated with the room key card system combined with simple to use room controllers.
	LARGE	City Multi VRF Systems	PAR-CT01MAA-S/PB AE-200E MELCOTEL2™ MELCloud Commercial MELCOBEMS SIP+	The Premier Inn Hotel, Leicester uses the MELCOTEL2™ control interface to efficiently and effectively control air conditioning that provides heating and cooling to 135 bedrooms, the bar, restaurant and back offices. A variety of control strategies were implemented and monitored and analysed, resulting in a 30% decrease in average monthly system running costs and CO_2 emissions.
RETAIL	SMALL	Mr Slim Split-System Mr Slim Air Curtains	MELCORETAIL MINI MELCloud Commercial MELCOBEMS SIP+	Costa Coffee was one of the first to make use of the MELCORETAIL MINI to capitalise on its energy saving feature whilst ensuring that customers and staff were comfortable in the overall coffee shop environment. Across a year of monitoring the MELCORETAIL MINI helped achieve a 20% reduction in energy use, giving it a payback period of less than 2 months.
	LARGE	City Multi VRF Systems City Multi Air Curtains	MELCloud Commercial MELCOBEMS SIP+	A pilot site for a major high street retail chain has demonstrated how connecting MELCloud Commercial to air conditioning can highlight ways of reducing energy or identify unnecessary use. Significant savings throughout the store were made by employing MELCloud Commercial, providing a consistent return on investment on a monthly basis.
LEISURE	SMALL	Mr Slim Split-System Mr Slim Air Curtains	MELCOBEMS MINI (A1M+) MELCloud Commercial MELCOBEMS SIP+	The Castle golf course at St Andrews need a heating and cooling system that was as controllable and efficient as possible. The M2M interface controls and monitors the air conditioning to make sure it maximises energy saving, whilst allowing for continuous fine-tuning according to the golf clubs needs.
	LARGE	Mr Slim Split-System Mr Slim Air Curtains City Multi VRF Systems City Multi Air Curtains	MELCOBEMS MELCloud Commercial MELCOBEMS SIP+	Fitness First uses monitoring BEMS to communicate with the air conditioning using Modbus, across its UK network. Dedicated Modbus Interfaces offer complete monitoring and control of the system and highlights the flexibility and potential for reducing running costs that our control systems have when working in conjunction with third party BEMS.
RESIDENTIAL	SMALL	Ecodan	MELCloud	A WW2 veteran has shown the way to a sustainable future with the installation of a hybrid Ecodan air source heat pump to work alongside his existing gas boiler. The hybrid system is designed specifically to work in conjunction with conventional boilers and the MELCloud Wi-Fi system also allows the heat pump to be monitored and controlled remotely
	LARGE	Ecodan	MELCloud AE-200E	The renewable heating system for St Mungo's in Lewisham needs to cope with different heating loads and deal effectively with regular changes in tenancy and occupied hours. It also had to offer tenants the ability to alter the temperature of their individual flats, whilst allowing the charity full central control of the system.

Which Controls Product for Which Function?

With a wide portfolio of control products, many functions are available.
It is important to select the right control solution for each function.

FUNCTION	SMALL SYSTEM SIZE LARGE					NOTES
	OPTION 1	OPTION 2	OPTION 3	OPTION 4	OPTION 5	
Remote On/Off or fire alarm	PAC-SA89TA	KTR-53A	MELCORETAIL MINI	AT-50B and PAC-YT51HAA	AE-200E and PAC-YG10HA	On/Off remote controller button lock except KTR-53A
Monitor run and faults	PAC-SA88HA	MELCORETAIL MINI	AT-50B and PAC-YT51HAA	AE-200E / EW-50E and PAC-YG10HA	-	Relays or power supply may be required
Window interlocking	PAC-SA89TA	KTR-53A	-	-	-	Controller will be centrally controlled when window opened
Setpoint limit	PAR-41MAA	PAR-U02MEDA	AT-50B	AE-200E / EW-50E	AE-200E	Available in Heat, Cool and Auto modes
Weekly timer	PAR-41MAA PAR-U02MEDA	AT-50B	AE-200E / EW-50E	AE-200E	-	Setpoint, On/Off can be reset
Night set back	KTR-53A	PAR-41MAA PAR-U02MEDA	AE-200E / EW-50E / AT-50B	AE-200E	-	KTR-53A requires thermostat, time switch, 12/24v AC/DC power supply
Energy monitoring	AE-200E / EW-50E Total Energy Measurement	AE-200E / EW-50E PAC-YG60MCA Total Energy Management	AE-200E and EW-50E Energy Apportioning	AE-200E / EW-50E PAC-YG60MCA Energy Apportioning	-	Different options for each choice. Meters required
Load shedding	EW-50E and PAC-YG60MCA	AE-200E and PAC-YG60MCA	-	-	-	Energy meters required
Trend logging	EW-50E and PAC-YG60MCA	AE-200E	-	-	-	CSV data available on a spreadsheet

Notes: The PAC-SA89TA is also known as a 3 wire adaptor and the PAC-SA88HA is also known as a 5 wire adaptor. **Disclaimer:** These options are for guidance only.

Which Controls Product for Which Function?

With a wide portfolio of control products, many functions are available. It is important to select the right control solution for each function.

FUNCTION	SMALL SYSTEM SIZE LARGE			NOTES
	OPTION 1	OPTION 2	OPTION 3	
Night mode	PAC-SA89TA	EW-50E	AE-200E	PAC-SA89TA requires a third party timer
Ambient tracking	AE-200E and PAC-YG63MCA	MELCOBEMS MINI (A1M+)	AE-200E	Option 1 is only available in cooling mode
Key card interlock for hotel	AE-200E and PAC-SA89TA	AE-200E / EW-50E, MELCOTEL2™ and PAC-SA89TA	-	Volt free contact for key card normally open
Window sensor interlock for hotel	AE-200E and PAC-SA89TA	AE-200E / EW-50E, MELCOTEL2™ and PAC-SA89TA	-	Volt free contact for window sensor normally closed
2 setpoints (1 for cool and 1 for heat)	-	MELCOMMS MINI	AE-200E	For instance, 19°C heat and 23°C cool. Fan only in between
Duty / Standby	PAR-41MAA	MELCOMMS MINI MELCOBEMS MINI (A1M+)	-	Backup, rotate, join in and high temperature function
A/C faults via Modbus and BACnet	MELCOBEMS MINI (A1M+)	-	-	SIM card not supplied
Optimised start	AE-200E	-	-	-
Mini BEMS	MELCOBEMS MINI (A1M+)	AE-200E	-	-
Occupancy sensor	PAR-U02MEDA	-	-	-

Notes: The PAC-SA89TA is also known as a 3 wire adaptor and the PAC-SA88HA is also known as a 5 wire adaptor. Disclaimer: These options are for guidance only.

Centralised Controllers

A wide range of centralised controllers are available to monitor and control our equipment efficiently. Some of our centralised controllers can also be used to monitor and control third party equipment.

Key Features & Benefits

AT-50B

- 5'' basic touch screen
- Centralised controller
- Monitor and control up to 50 indoor units
- Monitor and control general equipment

AE-200E

- 10.4'' full function touch screen
- Centralised controller
- Monitor and control up to 50 indoor units (or up to 200 indoor units with EW-50Es)
- Monitor and control general equipment
- Energy monitoring, load shedding
- Web based controller
- Onboard HTML5 web browser
- Optional direct BACnet connection

EW-50E

- Extends capability of AE-200E
- Web based controller
- Monitor and control up to 50 indoor units
- Monitor and control general equipment
- Energy monitoring, load shedding
- Onboard HTML5 web browser
- Optional direct BACnet connection

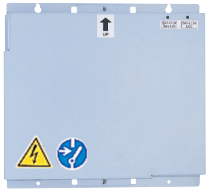
AE-200E-WEB USER

- Available as an option
- 200 user accounts per PIN CODE
- No installation cost
- Centralised controller required
- Very simple to use

PAC-SC51KUA

- M-NET power supply

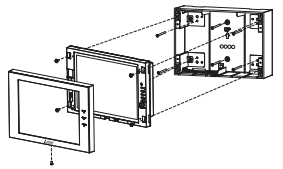
PAC-SF46EPA



- M-NET transmission booster

Centralised Controllers

Technical Specification

CENTRALISED CONTROLLERS		AT-50B	AE-200E	KS10-RFFI	PAC-YG82TB
					
Description		5" Touch Screen Controller	10.4" Touch Screen Controller	AE-200E Interface	AE-200E Plastic Wall Mounted Box
Connect to		M-NET Network	M-NET Network	AE-200E and EW-50E	-
Max Number of Units		50	50 and 4 Pulse Meters	-	-
Compatibility		M Series, Mr Slim, City Multi and Lossnay	M Series, Mr Slim, City Multi, Lossnay, e-Series, MEHITS Chillers*1 and Ecodan QAHV/CAHV/CRHV	-	AE-200E
Power Supply		Via PAC-SC51KUA	220-240v, 50Hz	220-240v, 50Hz	-
Dimensions (mm) (WxDxH)		180 x 30 x 120	283 x 64 x 199	130 x 30 x 80	282 x 77 x 198
Control	On/Off	✓	✓	-	-
	Mode	✓	✓	-	-
	Setpoint	✓	✓	-	-
	Fan Speed	✓	✓	-	-
	Air Direction	✓	✓	-	-
	Permit/Prohibit	✓	✓	-	-
	Filter Sign	✓	✓	-	-
Monitor	On/Off	✓	✓	✓	-
	Mode	✓	✓	-	-
	Setpoint	✓	✓	-	-
	Fan Speed	✓	✓	-	-
	Air Direction	✓	✓	-	-
	Permit/Prohibit	✓	✓	-	-
	Filter Sign	✓	✓	-	-
	Fault Codes	✓	✓	✓	-
	Room Temperature	✓	✓	-	-
Weekly Schedule		✓	✓	-	-
Annual Schedule		x	✓	-	-
Night Set Back		✓	✓	-	-
Web Pages		x	✓	-	-
Optimised Start		x	✓	-	-
Automatic Setpoint Adjustment		x	✓	-	-
Load Shedding		x	✓	-	-
Occupied / Unoccupied Settings Reset		x	x	-	-
Remote Monitoring with M2M		x	✓	-	-
Simple Energy Monitoring		x	✓	-	-
Advanced Energy Monitoring		x	✓	-	-

Notes: *1 MEHITS adaptor required.
AE-200E demonstration website: **http://dl.mitsubishielectric.co.jp/dl/ldg/wink/wink_doc/contents/doc/acr/menu/ae200/en/**

PIN CODES:

AE-200E-ENERGY
AE-200E-BACNET
AE-200E-WEB USER

Centralised Controllers

Technical Specification

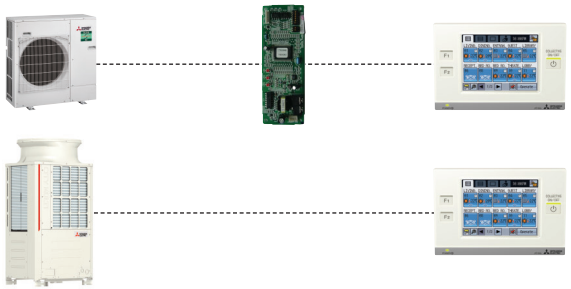
CENTRALISED CONTROLLERS		EW-50E	AE-200E-WEB USER	PAC-SC51KUA	PAC-SF46EPA
					
Description		Web Interface and AE-200E expansion controller	AE-200E Web User Pin Code	M-NET Power Supply	M-NET Transmission Booster
Connect to		M-NET Network	AE-200E and EW-50E	M-NET Network	M-NET Network
Max Number of Units		50 and 4 Pulse Meters	200	50	-
Compatibility		M Series, Mr Slim, City Multi, Lossnay, e-Series, MEHITS Chillers*1 and Ecodan QAHV/CAHV/CRHV	AE-200E and EW-50E	AT-50B, EW-50E and AE-200E	M Series, Mr Slim and City Multi
Power Supply		220-240v, 50Hz	-	220-240v, 50Hz	220-240v, 50Hz
Dimensions (mm) (WxDxH)		172 x 92 x 253	-	271 x 72 x 169	360 x 59 x 340
Control	On/Off	✓	✓	-	-
	Mode	✓	✓	-	-
	Setpoint	✓	✓	-	-
	Fan Speed	✓	✓	-	-
	Air Direction	✓	✓	-	-
	Permit/Prohibit	✓	✓	-	-
	Filter Sign	✓	x	-	-
Monitor	On/Off	✓	✓	-	-
	Mode	✓	✓	-	-
	Setpoint	✓	✓	-	-
	Fan Speed	✓	✓	-	-
	Air Direction	✓	✓	-	-
	Permit/Prohibit	✓	✓	-	-
	Filter Sign	✓	✓	-	-
	Fault Codes	✓	✓	-	-
	Room Temperature	✓	✓	-	-
Weekly Schedule		✓	✓	-	-
Annual Schedule		✓	✓	-	-
Night Set Back		✓	x	-	-
Web Pages		✓	✓	-	-
Optimised Start		✓	x	-	-
Automatic Setpoint Adjustment		✓	x	-	-
Load Shedding		✓	x	-	-
Occupied / Unoccupied Settings Reset		x	x	-	-
Remote Monitoring with M2M		✓	x	-	-
Simple Energy Monitoring		✓	✓	-	-
Advanced Energy Monitoring		✓	✓	-	-

Notes: *1 MEHITS adaptor required

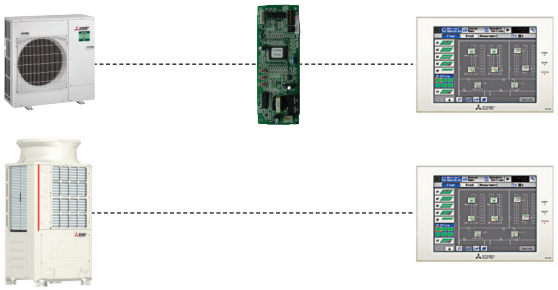
PIN CODES:

AE-200E-ENERGY
AE-200E-BACNET
AE-200E-WEB USER

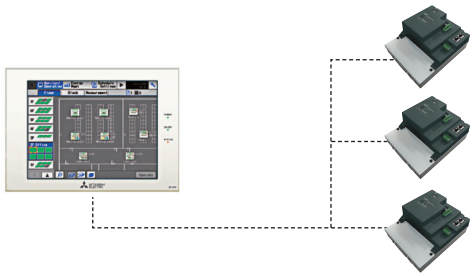
System Diagram AT-50B



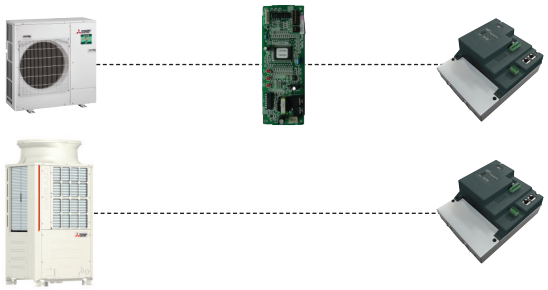
System Diagram AE-200E



System Diagram EW-50E



System Diagram EW-50E



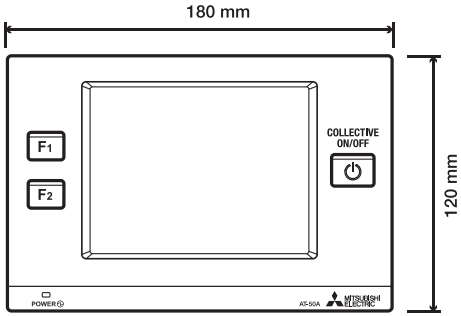
System Diagram PAC-SC51KUA

System Diagram PAC-SF46EPA

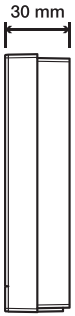
System Diagram AE-200E-WEB USER

Product Dimensions AT-50B

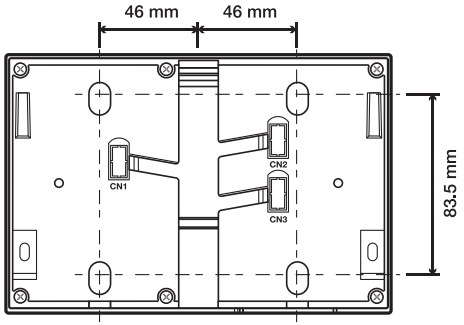
Front View



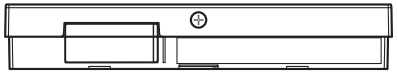
Side View



Back View

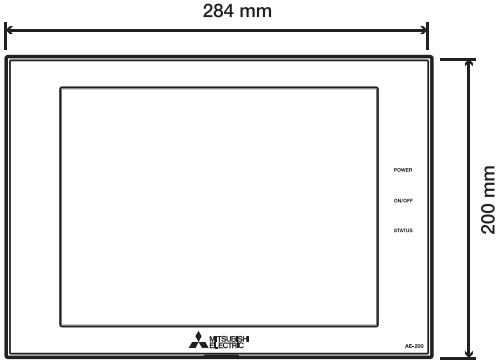


Top View

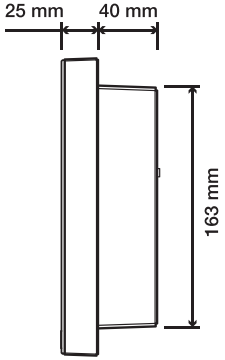


Product Dimensions AE-200E

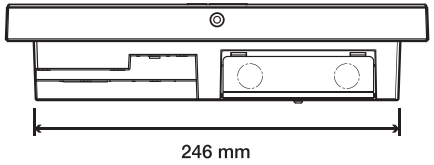
Front View



Side View

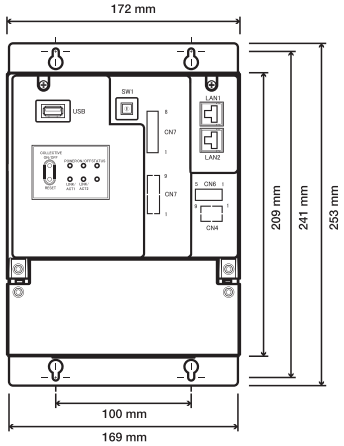


Top View

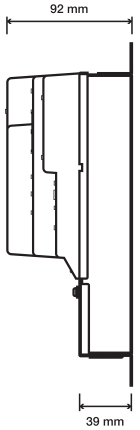


Product Dimensions EW-50E

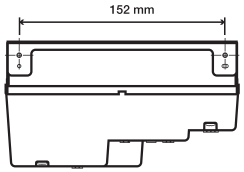
Front View



Side View

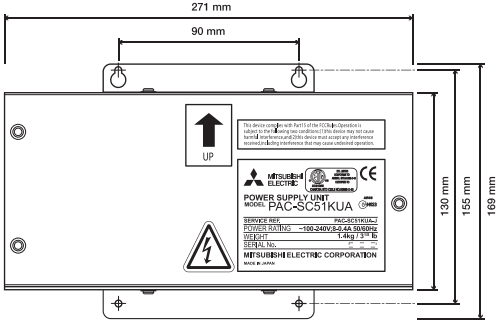


Top View

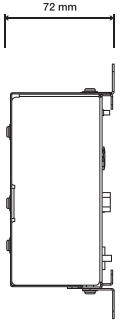


Product Dimensions PAC-SC51KUA

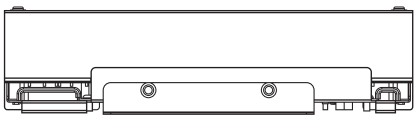
Front View



Side View

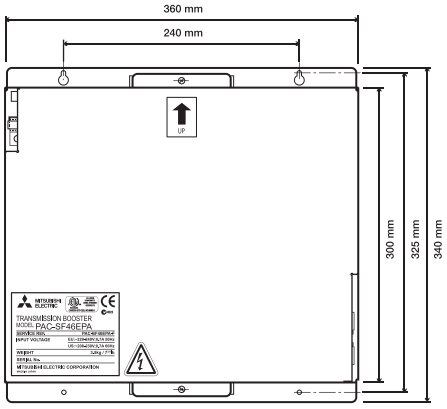


Top View



Product Dimensions PAC-SF46EPA

Front View



Side View

Top View

Remote Controllers

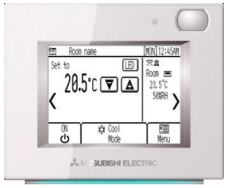
From a simplified controller perfect for hotel applications to a full backlight touch screen controller, we have the right remote controller to choose from.

Key Features & Benefits

PAR-CT01MAA-SB / PAR-CT01MAA-PB

- Simple to use
- Touch screen
- 180 colour screen
- 180 colour font display
- Backlight
- Fully configurable via smartphone App
- Customisable display
- Ability to display customer logos

PAR-U02MEDA



- Touch screen M-Net Controller
- Night set back, scheduling, setpoint limitation
- Built in occupancy/brightness sensor
- Backlight
- 0.5°C Set Point adjustment
- Dual Set Point

PAR-41MAA

- Displays model name and serial number on Mr Slim
- Night set back, scheduling, setpoint limitation
- 0.5°C Set Point adjustment
- Dual Set Point
- Run/Standby for Mr Slim
- Contact number under fault condition
- Backlight (White / Black options)
- Daylight saving function

PAR-FL / FA32MA

- Infrared solution
- Controller and receiver
- Controller able to control more than one receiver

PZ-62DR-EB

- Dedicated Lossnay controller
- Night set back, scheduling
- Flexible night purge
- Backlight

PAR-SL101A-E

- Wireless controller
- Weekly timer
- 3D Total Airflow for PLA-ZM/M
- 14°C cooling
- Individual vane setting for PLA-ZM/M/SM
- Dual Set Point
- Backlight

PAR-W31MAA / PAR-W21MAA

- Dedicated remote controller (see technical specification on page 7.18)
- Button lock
- Contact number under fault condition
- Fault codes

PAR-WT60R-E / PAR-WR61R-E

- Ecodan wireless controller
- New sleek flat panel design
- Backlight
- Ecodan receiver

PAC-IF072B-E

- Ecodan controller
- Backlight

Remote Controllers

Technical Specification

REMOTE CONTROLLERS		PAR-CT01MAA-SB	PAR-CT01MAA-PB	PAR-U02MEDA	PAR-41MAA	PAR-FL32MA	PAR-FA32MA
							
Description		Simplified Touch Screen Wired Remote Controller	Simplified Touch Screen Wired Remote Controller (Premium Finish)	Touch Screen Remote Controller	Standard Wired Remote Controller	Infrared Remote Controller	Infrared Receiver
Connect to		Indoor	Indoor	M-NET Network	Indoor	-	Indoor
Max Number of Units		16	16	16	16	-	16
Compatibility		Mr Slim, City Multi and M Series via MAC-497IF-E	Mr Slim, City Multi and M Series via MAC-497IF-E	City Multi (M Series and Mr Slim via A2M adaptor)*1	Mr Slim, City Multi and M Series via MAC-497IF-E or MAC-334IF-E	Mr Slim, City Multi and M Series via MAC-497IF-E	Mr Slim, City Multi and M Series via MAC-497IF-E
Dimensions (mm) (WxDxH)		120 x 14.1 x 65	120 x 14.1 x 65	140 x 25 x 120	120 x 14.5 x 120	157 x 18 x 57	120 x 18 x 70
Control	On/Off	✓	✓	✓	✓	✓	-
	Mode	✓	✓	✓	✓	✓	-
	Setpoint	✓	✓	✓ (0.5°C)	✓ (0.5°C)	✓	-
	Fan Speed	✓	✓	✓	✓	✓	-
	Air Direction	✓	✓	✓	✓	✓	-
	Permit/Prohibit	✓	✓	✓	✓	x	-
	Filter Sign	✓	✓	✓	✓	x	-
Monitor	On/Off	✓	✓	✓	✓	✓	-
	Mode	✓	✓	✓	✓	✓	-
	Setpoint	✓	✓	✓ (0.5°C)	✓ (0.5°C)	✓	-
	Fan Speed	✓	✓	✓	✓	✓	-
	Air Direction	✓	✓	✓	✓	✓	-
	Permit/Prohibit	✓	✓	✓	✓	✓	-
	Filter Sign	✓	✓	✓	✓	x	-
	Fault Codes	✓	✓	✓	✓	x	LED
	Room Temperature	✓	✓	✓ (0.5°C)	✓ (0.5°C)	x	-
Backlight		✓	✓	✓	✓	x	-
Setpoint Limitation		✓	✓	✓	✓	x	-
Independent Vane Control		x	x	x	✓	x	-
Contact Number under Fault Condition		x	x	x	✓	x	-
Scheduling		✓	✓	Weekly	Weekly	x	-
Night Set Back		x	x	✓	✓	x	-
Button Lock		✓	✓	✓	✓	x	-
Easy Maintenance with Mr Slim		x	x	x	✓	x	-
Run / Standby with Mr Slim		x	x	x	✓	x	-
Silent Mode with Mr Slim		x	x	x	✓	x	-
Energy Saving with Mr Slim		x	x	x	✓	x	-
Occupancy Sensor (PIR)		x	x	✓	x	x	-
3D Total Airflow with Mr Slim		x	x	x	✓	x	-
Model Name and Serial Number Display with Mr Slim		x	x	x	✓	x	-
Energy Consumption Monitoring with Mr Slim		x	x	x	✓	x	-
2+1 Backup Rotation with Mr Slim		x	x	x	✓	x	-
Smart Defrost with Mr Slim		x	x	x	✓	x	-
14°C Cooling with Mr Slim		x	x	x	✓	x	-

Notes: Permit/Prohibit is via Centralised Controllers. ✓= Yes, x = No, - = Not applicable. *1 M-NET Power Supply Required via PAC-SC51KUA for M Series & Mr Slim

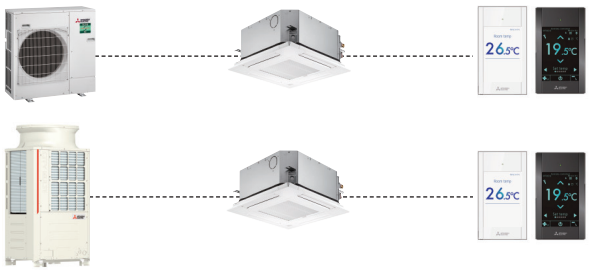
Remote Controllers

Technical Specification

REMOTE CONTROLLERS		PZ-62DR-EB	PAR-SL101A-E	PAR-W31MAA	PAR-W21MAA	PAR-WT60R-E	PAR-WR61R-E	PAC-IF072B-E
								
Description		Lossnay Wired Remote Controller	Wireless Remote Controller	Standard Wired Remote Controller	Standard Wired Remote Controller	Wireless Remote Controller Transmitter	Wireless Remote Controller Receiver	Flow Temperature Controller FTC6
Connect to		Indoor	-	e-Series and Ecodan QAHV	PWFY, Mr Slim Air Curtains and Ecodan CAHV / CRHV	Ecodan PUZ / QUHZ	Ecodan PUZ / QUHZ	Ecodan PUZ / QUHZ
Max Number of Units		15	-	6 (depends on unit connected)	16	8	1	1
Compatibility		Lossnay LGH-RVX3(T)-E LGH-RVS-E	Mr Slim PLA-ZM/M/SM PKA-M	e-Series and Ecodan CAHV/QAHV	PWFY and Ecodan CRHV	Ecodan PUZ / QUHZ	Ecodan PUZ / QUHZ	Ecodan PUZ / QUHZ
Dimensions (mm) (WxDxH)		120 x 19 x 120	66 x 22 x 188	120 x 19 x 120	130 x 19 x 120	100 x 23 x 100	100 x 30 x 80	120 x 19 x 120
Control	On/Off	✓	✓	✓	✓	x	-	✓
	Mode	✓	✓	✓	✓	✓	-	✓
	Setpoint	-	✓	✓	✓	✓	-	✓
	Fan Speed	✓	✓	x	x	x	-	x
	Air Direction	-	✓	x	x	x	-	x
	Permit/Prohibit	✓	x	x	-	x	-	x
	Filter Sign	✓	x	x	x	x	-	x
Monitor	On/Off	✓	✓	✓	✓	✓	-	✓
	Mode	✓	✓	✓	✓	✓	-	✓
	Setpoint	x	✓	✓	✓	✓	-	✓
	Fan Speed	✓	✓	x	x	x	-	x
	Air Direction	-	✓	x	x	x	-	x
	Permit/Prohibit	✓	✓	✓	x	x	-	x
	Filter Sign	✓	x	x	x	x	-	x
	Fault Codes	✓	x	✓	✓	x	-	✓
	Room Temperature	-	x	x	x	✓	-	✓
Backlight		✓	✓	✓	x	✓	-	✓
Setpoint Limitation		-	x	x	✓	✓	-	x
Independent Vane Control		-	✓	x	x	x	-	x
Contact Number under Fault Condition		x	x	✓	✓	x	-	x
Scheduling		Weekly	Weekly	Weekly	Weekly	Weekly	-	Weekly
Night Set Back		-	x	x	x	✓	-	✓
Button Lock		✓	x	x	✓	x	-	✓
Easy Maintenance with Mr Slim		-	x	x	x	-	-	-
Run / Standby with Mr Slim		-	x	x	x	-	-	-
Silent Mode with Mr Slim		-	x	x	x	-	-	-
Energy Saving with Mr Slim		-	x	x	x	-	-	-
Occupancy Sensor (PIR)		-	x	x	x	-	-	-
3D Total Airflow with Mr Slim		-	✓	x	x	-	-	-
14°C Cooling with Mr Slim		-	✓	x	x	-	-	-

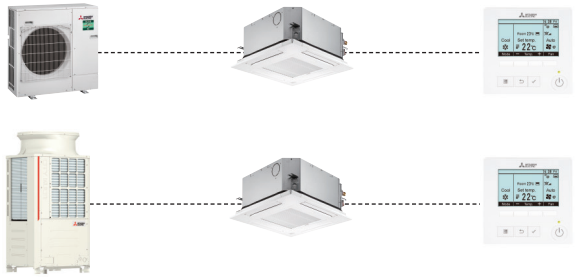
Notes: Prohibit is via Centralised Controllers. ✓= Yes, x = No, - = Not applicable.

System Diagram PAR-CT01MAA-SB / PAR-CT01MAA-PB

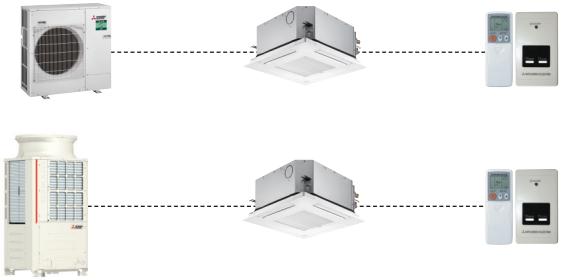


System Diagram PAR-U02MEDA

System Diagram PAR-41MAA



System Diagram PAR-FL / FA32MA



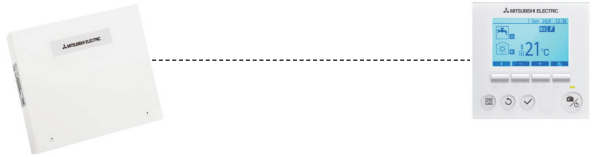
System Diagram PZ-62DR-EB

System Diagram PAR-SL101A-E

System Diagram PAR-W31MAA

System Diagram PAR-WT60R-E / PAR-WR61R-E

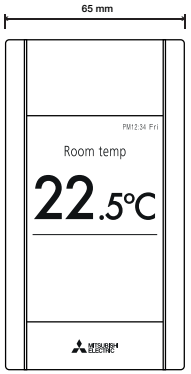
System Diagram PAC-IF072B-E

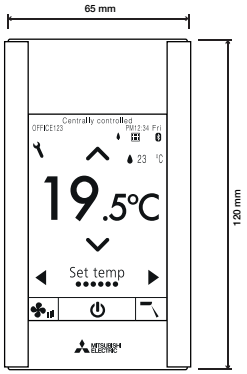


System Diagram PAR-W21MAA

Product Dimensions PAR-CT01MAA-SB / PAR-CT01MAA-PB

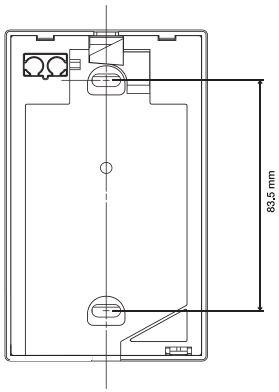
Front View





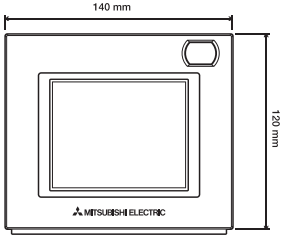
Side View

Back View

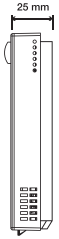


Product Dimensions PAR-U02MEDA

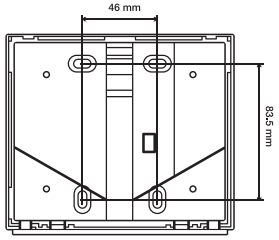
Front View



Side View



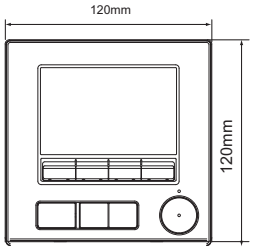
Back View



Top View

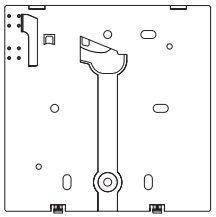
Product Dimensions PAR-41MAA

Front View



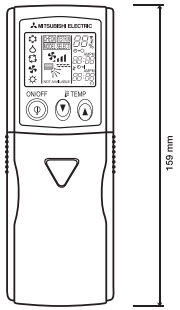
Side View

Back View



Product Dimensions PAR-FL32MA

Front View

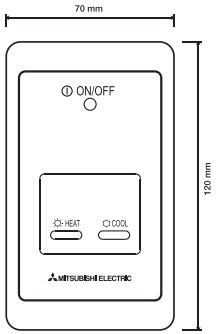


Side View

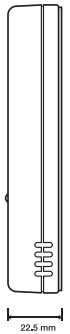
Back View

Product Dimensions PAR-FA32MA

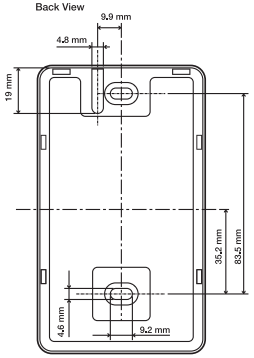
Front View



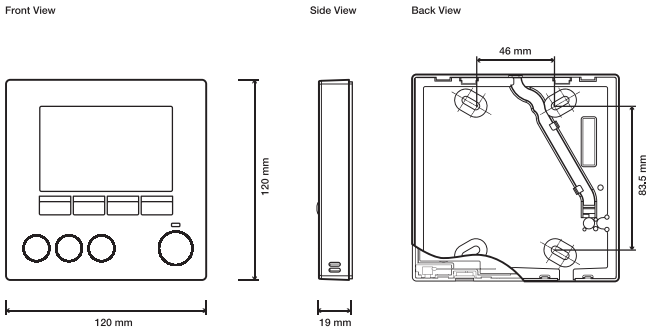
Side View



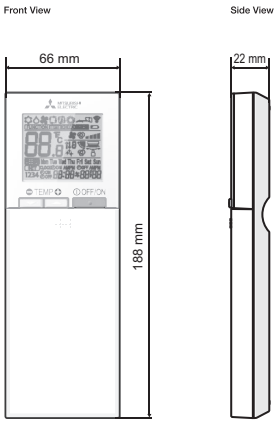
Back View



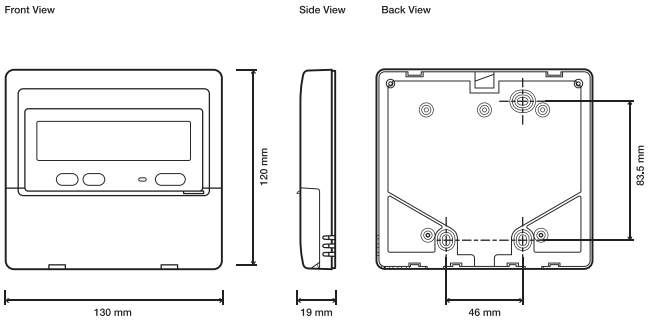
Product Dimensions PZ-62DR-EB / PAR-W31MAA



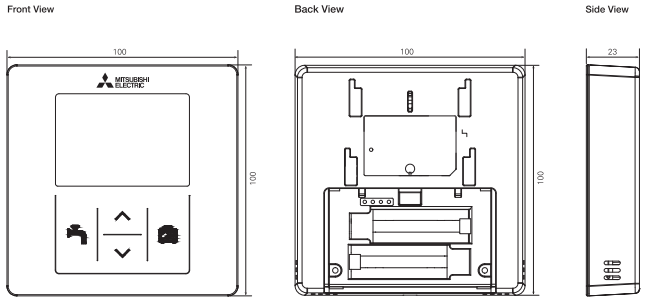
Product Dimensions PAR-SL101A-E



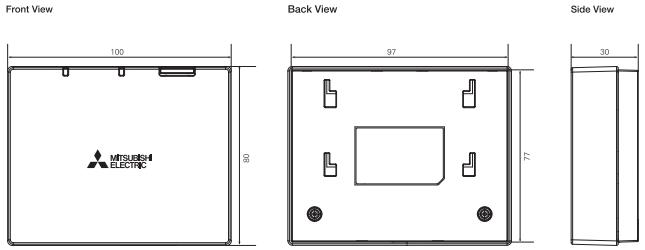
Product Dimensions PAR-W21MAA



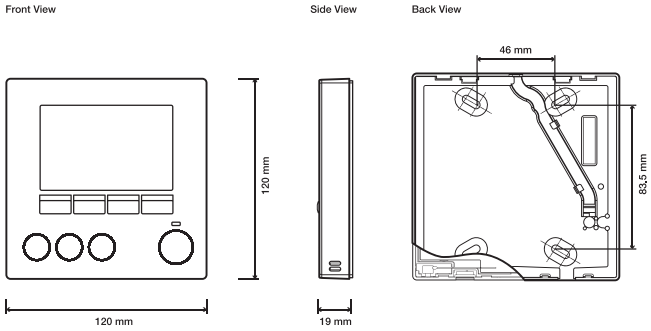
Product Dimensions PAR-WT60R-E



Product Dimensions PAR-WR61R-E



Product Dimensions PAC-IF072B-E



Solution Interfaces

Our dedicated solution interfaces now include new sector specific products such as our new **MELCloud Commercial** offering.

Key Features & Benefits

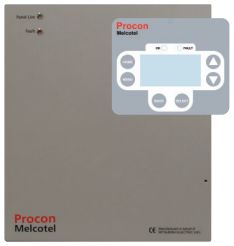
MELCLOUD COMMERCIAL

- Advanced remote control of indoor units across one or multiple sites
- Smart monitoring of outdoor unit performance for one or multiple buildings
- Energy monitoring via in-built CT Clamps or Modbus Energy Meters, for improved energy consumption & cost savings
- Real-time system data of indoor and outdoor units facilitates performance analysis, service, and ongoing maintenance
- Choice of subscription packages to meet customer requirements

MELCLOUD-CL-HA1-A1

- IoT Interface - MELCloud Home and MELCloud Commercial*
- LAN or Cellular options. Cellular and MELCloud Home option includes data plan** via eSIM
- Remotely control indoor and outdoor units
- Remote service and maintenance*
- Update interface software OTA (over the air)
- Wall mountable - bracket supplied

MELCOTEL2



- Monitor and control up to 200 indoor units
- Dedicated hotel interface
- Key card and non key card integration
- Automatic Setpoint adjustment
- Occupied / Unoccupied Settings Reset

MCC-50E

- Compatible with M Series, Mr Slim, City Multi and Lossnay ranges
- Cloud system connection device - MELCloud Commercial IoT platform
- 4G or LAN connection
- Remote access to control, monitor and provide service & maintenance for up to 50 indoor units

MELCOMMS MINI

- Monitor and control up to 8 indoor units
- Run / Standby panel
- Includes 2 x MELCOBEMS MINI (A1M+) Interfaces

* MELCloud Commercial compatibility expected end 2023. ** 10 yr up to 100 MB data plan (renewable).

Solution Interfaces

Technical Specification

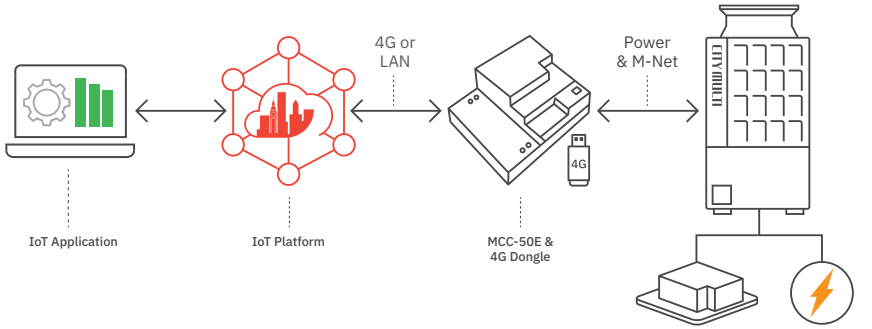
SOLUTION INTERFACES		MELCLOUD COMMERCIAL	MCC-50E	MELCLOUD-CL-HA1-A1	MELCOMMS MINI	MELCOTEL2
						
Description		IoT Platform and Application	MELCloud IoT Gateway	MELCLoud Interface Cellular/LAN	Run Standby Panel	AE-200E Hotel Interface and display
Connect to		Web based (MCC-50E Required)	M-NET Network	CN105 (1.5m cable provided)	MELCOBEMS MINI (A1M+)	AE-200E and EW-50E
Max Number of Units		50	50 Indoor / 50 Outdoor / 4 Energy Meters	1 per Indoor Unit	8	200
Compatibility		M Series, Mr Slim, City Multi and Lossnay	M Series, Mr Slim,and City Multi	M Series, Mr Slim, City Multi, Lossnay, Ecodan, Air purifier, MELCloud Home, MELCloud Commercial	M Series and Mr Slim	City Multi
Power Supply		220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz (Power is taken from the indoor unit)	220-240v, 50Hz	220-240v, 50Hz
Dimensions (mm) (WxDxH)		172 x 100 x 209	172 X 100 X 209	165 x 218 x 55	253 x 90 x 180	350 x 80 x 400
Ethernet Capabilities		✓	1x Ethernet Port	1x Ethernet Port	x	x
SIM Card Provided		✓	Sold separately	On board eSIM	x	x
Inputs		✓ Digital (via PAC-YG66)	USB / RJ45 / RS485	RJ45	x	x
Outputs		✓ Digital (via PAC-YG66)	Data output via MELCloud Commercial platform	Data output via MELCloud Home and Commercial*2 platforms	✓ 1 Digital (Fault)	x
Network		-	IoT (MELCloud Commercial) / LAN / 4G	LAN or Cellular (LTE-M, 2G)	-	-
Control	On/Off	✓	DI	DI	✓	✓
	Mode	✓	DI	DI	✓	✓
	Setpoint	✓	DI	DI	✓	✓
	Fan Speed	✓	DI	DI	x	x
	Air Direction	-	-	-	x	x
	Permit/Prohibit	✓	DI	DI	x	x
	Schedule	-	DI	DI	-	-
	Filter Sign	✓	DI	DI	x	x
	Frost Protection	-	-	DI	-	-
	Holiday Mode	-	-	DI	-	-
Monitor	On/Off	✓	DO	DO	✓	✓
	Mode	✓	DO	DO	✓	✓
	Setpoint	✓	DO	DO	✓	✓
	Fan Speed	✓	DO	DO	x	x
	Air Direction	-	-	DO	x	x
	Permit/Prohibit	✓	DO	DO	x	x
	Cloud Communication	-	DO	DO	-	-
	Filter Sign	✓	DO	DO	x	x
	Fault Code Alerts	✓	DO	DO	✓	x
	Room Temperature	✓	DO	DO	✓	✓
	Daily kWh Energy	-	DO	-	-	-
	Monthly kWh Energy	-	DO	-	-	-
	Comfort Data	-	DO	-	-	-
	Building Status	✓	DO	DO	x	x
Flexible Schedule Options		✓	Via MELCLoud Commercial Platform	Via MELCloud Home / Commercial*2 Platform	x	x
Night Setback		-	-	✓	x	✓
Web Pages		✓	MELCloud Commercial Platform	MELCloud Home / MELCloud Commercial** Platform	x	x
Optimised Start		✓	-	✓*2	x	x
Automatic Setpoint Adjustment		-	-	✓*2	x	✓
Load Shedding		-	-	-	x	x
Occupied / Unoccupied Settings Reset		-	-	-	x	✓
Advanced Energy Monitoring*1		✓	Via MELCLoud Commercial Platform	-	x	x

Key:
DI = Digital Input.
DO = Digital Output.
AI = Analogue Input.
AO = Analogue Output.

Notes:
*1 Advanced Energy Monitoring: Energy status shows kWh consumed, including comparisons of individual buildings. With the addition of the PAC-YG***CA interfaces, third party equipment can also be monitored.

*2 MELCloud Commercial compatibility expected end 2023.

System Diagram MELCLOUD COMMERCIAL

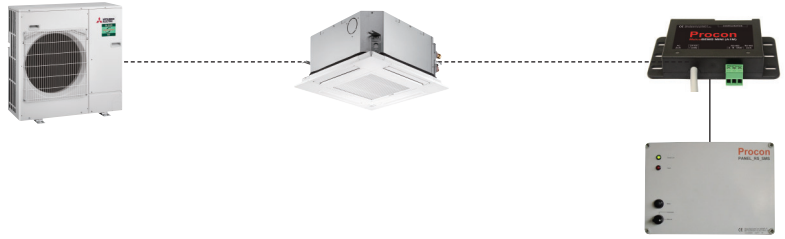


All equipment is on M-Net (network), when no central controller is present M-Net adapter is required.

System Diagram MCC-50E

System Diagram MELCLOUD-CL-HA1-A1

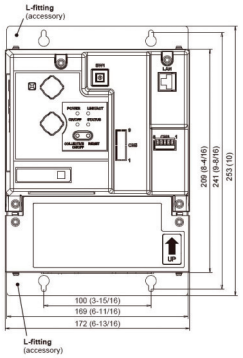
System Diagram MELCOMMS MINI



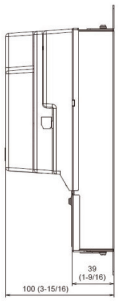
System Diagram MELCOTEL2

Product Dimensions MCC-50E

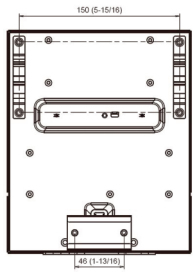
Front View



Side View

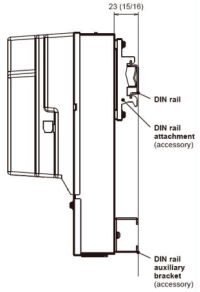


Rear View



*When using DIN rail

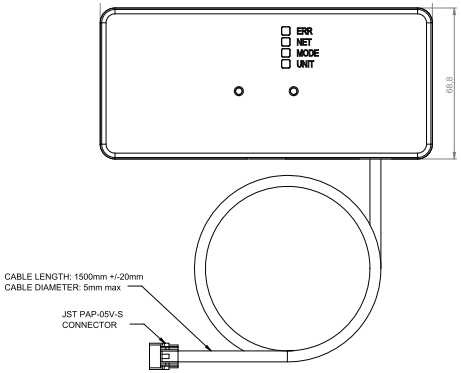
Side View



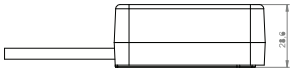
*When using L-fittings

Product Dimensions MELCLOUD-CL-HA1-A1

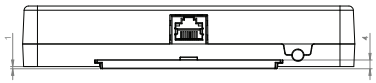
Front View



Side View

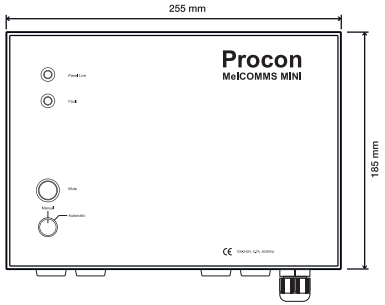


Lower View

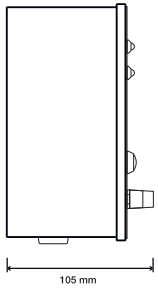


Product Dimensions MELCOMMS MINI

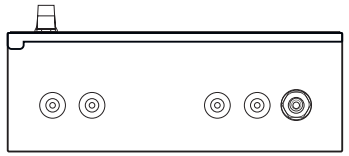
Front View



Side View

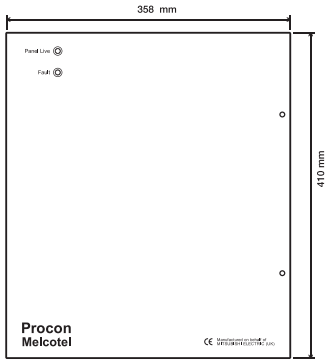


Top View

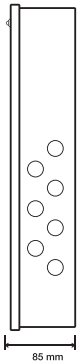


Product Dimensions MELCOTEL2

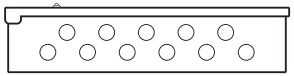
Front View



Side View



Top View



Simple Interfaces

A wide range of interfaces are available to allow third party equipment to monitor and control our units. Some interfaces are also available to monitor and control third party equipment from our centralised controllers.

Key Features & Benefits

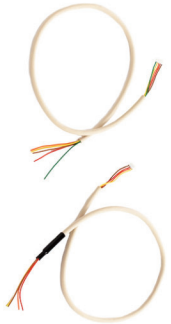
PAC-SA89TA

- Also known as 3 wire adaptor
- Remote on/off
- Fire alarm input
- Night mode
- Demand control

PAC-SA88HA

- Heating and cooling signal
- Run and fault signal

PAC-YT51HAA



- Remote on/off
- Fire alarm input
- Common run and fault signal

PAC-YG10HA

- Remote on/off
- Fire alarm input
- Common run and fault signal

PAC-SJ95MA-E

- Adaptor to connect Mr Slim units to M-NET

PAC-SK15MA-E

- Adaptor to connect Mr Slim PUZ-ZM35/50 units to M-NET

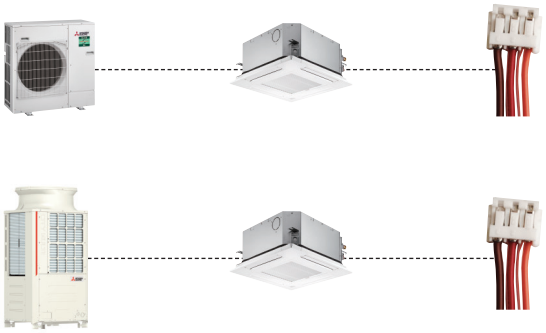
Simple Interfaces

Technical Specification

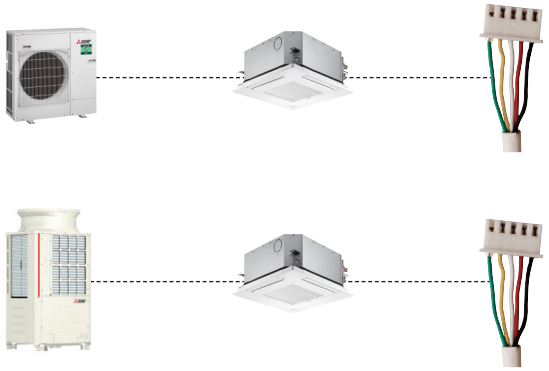
SIMPLE INTERFACES		PAC-SA89TA	PAC-SA89TA	PAC-SA88HA	PAC-SA88HA	PAC-SA88HA	PAC-YT51HAA	PAC-YG10HA	PAC-SJ95MA-E	PAC-SK15MA-E
										
Description		On/Off Adaptor (3 wire adaptor)	Night Mode and Demand Control (3 wire adaptor)	Run and Fault Adaptor (5 wire adaptor)	Heat and Cool Adaptor (5 wire adaptor)	Run and Fault Adaptor (5 wire adaptor)	On/Off Run and Fault Adaptor	On/Off Run and Fault Adaptor (9 wire adaptor)	M-NET Converter	M-NET Converter
Connect to		Indoor	Outdoor	Indoor	Indoor	Outdoor	AT-50B	AE-200E and EW-50E	Outdoor	Outdoor
Max Number of Units		1	1	1	1	1	1	1	1	1
Compatibility		Mr Slim and City Multi	Mr Slim and City Multi	Mr Slim and City Multi	City Multi	City Multi	AT-50B	AE-200E and EW-50E	Mr Slim Outdoor*1	Mr Slim PUZ-ZM35/50 Outdoor
Dimensions (mm) (WxDxH)		-	-	-	-	-	-	-	140 x 15 x 50	120 x 44 x 321
Control	On/Off	✓	✓	x	x	x	✓	✓	-	-
	Mode	x	x	x	x	x	x	x	-	-
	Setpoint	x	x	x	x	x	x	x	-	-
	Fan Speed	x	x	x	x	x	x	x	-	-
	Air Direction	x	x	x	x	x	x	x	-	-
	Permit/Prohibit	x	x	x	x	x	x	x	-	-
	Filter Sign	x	x	x	x	x	x	x	-	-
Monitor	On/Off	x	x	✓	x	✓	✓	✓	-	-
	Mode	x	x	x	✓	x	x	x	-	-
	Setpoint	x	x	x	x	x	x	x	-	-
	Fan Speed	x	x	x	x	x	x	x	-	-
	Air Direction	x	x	x	x	x	x	x	-	-
	Permit/Prohibit	x	x	x	x	x	x	x	-	-
	Filter Sign	x	x	x	x	x	x	x	-	-
	Fault Codes	x	x	✓	✓	✓	✓	✓	-	-
	Room Temperature	x	x	x	x	x	x	x	-	-
	Fire Alarm	✓	✓	x	x	x	✓	✓	-	-
On/Off but Centrally Controlled		VFC	x	x	x	x	VFC	Via 24VDC	-	-
On/Off but NOT Centrally Controlled		x	x	x	x	x	x	x	-	-
Run and Fault Output		x	x	12VDC	x	12VDC	Via 24VDC	Via 24VDC	-	-
Heat and Cool Output		x	x	x	12VDC	x	x	x	-	-
Night Mode and Demand Control		x	VFC	x	x	x	x	x	-	-
Connect Mr Slim to M-NET		-	-	-	-	-	-	-	✓	✓

Notes: VFC: Volt free contact. *1 PAC-SJ95MA-E M-NET adaptor for PUZ-ZM60-250, PUZ-M100-250, PUZ-SM100-140.
✓= Yes, x = No, - = Not applicable.

System Diagram PAC-SA89TA



System Diagram PAC-SA88HA



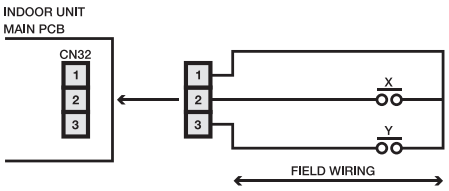
System Diagram PAC-YT51HAA

System Diagram PAC-YG10HA

System Diagram PAC-SJ95MA-E

System Diagram PAC-SK15MA-E

Wiring Diagram PAC-SA89TA



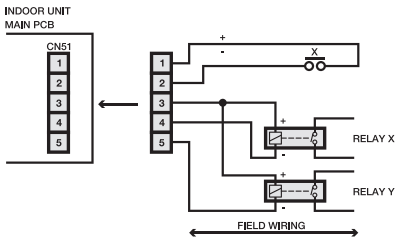
NOTE

- ON / OFF BUTTON ON THE REMOTE CONTROLLER NOT AVAILABLE
- ADAPTER WIRE COLOURS MAY VARY
- RELAYS NOT SUPPLIED

OPERATION

- X AND Y CLOSED TO START UNIT

Wiring Diagram PAC-SA88HA



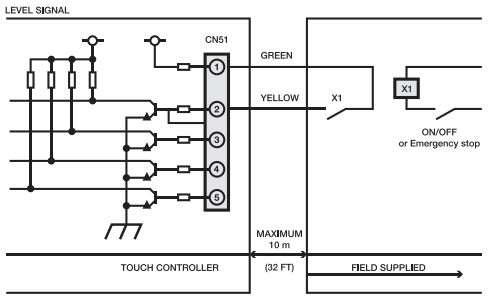
NOTE

- RELAYS NOT SUPPLIED
- X REQUIRES A PULSE SIGNAL TO START / STOP UNIT

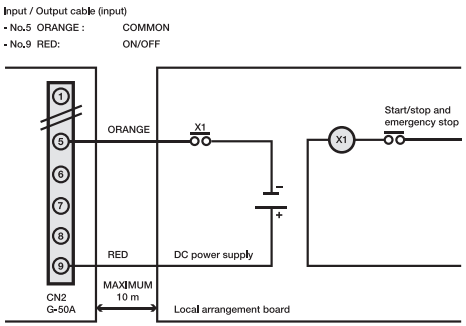
OPERATION

- RELAY X SUPPLIED WITH 12V DC WHEN UNIT IS ON
- RELAY Y SUPPLIED WITH 12V DC WHEN UNIT IN FAULT

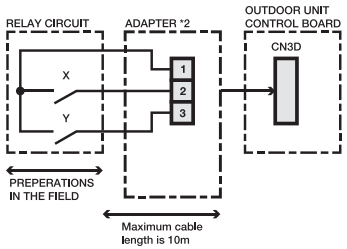
Wiring Diagram PAC-YT51HAA



Wiring Diagram PAC-YG10HA



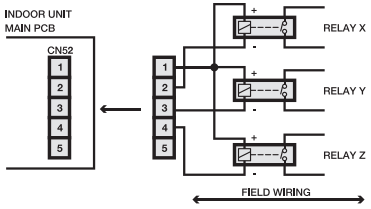
Wiring Diagram PAC-SA89TA



NOTE

X : Low noise mode or demand
Y : Demand
X, Y : Relay Contact rating voltage >= 15VDC
Contact rating current >=0.1A
Minimum applicable load =< 1mA at DC

Wiring Diagram PAC-SA88HA



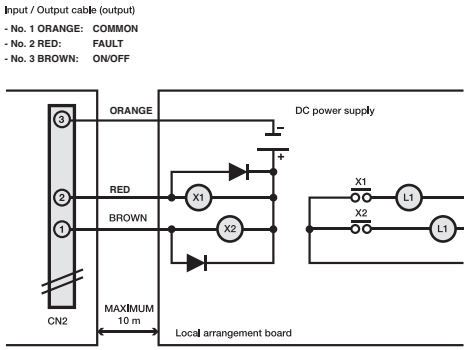
NOTE

- RELAYS NOT SUPPLIED

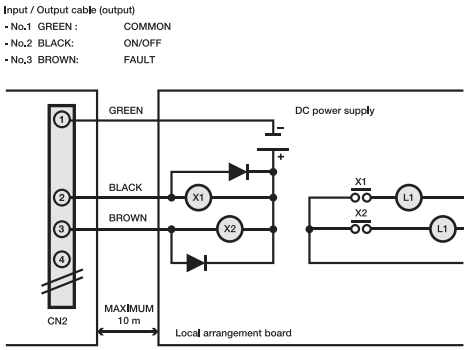
OPERATION

- RELAY X SUPPLIED WITH 12V DC WHEN FAN IS RUNNING
- RELAY Y SUPPLIED WITH 12V DC WHEN UNIT IS IN COOLING MODE AND THE REMOTE CONTROLLER IS ON OR OFF
- RELAY Z SUPPLIED WITH 12V DC WHEN UNIT IS IN HEATING MODE AND THE REMOTE CONTROLLER IS ON OR OFF

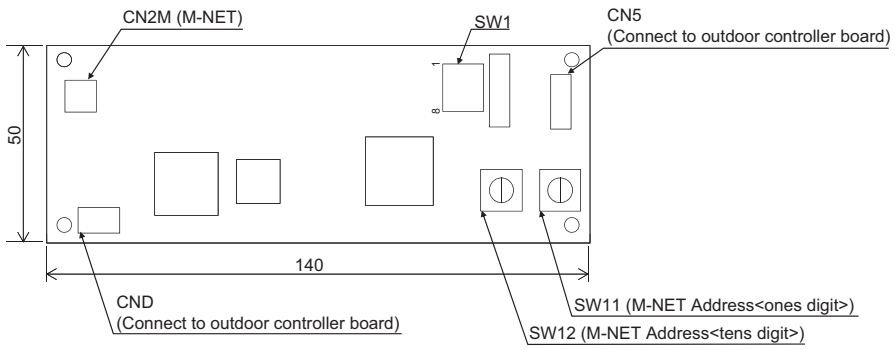
Wiring Diagram PAC-YT51HAA



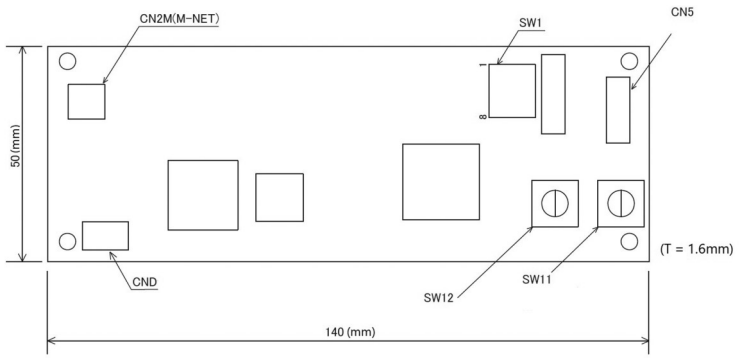
Wiring Diagram PAC-YG10HA



Product Dimensions PAC-SJ95MA-E



Product Dimensions PAC-SK15MA-E



Notes: Dimensional drawing of board, for cover dimensions please see page 6.27

Advanced Interfaces

A wide range of interfaces are available to allow third party equipment to monitor and control our units. Some interfaces are also available to monitor and control third party equipment from our centralised controllers.

Key Features & Benefits

KTR-53A

- Remote on/off
- Run and fault volt free outputs

MELCORETAIL MINI

- On/off, fire alarm and lock input
- Setpoint and fan speed input
- Run, fault, heat and cool output
- 2 energy saving features

PAC-YG60MCA

- Monitor up to 4 energy meters

PAC-YG63MCA

- Monitor up to 2 temperature sensors

PAC-YG66DCA

- Monitor and control up to 2 pieces of general equipment

MAC-497IF-E

- Adaptor to connect remote controller to M Series
- Adaptor to connect M Series to M-NET

MAC-334IF-E

- Adaptor to connect remote controller to M Series
- Adaptor to connect M Series to M-NET
- 3rd party heating interlock

MAC-587IF-E

- Wi-Fi Interface for MELCloud solution
- ATA, Lossnay and ATW support
- WPS and Wi-Fi pin pairing
- WPS Push mode
- Setting via PAR-41MAA / PAR-SL101A-E

Advanced Interfaces

Technical Specification

ADVANCED INTERFACES		KTR-53A	MELCORETAIL MINI	PAC-YG60MCA	PAC-YG63MCA	PAC-YG66DCA
						
Description		On/Off and Run/Fault Adaptor	Retail Control and Input / Output Interface	Pulse Meter Interface	Temperature and Humidity Interface	Third Party Control and Interface
Connect to		Indoor	Indoor	M-NET Network	M-NET Network	M-NET Network
Max Number of Units		1	1	4 Pulse Meters	1 PT100, 1 Humidity Sensor	2 General Equipment
Compatibility		Mr Slim and City Multi	M Series and Mr Slim	AE-200E and EW-50E	AE-200E and EW-50E	AE-200E and EW-50E
Power Supply		12/24VAC/DC	-	24VDC	24VDC	24VDC
Dimensions (mm) (WxDxH)		130 x 30 x 80	85 x 32 x 138	200 x 45 x 120	200 x 45 x 120	200 x 45 x 120
Control	On/Off	✓	VFC	-	-	✓
	Mode	-	0 to 10VDC	-	-	x
	Setpoint	-	0 to 10VDC	-	-	x
	Fan Speed	-	0 to 10VDC	-	-	x
	Air Direction	-	-	-	-	x
	Permit/Prohibit	-	VFC	-	-	x
	Filter Sign	-	-	-	-	x
Monitor	On/Off	✓	VFC	-	-	✓
	Mode	-	VFC	-	-	x
	Setpoint	-	-	-	-	x
	Fan Speed	-	-	-	-	x
	Air Direction	-	-	-	-	x
	Permit/Prohibit	-	-	-	-	x
	Filter Sign	-	-	-	-	x
	Fault Codes	✓	VFC	-	-	✓
	Room Temperature	-	-	-	-	x
On/Off but Centrally Controlled		Option Lock/Unlock	VFC	x	-	-
On/Off but NOT Centrally Controlled		12/24VAC/DC	VFC	x	-	-
Run Output		x	VFC	x	-	-
Fault Output		x	VFC	x	-	-
Energy Saving		x	VFC	x	-	-
Heat / Cool / Thermo Output		x	VFC	x	-	-
Pulse Weight		x	x	0.1, 1.0 and 10	-	-

Notes: VFC: Volt free contact. ✓= Yes, **x** = No, - = Not applicable.

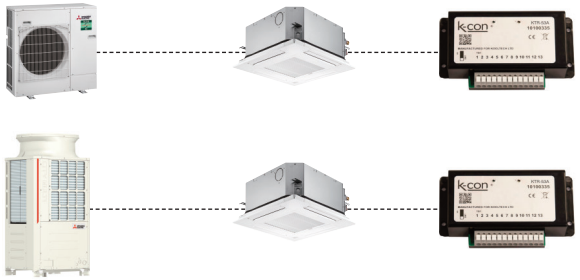
Advanced Interfaces

Technical Specification

ADVANCED INTERFACES		MAC-497IF-E	MAC-334IF-E	MAC-587IF-E	
					
				AIR CONDITIONING	ECODAN*
Description		Interface for MA Remote Controller	Interface for M-NET, MA Remote Controller, On/Off Input, Run/Fault Output and 3rd Party Heating Interlock (M Series)	MELCloud Wi-Fi Interface	MELCloud Wi-Fi Interface
Connect to		Indoor	Indoor	Indoor	Indoor
Max Number of Units		1	1	1	1
Compatibility		M Series and Mr Slim (SUZ)	M Series and Mr Slim (SUZ)	M Series, Mr Slim, City Multi and Lossnay	Ecodan FTC6
Power Supply		-	-	-	-
Dimensions (mm) (WxDxH)		128 x 30 x 76	160 x 55 x 70	73.5 x 18.5 x 41.5	73.5 x 18.5 x 41.5
Control	On/Off	x	✓	✓	✓
	Mode	x	x	✓	✓
	Setpoint	x	x	✓	✓
	Fan Speed	x	x	✓	x
	Air Direction	x	x	✓	x
Monitor	On/Off	x	✓	✓	✓
	Mode	x	x	✓	✓
	Setpoint	x	x	✓	✓
	Fan Speed	x	x	✓	✓
	Air Direction	x	x	✓	✓
	Filter Sign	x	x	✓	✓
	Fault Codes	x	✓	✓	✓
	Room Temperature	x	x	✓	✓
On/Off but Centrally Controlled		x	x	-	-
On/Off but NOT Centrally Controlled		x	✓	-	-
Heat / Cool / Thermo Output		x	✓	-	-
Set-Up of Room Temperature Detector Position		✓	✓	-	-

Notes: VFC: Volt free contact. ✓= Yes, **x** = No, - = Not applicable. *For further technical specification on the MAC-587IF-E for Ecodan please refer to the Residential Heating Section of the Product Catalogue.

System Diagram KTR-53A



System Diagram MELCORETAIL MINI

System Diagram PAC-YG60MCA

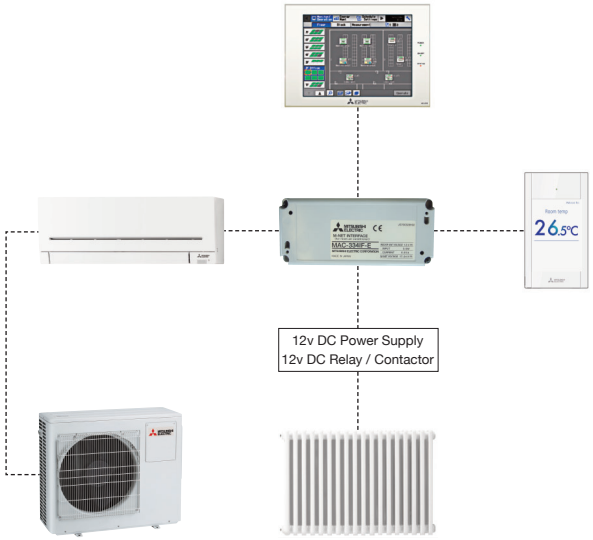
System Diagram PAC-YG63MCA

System Diagram PAC-YG66DCA

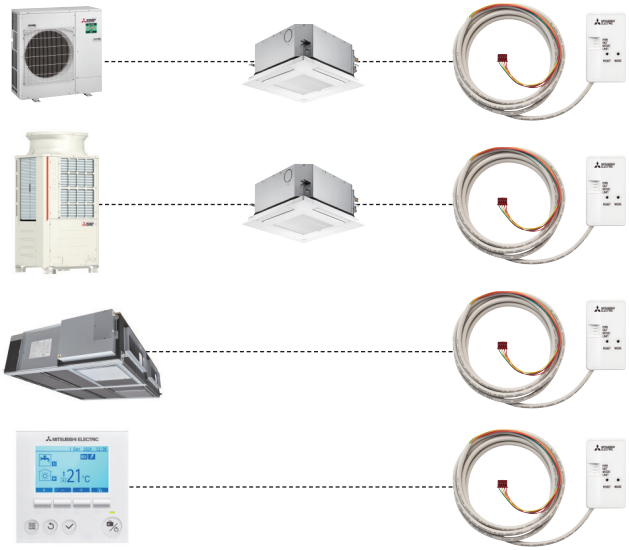
System Diagram MAC-497IF-E

System Diagram MAC-334IF-E

System Diagram MAC-334IF-E Heating Interlock

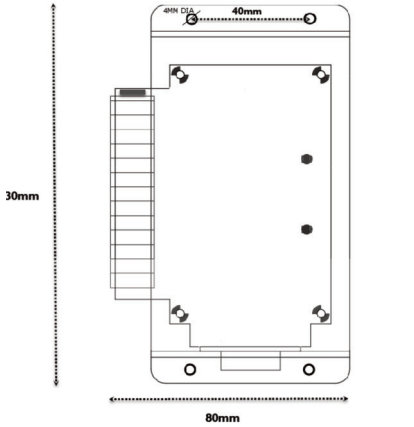


System Diagram MAC-587IF-E

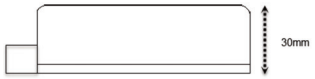


Product Dimensions KTR-53A

Front View

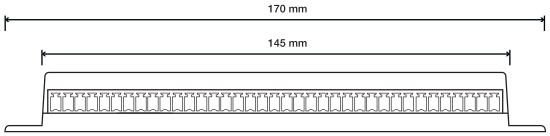


Top View



Product Dimensions MELCORETAIL MINI

Front View

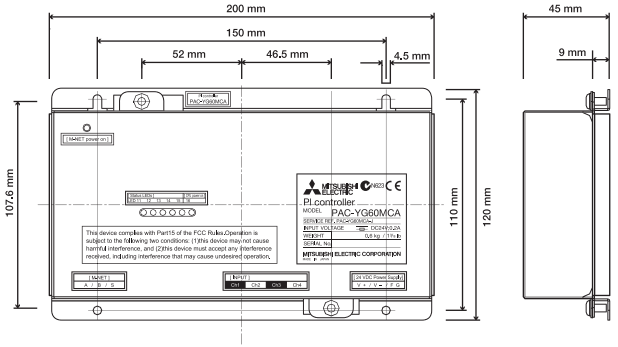


Top View

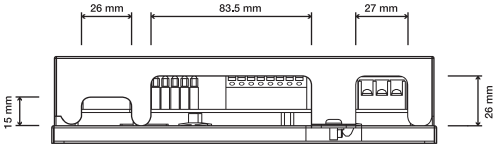
Product Dimensions PAC-YG60MCA

Front View

Side View



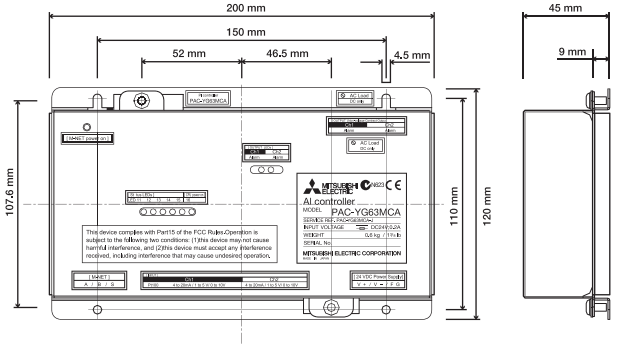
Top View



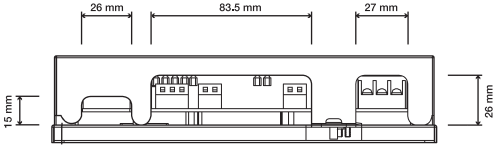
Product Dimensions PAC-YG63MCA

Front View

Side View



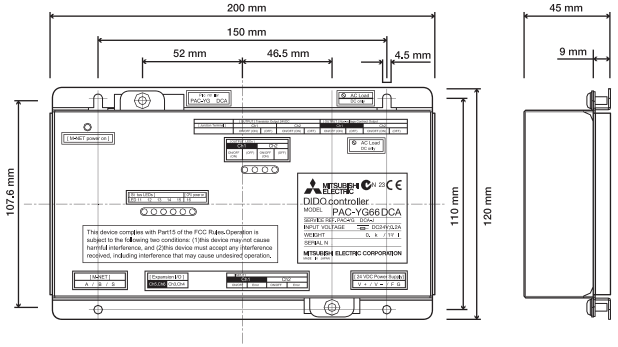
Top View



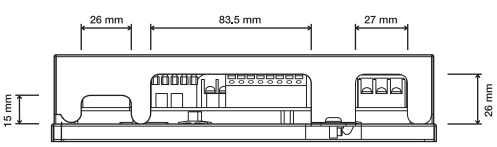
Product Dimensions PAC-YG66DCA

Front View

Side View



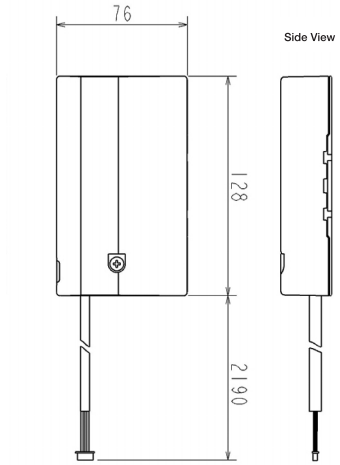
Top View



Product Dimensions MAC-497IF-E

Top View

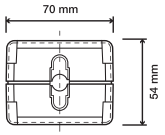
Front View



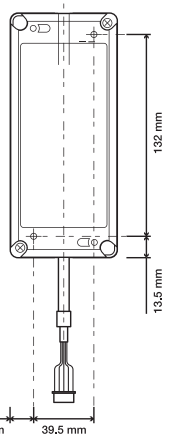
Side View

Product Dimensions MAC-334IF-E

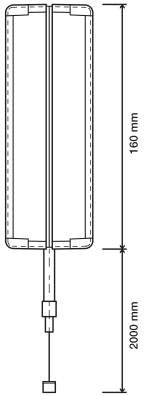
Top View



Front View



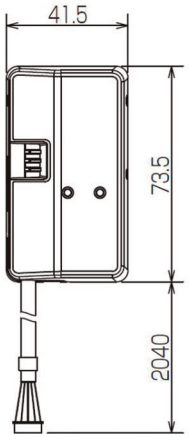
Side View



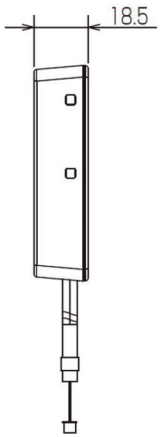
Product Dimensions MAC-587IF-E

Top View

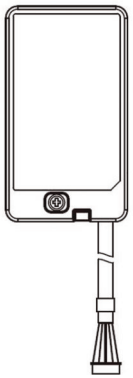
Front View



Side View



Rear View



BEMS Interfaces

Building Energy Management Systems (BEMS) will allow a building to run efficiently. A wide range of interfaces are available to connect our systems simply to a BEMS.

Key Features & Benefits

MELCOBEMS MINI (A1M+)

Expected release date: Q3 2023

- BACnet / Modbus IP
- Configuration via onboard webpage (local network)
- Firmware update over Ethernet (local network)
- Individually monitor and control indoor and outdoor unit (1 x A1M+ per unit)
- DIN rail mount option

MELCOBEMS

- Monitor and control up to 50 indoor units
- Modbus and BACnet interface
- Energy monitoring

MELCOBEMS SIP+

- Control and Monitor up to 50 indoor units (up to 200 with EW-50E)
- Multiprotocol, allowing data to be disseminated to one or many BMS, EMS & IoT systems
- Energy Monitoring

IQ4 XNC

- Monitor and control up to 50 indoor units
- Trend interface

MELCOJACE-8000

- Monitor and control up to 50 / 100 / 200 indoor units
- Tridium Niagara 4 compatible
- Built in HTML5 web page for plug & play
- On-board library Modbus & BACnet MSTP for Procon MELCOBEMS MINI (A1M+)
- No additional interface required, direct plug & play to centralised controllers
- On-board Wi-Fi application to allow commissioning by PC, tablet or smartphone
- BACnet
- Modbus

BEMS Interfaces

Technical Specification

BEMS INTERFACES		MELCOBEMS MINI (A1M+)		MELCOBEMS	MELCOBEMS SIP+
					
Description		Air to Air Splits Modbus/BACnet Interface. Air (Water) to Water & Lossnay Modbus/BACnet Interface		AE-200E, EW-50E Modbus BACnet Interface	Multiprotocol Gateway
Connect to		Indoor, Outdoor or Ecodan PCB		AE-200E and EW-50E	AE-200E and EW-50E
Max Number of Units		1		50	200
Compatibility		M Series, Mr Slim, City Multi, Ecodan FTC6/5/4, e-Series, Ecodan QAHV/CAHV/CRHV and Lossnay (LGH models)		M Series, Mr Slim and City Multi	M Series, Mr Slim, City Multi, e-Series, Lossnay and Ecodan
Power Supply		-		24VDC	24VDC
Dimensions (mm) (WxDxH)		95 x 22.7 x 78.6		102 x 32 x 180	108 x 60 x 90
Network		Modbus / BACnet IP / RS485[*1]. KNX[*2]		Modbus / BACnet RS485 and TCP/IP	Bacnet IP / Modbus Sub TCP/IP and Serial / MQTT and REST (IoT protocols)
BEMS Compatibility		Cylon, Satchwell, Crestron, Invensys, Interactive Homes, North BT, Andover, Siemens, WEMS, RDM		Cylon, Satchwell, Crestron, Invensys, Interactive Homes, North BT, Andover, Siemens, WEMS, Andover Controls, York BMS, Siemens, Priva Building Intelligence, Delta Controls, RDM	Trend, Cylon, Satchwell, Crestron, Invensys, Interactive Homes, North BT, Andover, Siemens, WEMS, Andover Controls, York BMS, Siemens, Priva Building Intelligence, Delta Controls, RDM
		Air to Air Splits and Lossnay	Air (Water) to Water		
Control	On/Off	DI	AI	DI	DI
	Mode	AI	AI	AI	AI
	Setpoint	AI	AI	AI	AI
	Fan Speed	AI	-	AI	AI
	Air Direction	AI	-	AI	AI
	Permit/Prohibit	x	AI	DI	DI
	Filter Sign	DI	-	DI	DI
Monitor	On/Off	DO	DO	DO	DO
	Mode	AO	AO	AO	AO
	Setpoint	AO	AO	AO	AO
	Fan Speed	AO	-	AO	AO
	Air Direction	AO	-	AO	AO
	Permit/Prohibit	x	AO	DO	DO
	Filter Sign	DO	-	DO	DO
	Fault Codes	AO	AO	AO	AO
	Room Temperature	AO	AO	AO	AO
	Daily kW Energy	-	AO	With EW-50E	With EW-50E
	Monthly kW Energy	-	AO	With EW-50E	With EW-50E

Key: DI = Digital Input. DO = Digital Output. AI = Analogue Input. AO = Analogue Output.

Notes: *1 Function only available on M Series, Mr Slim and City Multi. *2 KNX compatibility ETA End 2023.
The MELCOBEMS can monitor indoor daily and monthly kWh when used in conjunction with AE-200E, EW-50E, PAC-YG60MCA on third party energy meters.

BEMS Interfaces

Technical Specification

BEMS INTERFACES		IQ4 XNC	MELCOJACE-8000
			
Description		AE-200E and EW-50E Trend Interface*1	AE-200E & EW-50E Tridium Niagara Interface*2
Connect to		AE-200E and EW-50E	AE-200E, EW-50E
Max Number of Units		50	50 / 100 / 200
Compatibility		M Series, Mr Slim, City Multi and Lossnay	M Series, Mr Slim, City Multi and Lossnay
Power Supply		220-240v, 50Hz	24v, AC/DC
Dimensions (mm) (WxDxH)		263 x 46 x 150	171 x 61 x 110
Network		Trend	Niagara
BEMS Compatibility		Trend	Any Niagra compatible BEMS
Control	On/Off	DI	✓
	Mode	AI	✓
	Setpoint	AI	✓
	Fan Speed	AI	✓
	Air Direction	AI	✓
	Permit/Prohibit	DI	✓
	Schedule	-	-
	Filter Sign	DI	✓
Monitor	On/Off	DO	✓
	Mode	AO	✓
	Setpoint	AO	✓
	Fan Speed	AO	✓
	Air Direction	AO	✓
	Permit/Prohibit	DO	✓
	Cloud Communication	-	✓
	Filter Sign	DO	✓
	Fault Codes	AO	✓
	Room Temperature	AO	✓
	Daily kWh Energy	-	✓*3
	Monthly kWh Energy	-	✓*3
	Comfort Data	-	-

Key: DI = Digital Input. DO = Digital Output. AI = Analogue Input. AO = Analogue Output.

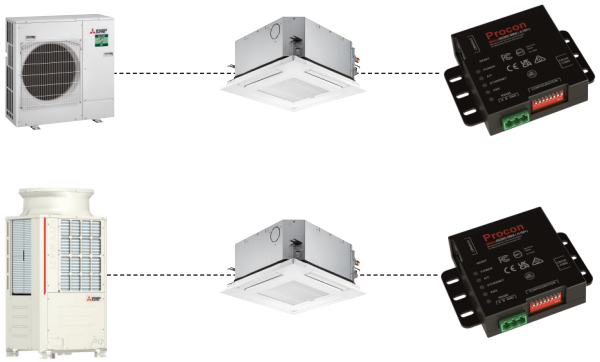
Notes: The PAC-YG***CA are not compatible with MELCOBEMS and IQ4 XNC.

*1 Synapsys Solutions Ltd, 1 Woodlands Court, Albert Drive, Burgess Hill, West Sussex, RH15 9TN, Telephone 0845 680 0303

*2 The MELCOJACE-8000 range is only available from Forest Rock Systems Ltd, Charmwood Building, Holywell Park, Ashby Road, Loughborough, LE11 3AQ. Telephone: 0845 5197958

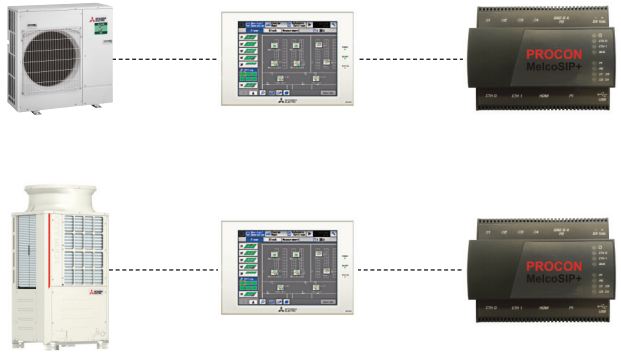
*3 The MELCOJACE-8000 can monitor indoor daily and monthly kWh when used in conjunction with AE-200E, EW-50E, PAC-YG60MCA on third party energy meters.

System Diagram MELCOBEMS MINI (A1M+)

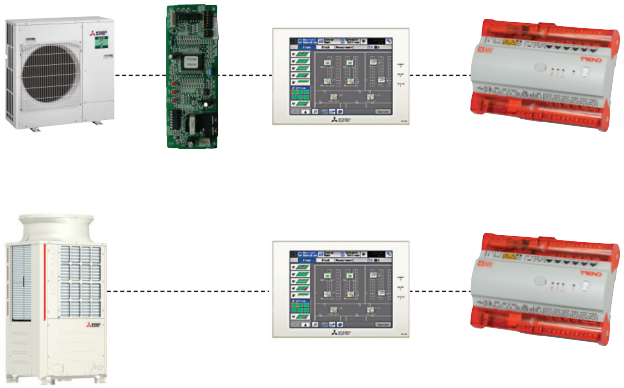


System Diagram MELCOBEMS

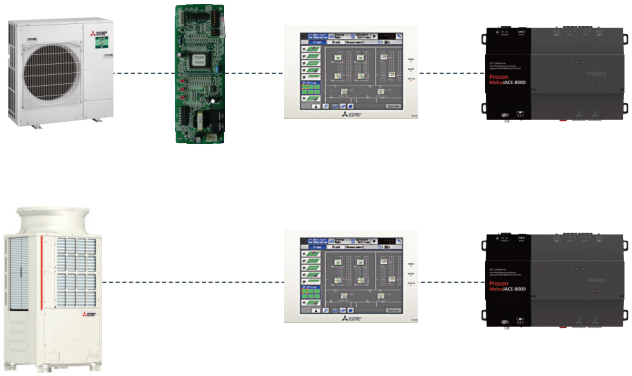
System Diagram MELCOBEMS SIP+



System Diagram IQ4 XNC

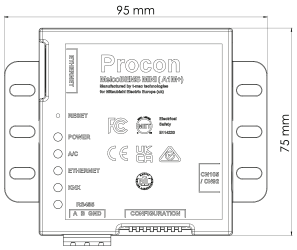


System Diagram MELCOJACE-8000

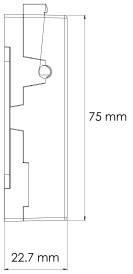


Product Dimensions MELCOBEMS MINI (A1M+)

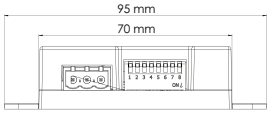
Front View



Side View

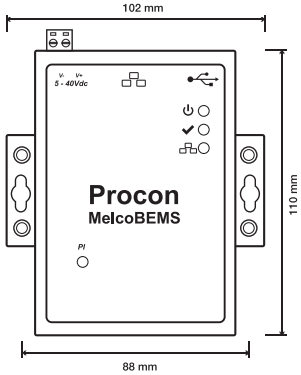


Lower View

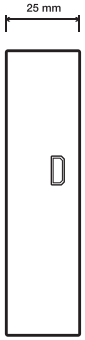


Product Dimensions MELCOBEMS

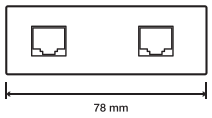
Front View



Side View

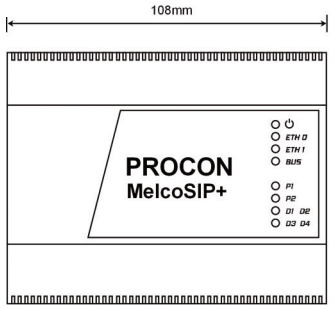


Top View

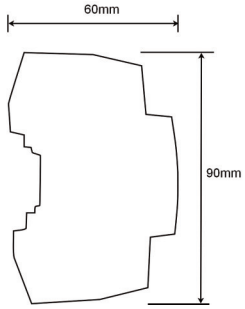


Product Dimensions MELCOBEMS SIP+

Front View

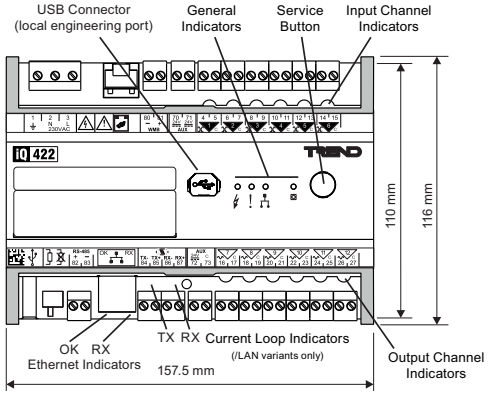


Side View

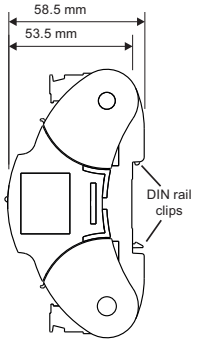


Product Dimensions IQ4 XNC

Front View

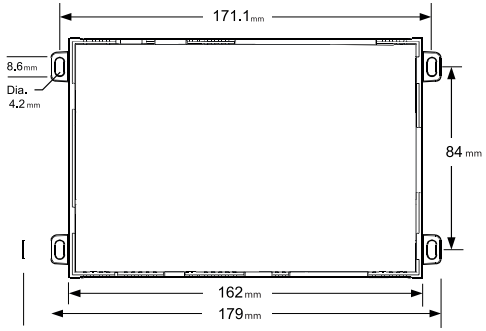


Side View

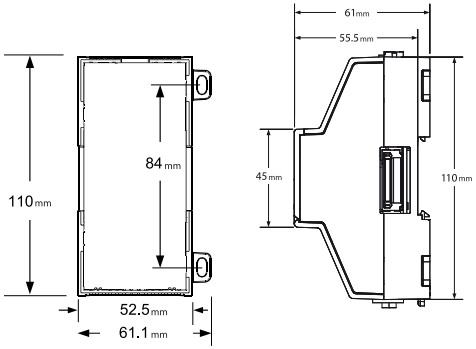


Product Dimensions MELCOJACE-8000

Front View



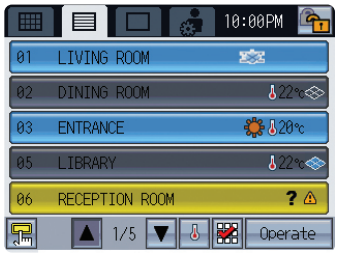
Side View



AT-50B Screen Examples

AT-50B Home Screen 1

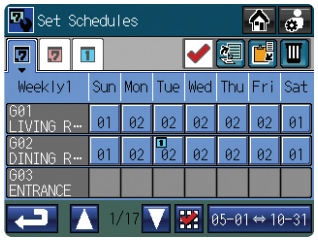
AT-50B Home Screen 2



AT-50B Home Screen 3

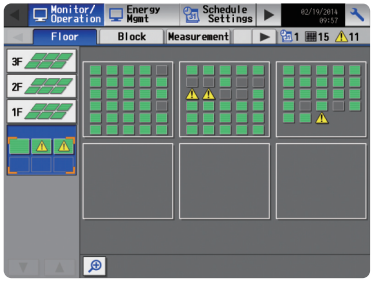
AT-50B Indoor Unit Settings

AT-50B Scheduling

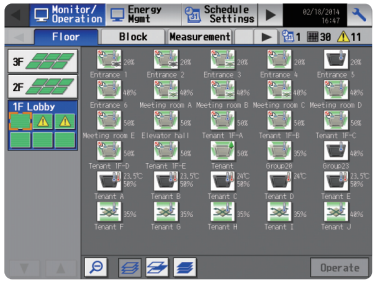


AE-200E Screen Examples

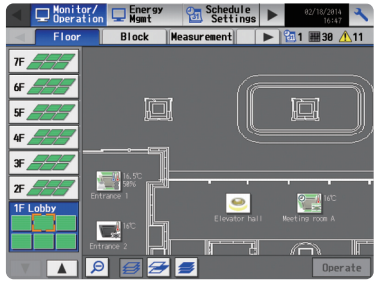
AE-200E Home Screen 1



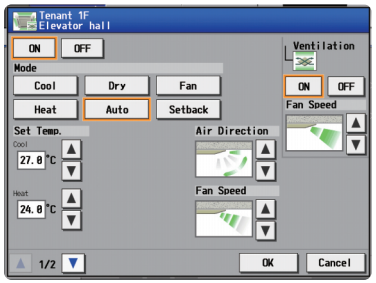
AE-200E Home Screen 2



AE-200E Home Screen 3

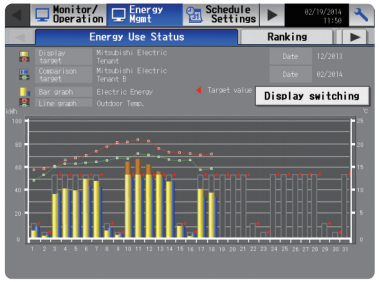


AE-200E Indoor Unit Settings



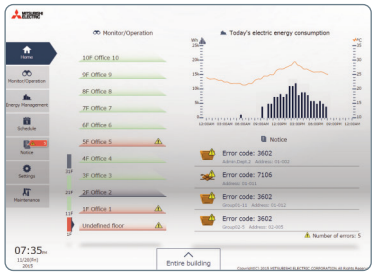
AE-200E Monitoring

AE-200E Energy Monitoring



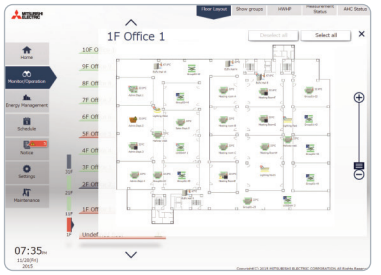
AE-200E HTML5 Web Page Examples

Home Screen

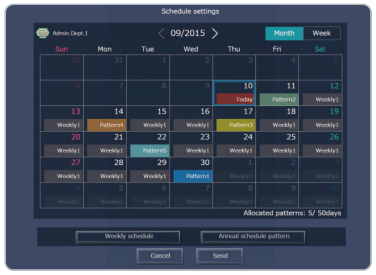


Group Screen

Floor Layout

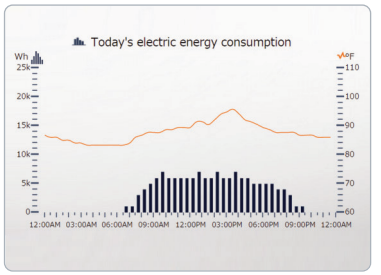


Scheduling



Energy Display

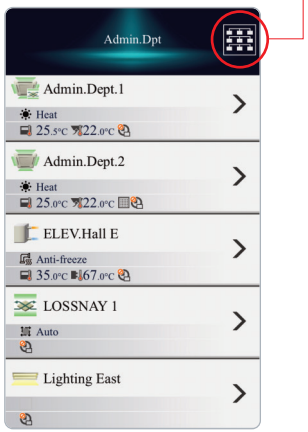
Energy Graph



AE-200E HTML5 Mobile Examples

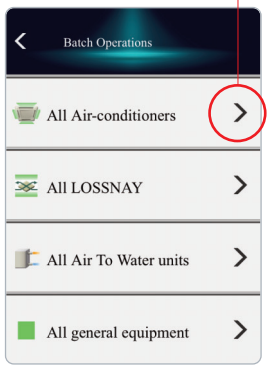
Home Screen

Batch operation
Click to operate all groups at once



Batch Control

Advanced settings



Individual Control

Cancel Send

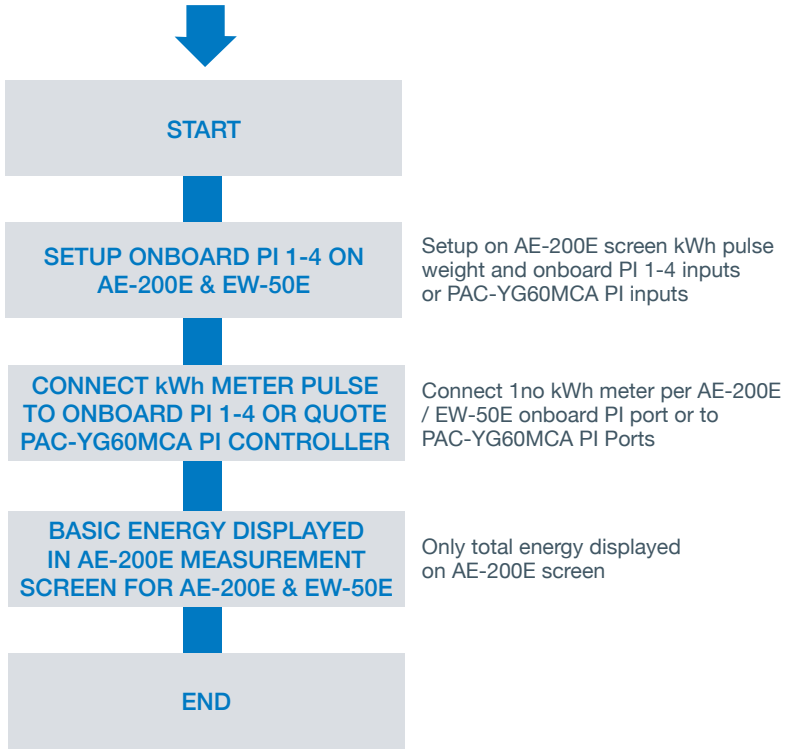
Detailed Control

Advanced settings

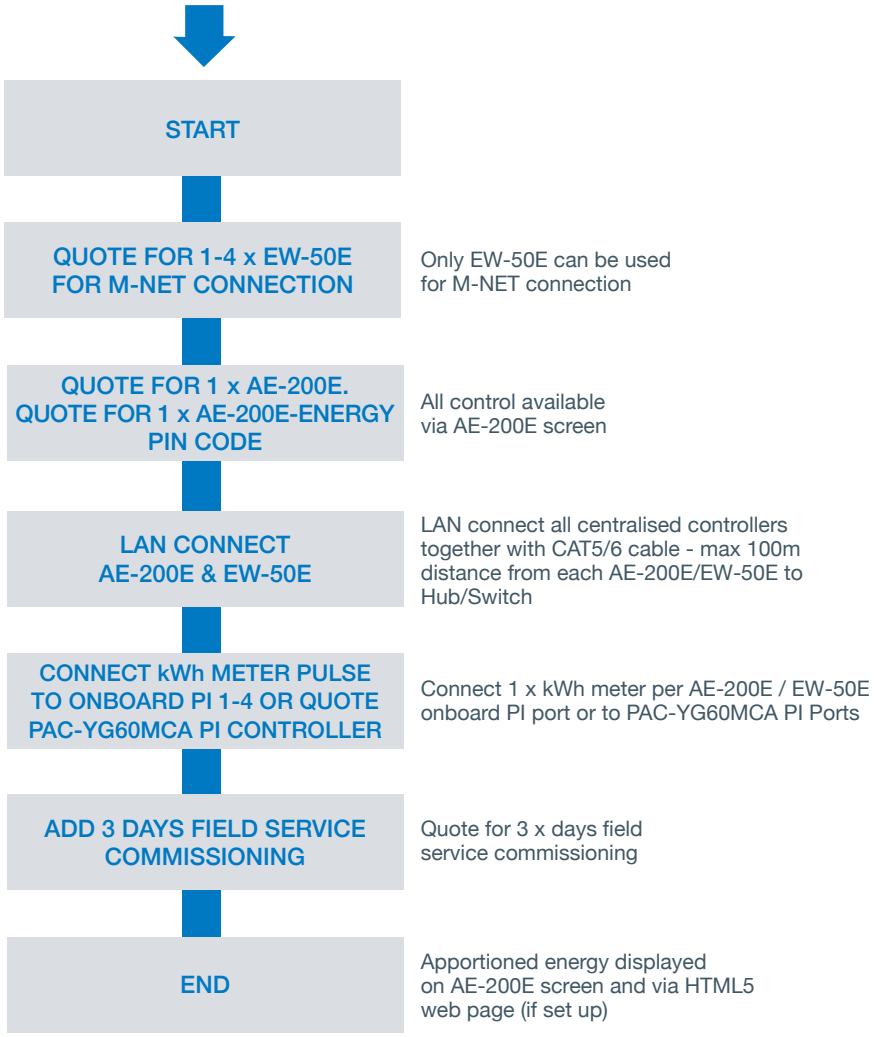
How to Quote

How to quote an AE-200E System Controller with Energy Monitoring

How to quote Basic Energy Measurement



How to quote Energy Apportioning



How to Quote

How to quote an AE-200E System Controller & BACnet Option

How to quote up to 200 indoor units

- START
- QUOTE FOR AE-200E
- ARE MORE THAN 50 INDOOR UNITS TO BE CONNECTED?
  - Quote for 1-3 x EW-50E expansion adapters - max 200 indoors to create system control group
- 9 WIRE ADAPTER REQUIRED?
  - Quote for 1 x PAC-YG10HA per AE-200E & EW-50E
- END

How to quote up to 2000 indoor units

- START
- HOW MANY AE-200E SYSTEM CONTROL GROUPS?
  - Quantity of AE-200E system control groups from up to 200 indoor selections
- LAN CONNECT UP TO 10 x SYSTEM CONTROL GROUPS TOGETHER
  - LAN connect all centralised controllers together with CAT5/6 cable - max 100m distance from each AE-200E/EW-50E to Hub/Switch
- ARE INDIVIDUAL WEB USERS REQUIRING ACCESS? MAX 200 USERS
  - Quote AE-200E-WEB USER Pin Code
- ADD 1 DAY FIELD SERVICE COMMISSIONING
  - Quote for 1 x day field service commissioning
- END

How to quote BACnet Option

- START
- QUOTE 1 x AE-200E-BACNET PIN CODE PER AE-200E
  - Quote for 1 x BACnet pin code per AE-200E / EW-50E system control group
- QUOTE 1 DAY FIELD SERVICE COMMISSIONING
  - Quote for 1 x day field service commissioning
- END

Services

Support at every step of the way

Support at every step of the way

At Mitsubishi Electric, we have not only developed an innovative range of cooling, heating, ventilation and control solutions, we have also examined how we support the market throughout the complete lifecycle of our products - from cradle to grave.

Whether in pre-sales design and specification, installation, or service and maintenance support, right through to our recycling programme, we can offer solutions that deliver the quality and excellence you would expect to make a world of difference.

Contents

MELSMART
TECHNICAL SERVICES

MELSmart Technical Services

Advanced, reliable technical support at every step of the way

Meeting today's energy challenges for our commercial premises demands more integrated thinking from everyone involved in the design, supply, installation, commissioning and maintenance of essential building services - whether it is for an individual property or a national estate.

Ever increasing energy bills, the need to reduce carbon emissions and a raft of challenging legislation are driving the demand for increased energy efficiency and control in the cooling, heating, ventilation and associated technologies that we use.

As a manufacturer, we realise that product development alone is not enough. To keep our products working at their optimum, we have developed the MELSmart approach to ensure our customers are able to maximise the energy efficiency of their building's services right from the start.

MELSmart offers a range of support that includes:

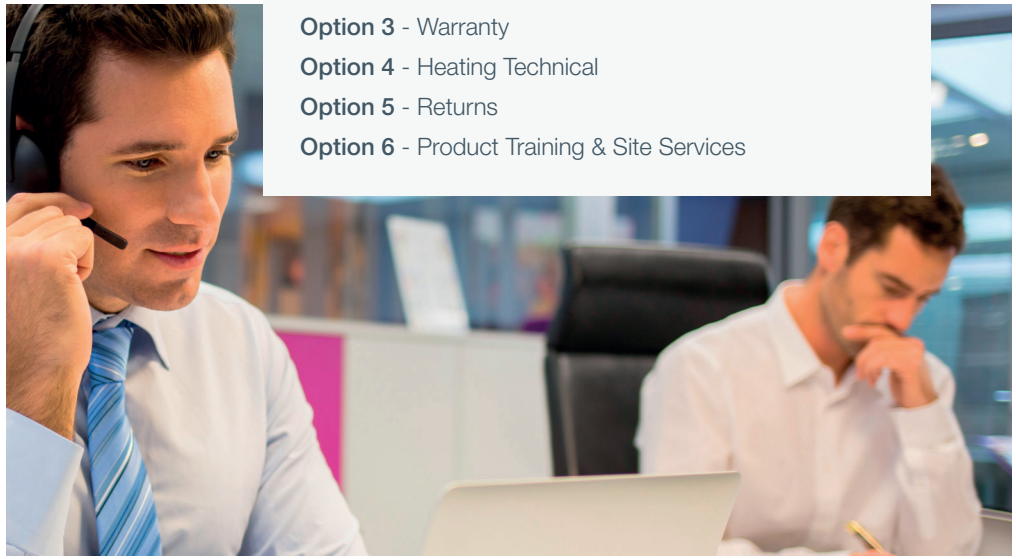
- Site Services
- 24/7/365 Technical Help Desk
- Spare Parts, Warranty & Returns
- CPD Accredited Technical Product Training

Whatever the challenge, we're here to help you meet it.

MELSmart Customer Services & Support

Telephone: 0161 866 6089

Option 1 - Air Conditioning Technical
Option 2 - Spares
Option 3 - Warranty
Option 4 - Heating Technical
Option 5 - Returns
Option 6 - Product Training & Site Services



Fault Finding

Our Fault Finding service is carried out on new and existing installations to identify problems and offer resolutions to ensure the system is returned to a fully operational condition in the shortest possible timeframe.

Our Fault Finding service is available across our entire product range. During the Fault Finding process, our engineers will carry out assessments of the following to determine a resolution:

- System design, application and specification
- Standard of installation
- Operational performance of equipment
- Current and historic fault codes

Product	Detail
Air Conditioning	One day per reported fault
Controls	One day per reported fault
Hybrid VRF	One day per reported fault
e-Series Chillers	One day per reported fault
Commercial Heating	One day per reported fault

Note: Whilst our engineers will carry out a thorough assessment of the system and provide recommendations to rectify any issues, they do not carry spare parts and cannot provide a same day resolution in the event of part failure. If equipment failure due to manufacturing is discovered, no cost will be raised and the visit will be carried out F.O.C. It is the responsibility of the customer to provide access to all of the affected equipment on site. Whilst our engineer will identify any installation and setup issues that are affecting performance, it is the responsibility of the contractor to rectify any problems.

Commissioning

Our assisted commissioning service is aimed at both new and existing customers; the objective is to demonstrate how to commission our systems effectively, so that customers can carry out these tasks unassisted in the future.

Our commissioning service is available across our full product range including: **Air Conditioning, Controls, Hybrid VRF, e-Series Chillers and Commercial Heating products**.

During the commissioning process, our engineers will carry out the following tasks:

- Comprehensive inspection of the installed system to ensure the system meets Mitsubishi Electric specification
- Check the system addressing and advise on any incorrect settings
- For systems other than controls we will operate in both cooling and heating modes where applicable and record temperatures, pressures and water flow rates for the system
- Supervise the completion of commissioning logbooks

Type of Commissioning	Detail
Air Conditioning	Max 3 City Multi systems per day
Controls	1 x AE-200 and up to 4 x EW-50E per day
Hybrid VRF	½ day pre installation visit ½ day mid installation visit 2 day commissioning visit
e-Series	Max 4 chillers per day
Commercial Heating	Max 3 units per day*

Control System	Commissioning Days	Charge Pin Codes	Bacnet Pin Code
1 x AE-200E + 1-4 EW-50E	1 day	1 - 5	1 - 5
2 x AE-200E + 1-4 EW-50E	2 days	1 - 10	1 - 10
3 x AE-200E + 1-4 EW-50E	3 days	1 - 15	1 - 15
4 x AE-200E + 1-4 EW-50E	4 days	1 - 20	1 - 20
5 x AE-200E + 1-4 EW-50E	5 days	1 - 25	1 - 25

Whilst our engineer will supervise the successful completion of all tasks and address any questions or skill gaps that present themselves, it is the responsibility of the installing contractor under supervision to carry out all of the listed tasks. Whilst our engineer will supervise the successful completion of the commissioning logbooks, it is the responsibility of the customer to complete and submit the commissioning logbooks to Mitsubishi Electric unless specified.

*Transit bolts must be removed before we arrive on site. If transit bolts are not removed additional time and cost may be incurred.

Health Checks

Our Health Check service is carried out on existing installations to ensure that the system is operating within our design parameters. The service is available to both new and existing customers and the objective is to establish a fully operational system.

Our Health Check service is available for the following product ranges: Air Conditioning including Hybrid VRF, e-Series Chillers and Commercial Heating products. During the Health Check process, our engineers will carry out the following tasks:

- Comprehensive visual inspection of the installed system to ensure the system meets Mitsubishi Electric specification
- Check the system addressing and advise on any incorrect settings
- Full operation in both cooling and heating modes where applicable
- Record operating data including temperatures, pressures and water flow rates of outdoor units, BC Boxes and indoor units to determine the correct operation

Product	Detail
Air Conditioning	Up to 3 systems per day
Hybrid VRF	Up to 2 systems per day
e-Series Chillers	Up to 4 systems per day
Commercial Heating	Up to 3 systems per day

Note: Whilst our engineer will ensure the successful completion of all tasks and address any questions or skill gaps that present themselves, it is the responsibility of the contractor to provide access to all equipment. Whilst our engineer will identify any installation and setup issues that are affecting performance, it is the responsibility of the contractor to rectify any problems.

MITSUBISHI ELECTRIC UK
TRAINING ACADEMY

Product Training

Mitsubishi Electric provide specific, in-depth training at our state-of-the-art training centres across the UK, or via our award-winning online training, covering all aspects of installation, from design through to maintenance.

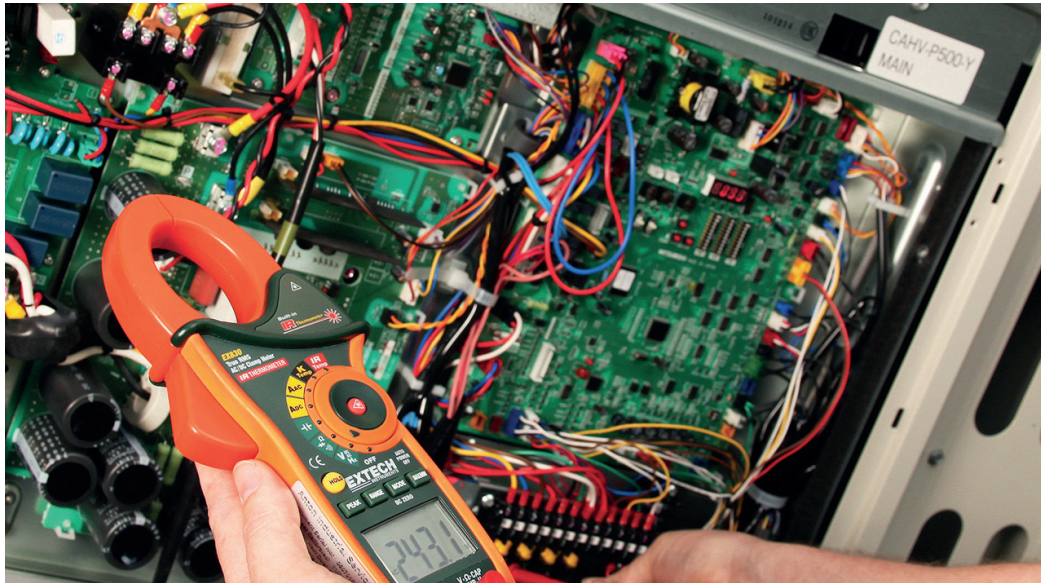
Providing product training for all levels of expertise, our courses are taught by experienced engineers, with a wealth of knowledge and are all CPD accredited.

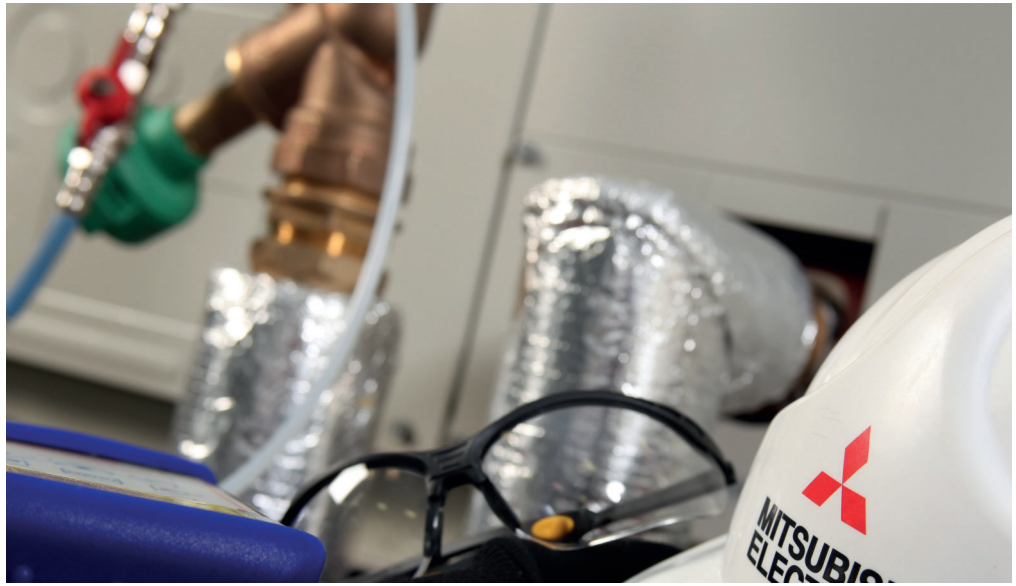
CPD CERTIFIED
The CPD Certification Service

For bookings please telephone

0161 866 6089 (Option 6, Option 1)

Product Range	Course	Reference
City Multi (VRF)	Design and Application	CMDA
City Multi (Hybrid VRF)	Hybrid VRF Design, Application, Installation and Commissioning	HVRF
City Multi	Installation and Commissioning	CMPT1
City Multi	Service and Fault Finding	CMPT2
City Multi	Monitor Tool	MT
M Series and Mr Slim	Installation, Service and Fault Finding	MPISF
Ecodan	Design and Application Part 1	ED&A
Ecodan	Installation and Commissioning Part 2	EI&C
Ecodan	Service and Fault Finding Part 3	ES&FF
Ecodan	Re-skill	ERS
Ecodan	Hands-on	EHO
Ecodan	Commercial Heating (CAHV)	CH
Lossnay	Design, Application, Installation and Commissioning	LOSSNAY





City Multi Stripdown

For installations where the City Multi outdoor unit(s) cannot be moved to the final location, Mitsubishi Electric offer a City Multi strip down service.
Other products are available on request, please contact us for further information should you have a specific strip down requirement.

Product Range	Model Reference
 	**PURY-EM/EP YNW-A1/2** **PURY-M/P YNW-A1/2** Small Module **PUHY-M/P YNW-A1/2**
 	**PURY-EM/EP YNW-A1/2** **PURY-M/P YNW-A1/2** Large Module **PUHY-P YNW-A2**

Product Range	Model Reference
 	**PURY-EM/EP YNW-A1/2** **PURY-M/P YNW-A1/2** Extra Large Module **PUHY-P YNW-A2**
 	**PQRY-P YLM-A1** **PQHY-P YLM-A1**

Chiller Service and Maintenance for Central Plant and IT Cooling

We are now able to bring Mitsubishi Electric quality to your service and maintenance contract, using the very latest technology for in-field reporting and diagnostics. Our highly trained and qualified chiller service and maintenance engineers are based nationwide, operating from our network of service offices. Our engineers are experienced in the servicing, maintenance and repair of chiller systems across the industry.

What we do:

- Comprehensive service and maintenance plans
- National coverage (four dedicated service centres)
- Fast response times
- Reactive-response and call-out service
- Spare parts
- F-Gas and REFCOM Elite accredited engineers
- 24/7 365 emergency call out service
- Service and maintenance for all manufacturers' applied products
- Commissioning / Start-up
- System checks
- Fault finding
- Extended warranties
- Strip-downs (model / application specific)

For further information and Service & Maintenance enquiries:

Hatfield: 01707 278683
Birmingham: 07443 370023
Manchester: 0161 866 6070
Scotland: 01786 450348
Spare Parts Enquiries (CV/RCIT products): cvspares@meuk.mee.com

Email:
melsmartservicelondon@meuk.mee.com
melsmartservicebirmingham@meuk.mee.com
melsmartservicemanchester@meuk.mee.com
melsmartservicestirling@meuk.mee.com

Design and Consulting Services

As part of the Mitsubishi Electric commitment to supporting robust application of our leading technologies, a team of consultant sales professionals work nationally with mechanical building services specifiers and consultants to achieve early engagement in project design.

Clients are able to apply cooling, heating, ventilation and controls confidently within their individual projects, with the emphasis on a solution-based philosophy to support ‘as-designed’ performance and efficiencies.

This approach helps projects realise ‘as-specified’ performance and efficiency levels - all designed to achieve the most efficient and cost-effective outcome for the building operator, whilst reducing the overall environmental impact.

As initial designs move from the drawing board through planning, procurement, installation and commissioning, to on-going operation and use, we work closely with our customers to balance capital expenditure, system efficiencies, installation costs, control strategies and running costs.

Working in the real world

At Mitsubishi Electric, we understand the real-world pressures of delivering commercial projects for your clients. Our dedicated team can support M&E contractors and help you tackle the challenges associated with a range of projects, including change of building layout (design evolution) without compromising the original design or performance criteria.

We also understand the link between effective design and achieving the best outcomes for building owners, operators, and users. The goal of our team is therefore to ensure robust design and implementation; every step of the way, from concept to commissioning.

Getting the right balance between capital cost, system efficiencies, installation costs and operating costs are key areas where we can support you. Each Business Development Manager has extensive product knowledge and application experience and is here to help with everything, including guidance on new and changing legislation.

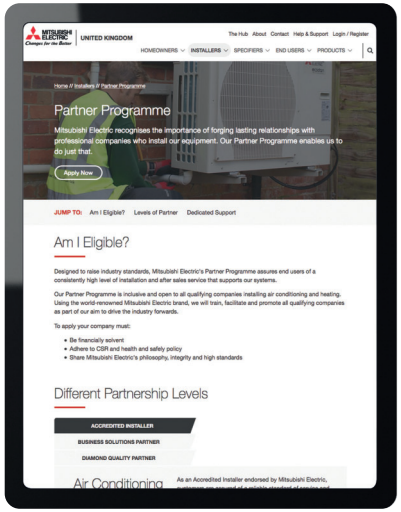
Mitsubishi Electric Partner Programme

The Mitsubishi Electric Partner Programme is inclusive and open to all qualifying air conditioning and heating installation companies, large or small.

Using the world-renowned Mitsubishi Electric brand, we will train, support and promote all qualifying companies as part of our aim to drive the industry forwards. Mitsubishi Electric recognises the importance of forging lasting relationships with professional companies who install our equipment. Our Partner Programme enables us to do just that.

Established in 2005 and designed to raise industry standards, our industry leading Partner Programme assures end users of a consistently high level of installation and after sales service that supports our systems. To be eligible to join our scheme in the first instance, prospective installation partners must comply with the necessary building regulations and meet specific industry, programme and CSR standards.

All partners are reviewed on a regular basis to ensure they continue to meet the required standards that makes them eligible to be part of the Mitsubishi Electric Partner Programme.



How to apply for the Partner Programme:
Speak to your Mitsubishi Electric Representative
or email **partner@meuk.mee.com**

GROW YOUR BUSINESS
Powered By Mitsubishi Electric

Partner Programme Benefits

Dedicated Partner Programme Team

Our dedicated Partner Programme Team are on hand to give Partners the support they need.

Mitsubishi Electric Customer Portal

We have developed our Customer Portal to help our Partners grow their business by enhancing their online presence on channels such as social media and via their own website. Product images, social media copy, easy to follow strategy guides and marketing training videos are just a few examples of free content that can be downloaded.

Take a look today and see how you can use this to grow your business:
les.mitsubishielectric.co.uk/customer-portal

Joint Marketing / Relationship Development Fund (RDF)

We will work with Partners to promote our relationship and generate awareness of the unique business benefits of the Partner Programme to end-users. We operate a Partner Programme Relationship Development Fund (RDF) allocated in relation to their commercial activities with Mitsubishi Electric.

You can submit your claims forms and check your RDF balance online at:
les.mitsubishielectric.co.uk/customer-portal/make-a-claim

Digital Marketing Packages

We're able to offer an exclusive and flexible digital marketing package for our partners, using their RDF to increase their brand awareness.

Online Workwear and Promotional Goods Portal

Partners can take advantage of their RDF to enhance their company image with dual branded work wear and promotional items.

les.mitsubishielectric.co.uk/customer-portal/promotional-goods

Product and Industry Training

Our Partners receive a free allocation of training courses and additional courses can be funded from the Relationship Development Fund.

Carbon Audits

Partners are invited to use their RDF to conduct a Carbon Audit of their business, a crucial step on the road to net zero.

24hr Technical Support

To assist our Partners in the maintenance of our equipment, we have a dedicated technical support team who will endeavour to speedily diagnose faults and offer solutions to the problems our Partners may encounter.

Find An Installer

Mitsubishi Electric works to promote our partners through our 'Find an installer' web page, highlighting specific Partners to contact, depending on the type of project a consumer has.

Extended Warranty

We will offer all Partners who adhere to our standards exclusive extended product warranties.

Business Support Tools

We have made it easier to do business with Mitsubishi Electric through the introduction of new technologies and our business tools available to Partners.

Factory Visits & Events

Our Partners and their clients will have the opportunity to witness first-hand the manufacture of air conditioning and Ecodan units at our manufacturing facility in Scotland.

We organise regular factory visits to our manufacturing facility in Scotland, along with other events designed to develop our Partners expertise and support them in growing their business.

Mitsubishi Electric Deliveries

At Mitsubishi Electric, we realise that our customers' businesses can depend on getting the right equipment on site at the right time.

That's why we have developed a comprehensive and flexible delivery programme with one of the longest delivery windows in the industry. With the ability to offer timed, weekend and Public Holiday deliveries, coupled with free 'Text Ahead' and 'Ring Ahead' functions, we aim to keep our customers informed every step of the way.

Delivery Notes
Cut off for next day deliveries is 1.00pm on the working day prior to delivery, or 2.30pm for orders placed via e-shop
Standard weekday delivery is between 8.00am and 5.30pm for pallet deliveries, and 7.00am and 7.00pm for parcel deliveries
AM / PM / Timed / Weekend / Public Holiday deliveries are all available (additional notice needed and charges will apply - please refer to full delivery guidelines for further details)
Standard delivery will normally be made on an 18T rigid lorry equipped with a tail lift and a single driver with a pump truck
Other vehicle types will be utilised dependant on any site access issues and delivery size
If there are access restrictions at your nominated delivery point and a vehicle other than an 18T lorry is required, this will need to be booked in advance and a charge may apply
Our `Text Ahead' and `Ring Ahead' functions are available on most deliveries. For parcel providers, we offer `Text Ahead' only
Deliveries available via HIAB (Flatbed vehicle with crane) / with chapter 8 signage - require 48 hours' notice and extra charges may apply
We offer a 2-man delivery service, removal of packaging and a stair walker - these require 48 hours' notice and extra charges will apply
Mitsubishi Electric is an Associate Member of the Fleet Operator Recognition Scheme (FORS) and our dedicated fleet vehicles are FORS accredited to Bronze level
Collection is also available from our Milton Keynes warehouse - this must be pre-arranged and require at least 3 hours' notice
Returns to be notified within 30 working days - Terms and Conditions apply
MEHITS product deliveries are subject to alternate delivery arrangements - Terms and Conditions apply
Please ensure shortages or damages are marked on the delivery note and notified within 3 working days

Mitsubishi Electric Website, Document Library and The Hub

Website

For further information on any of our products and services please visit our website: **les.mitsubishielectric.co.uk** which has been designed to provide a detailed overview of the energy saving solutions we can provide you.

Document Library

Our website: **library.mitsubishielectric.co.uk** features all current operating and installation manuals, as well as product literature, case studies, CPD guides and more. There is no requirement for visitors to login to our sites to download the latest product and technical information. A document library app is also available allowing visitors to access this information simply from their tablet or smart phone.

The Hub - online content portal

The Hub is a new approach from Mitsubishi Electric which offers useful and informative comments and articles from both leading independent editors and technical experts on the issues affecting the built environment, please visit: **thehub.mitsubishielectric.co.uk**

CPD Information Guides

Mitsubishi Electric is accredited by the Construction CPD Certification Service in many different areas, aimed at enhancing the knowledge of its customers and providing a view of the key issues facing our industry today.

We have produced a number of Industry Information Guides that are available to download from our Document Library. We also run a number of CPD seminars and training courses across the UK. **To find out more, simply contact your local Mitsubishi Electric sales office.**

Sales Contacts

Corporate Sales
Tel: 0870 3000 070

Birmingham
Tel: 0121 329 1970

Bristol
Tel: 01454 202050

Wakefield
Tel: 01924 241120

London North & East Anglia
Tel: 01707 282480

London South
Tel: 01737 387170

Manchester
Tel: 0161 866 6060

Scotland
Tel: 01506 444960

Ireland
Tel: +353 (0)1 419 8800

Changes for the Better

Telephone: **01707 282880**

MELSmart Customer Services & Support: **0161 866 6089**

Option 1 - Air Conditioning Technical
Option 2 - Spares
Option 3 - Warranty
Option 4 - Heating Technical
Option 5 - Returns
Option 6 - Product Training & Site Services

Middlesex: 020 8783 1008
Scotland: 01786 450 348

email: **livingenvironmentalsystems@meuk.mee.com**
website: **les.mitsubishielectric.co.uk**

UNITED KINGDOM Mitsubishi Electric Europe Living Environment Systems Division
Travellers Lane, Hatfield, Hertfordshire, AL10 8XB, England
General Enquiries Telephone: 01707 282880 Fax: 01707 278881

IRELAND Mitsubishi Electric Europe Westgate Business Park, Ballymount, Dublin 24, Ireland
Telephone: Dublin (01) 419 8800 Fax: Dublin (01) 419 8890 International code: (003531)

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).

Green Gateway
www.greengateway.mitsubishielectric.co.uk
Mitsubishi Electric UK's commitment to the environment

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Follow us @green_gateway
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Mitsubishi Electric Living Environmental Systems UK
Mitsubishi Electric Living Environmental Systems UK
mitsubishielectricuk_les
BLOG thehub.mitsubishielectric.co.uk

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