HM Comments 19/11/24 - Status A

1. Although this is more of a manufacturers brochure than a tech sub, the selections are as per the tender pack and the equipment selections are scheduled on the A/C drawing. As such, no comment.

Technical Submittal Form

To: Nick Appleton / Dave Atkinson Company: Contract Services / Hilson Moran	From: Robert Denton Company: Ozone Cooling Solutions Ltd	
Project Name: 196 Deansgate	Date: 15/11/2024	
Job No: C2024- 2370	Ozone Submittal No: TEC-001	Revision:
Date Approval is Required: ASAP	Date Approval was Received:	

Description of Technical Submittal:

Proposed Mitsubishi Electric Systems consisting of the following

- VRF Condenser Type PURY-P500YNW-A2
- BC Controller Boxes CMB-M108V-KB1, CMB-M1012V-JA1
- Fan coil type Models PEFY-MVMA-A1
- AE200 Central Controller
- PAR-41 Controller
- Lossnay LGH-50RVX3-E
- System Schematics

Specification reference	Mitsubishi Electric Systems	
Is the proposal specification compliant?	**YES**	
Is the proposal an alternative to specification?		**NO**

Details of reason for deviation from specification / alternative to specification:
N/A

Ozone comments: None

Designated Consultant to coordinate response from all parties

Organisation:	Copied to:	Comments

Consultant	Submittal Approval Status	Signed	Date
	A B C		

MITSUBISHI ELECTRIC

R2 Series VRF

Standard Efficiency (50-63kW)

Simultaneous Heating and Cooling with Heat Recovery Outdoor Unit

CITY MULTI

The City Multi R2 Heat Recovery system meets the demand for simultaneous heating and cooling, with the added benefit of heat recovery.

As the only 2-pipe Heat Recovery system on the market, the modular City Multi R2 range offers huge benefits in terms of ease of installation and maintenance, as well as complete design flexiblity.

Ideal for a wide range of applications such as hotels, offices and leisure premises.

Key Features & Benefits:

- Energy efficient operation through heat recovery, saving up to 30% over Heat Pump systems
- Provides simultaneous heating and cooling with a high level of thermal comfort
- Unique 2-pipe system for ease of installation and maintenance
- Adjustable noise level options to suit application
- Connectable to a broad choice of indoor unit types and capacities

R410A



Air Conditioning | **Product Information**

R2 Series VRF
Standard Efficiency (50-63kW)
Simultaneous Heating and Cooling with Heat Recovery Outdoor Unit

R410A

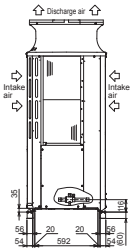


OUTDOOR UNITS		PURY-P450YNW-A2	PURY-P450YSNW-A2	PURY-P500YNW-A2	PURY-P500YSNW-A2	PURY-P550YNW-A2	PURY-P550YSNW-A2
CAPACITY (kW)	Heating (nominal)	56.0	56.5	63.0	63.0	69.0	65.0
	Cooling (nominal)	50.0	50.4	56.0	56.0	60.0	61.5
	High Performance Heating (UK)	50.4	56.5	56.7	63.0	62.1	61.8
	COP Priority Heating (UK)	48.2	51.4	54.2	57.3	59.3	59.2
	Cooling (UK)	44.8	45.1	50.1	50.1	53.7	55.0
POWER INPUT (kW)	Heating (nominal)	18.79	16.71	21.14	19.74	24.55	19.81
	Cooling (nominal)	19.84	17.08	22.22	21.13	25.86	22.69
	High Performance Heating (UK)	21.42	21.39	24.10	25.27	27.99	26.35
	COP Priority Heating (UK)	18.23	16.71	20.51	19.74	23.81	19.81
	Cooling (UK)	12.70	9.91	14.22	12.26	16.55	13.16
COP / EER (nominal)		2.98 / 2.52	3.38 / 2.95	2.98 / 2.52	3.19 / 2.65	2.81 / 2.32	3.28 / 2.71
SCOP / SEER		-	- / -	-	- / -	-	- / -
MAX NO. OF CONNECTABLE INDOOR UNITS		45	45	50	50	50	50
MAX CONNECTABLE CAPACITY		50~150% OU Capacity	50~150% OU Capacity	50~150% OU Capacity	50~150% OU Capacity	50~150% OU Capacity	50~150% OU Capacity
AIRFLOW (m^3/min)	High	315	170 / 220	295	220 / 220	410	220 / 240
PIPE SIZE mm (in)	Gas	28.58 (1-1/8")	28.58 (1-1/8")	28.58 (1-1/8")	28.58 (1-1/8")	28.58 (1-1/8")	28.58 (1-1/8")
	Liquid	22.2 (7/8")	22.2 (7/8")	22.2 (7/8")	22.2 (7/8")	22.2 (7/8") / 28.58 (1-1/8")*1	22.2 (7/8") / 28.58 (1-1/8")*1
SOUND PRESSURE LEVEL (dBA) @ 1m	Heating / Cooling	70.0 / 65.5	65.5 / 63.0	64.5 / 63.5	67.0 / 63.5	70.0 / 70.0	69.0 / 64.0
SOUND POWER LEVEL (dBA) @ 100% CAPACITY	Heating / Cooling	89.0 / 83.0	84.0 / 81.0	84.0 / 82.0	86.0 / 81.0	89.0 / 89.0	88.0 / 83.0
SOUND POWER LEVEL (dBA) @ 90% CAPACITY	Heating / Cooling	83.0 / 78.5	- / -	81.0 / 76.5	- / -	82.5 / -	- / -
SOUND POWER LEVEL (dBA) @ 75% CAPACITY	Heating / Cooling	76.5 / 74.0	- / -	77.5 / 73.5	- / -	78.5 / -	- / -
WEIGHT (kg)		289	214 + 223	335	223 + 223	335	223 + 225
DIMENSIONS (mm)	Width	1240	920 + 920	1750	920 + 920	1750	920 + 920
	Depth	740	740	740	740	740	740
(1798mm without legs)	Height	1858	1858	1858	1858	1858	1858
ELECTRICAL SUPPLY*2		380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz	380-415v, 50Hz
PHASE*2		Three	Three	Three	Three	Three	Three
STARTING CURRENT (A)*2		8	8	8	8	8	8
NOMINAL SYSTEM RUNNING CURRENT (A)*2	Heating / Cooling [MAX]	30.1 / 31.8 [39.0]	26.7 / 27.3 [16.1 + 21.4]	33.9 / 35.6 [43.2]	31.6 / 33.8 [21.4+ 21.4]	39.3 / 41.4 [51.4]	31.7 / 36.3 [21.4 + 23.4]
GUARANTEED OPERATING RANGE (°C)	Heating / Cooling	-20~15.5 / -5~52	-20~15.5 / -5~52	-20~15.5 / -5~52	-20~15.5 / -5~52	-20~15.5 / -5~52	-20~15.5 / -5~52
FUSE RATING (MCB sizes BS EN 60947-2) - (A)*2		1 x 40	1 x 20 / 1 x 25	1 x 50	1 x 25 / 1 x 25	1 x 63	1 x 25 / 1 x 25
MAINS CABLE No. Cores*2		4 + earth	4 + earth / 4 + earth	4 + earth	4 + earth / 4 + earth	4 + earth	4 + earth / 4 + earth
CHARGE REFRIGERANT (kg) / CO_2 EQUIVALENT (T) R410A (GWP 2088)		10.8 / 22.5	10.4 / 21.7	10.8 / 22.6	10.4 / 21.7	10.8 / 22.6	10.4 / 21.7
MAX ADDITIONAL REFRIGERANT (KG) / CO_2 EQUIVALENT (T) R410A (GWP 2088)		44.5 / 92.9	48.6 / 101.5	45.2 / 94.4	48.6 / 101.5	45.2 / 94.4	48.6 / 101.5

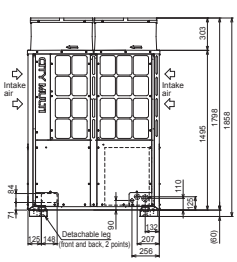
Notes: ErP Lot 6 calculation method to EN14825. *1 If distance from OU to BC controller is greater than 65m. *2 A separate power supply is required for each module. Where more than one figure is quoted there are multiple modules.

PURY-P450YNW-A2 DIMENSIONS

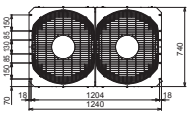
SIDE VIEW



FRONT VIEW

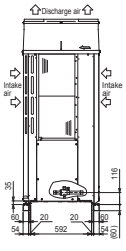


UPPER VIEW

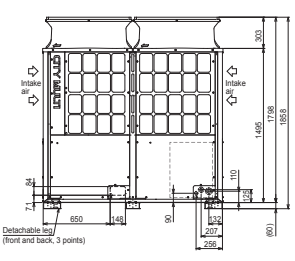


PURY-P500/550YNW-A2 DIMENSIONS

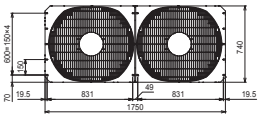
SIDE VIEW



FRONT VIEW

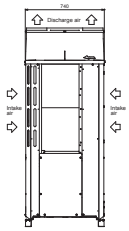


UPPER VIEW

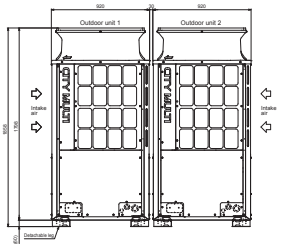


PURY-P450/500/550YSNW-A2 DIMENSIONS

SIDE VIEW



FRONT VIEW



MITSUBISHI ELECTRIC
Changes for the Better

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Note: The fuse rating is for guidance only and 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), R290 (GWP:3), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R454C (GWP:148), R1234ze (GWP:7) or R1234yf (GWP:4). *These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).

Effective as of May 2024

Green Gateway greengateway.mitsubishielectric.co.uk

MITSUBISHI ELECTRIC

PEFY-M-VMA-A1

Ceiling Concealed Ducted Indoor Unit

CITY MULTI

The **PEFY-M-VMA-A1** ducted indoor unit is concealed within the ceiling space to allow unobtrusive air conditioning.

Flexibility of duct layout allows air flow patterns to be arranged to suit any application.

R32

R410A

Key Features & Benefits:

- Additional fan speed provides a wide range of airflows for greater flexibility and air distribution
- High sensible cooling capacity combined with improved airflows, enabling better off-coil temperatures for enhanced occupant comfort levels
- Low height - only 250mm
- Wide range of external static pressure settings across entire range (35-150Pa)
- Low noise levels - thanks to the use of a centrifugal fan
- Drain pump included as standard
- CN105 connector available - connect to MELCOBEMS MINI for simple BEMS interfacing
- Compatible with Plasma Quad Connect - an innovative, bolt-on air purifying device which neutralises viruses, bacteria, allergens, PM2.5, mould and dust (MAC-100FT-E)



Air Conditioning | **Product Information**

PEFY-M-VMA-A1
Ceiling Concealed Ducted Indoor Unit

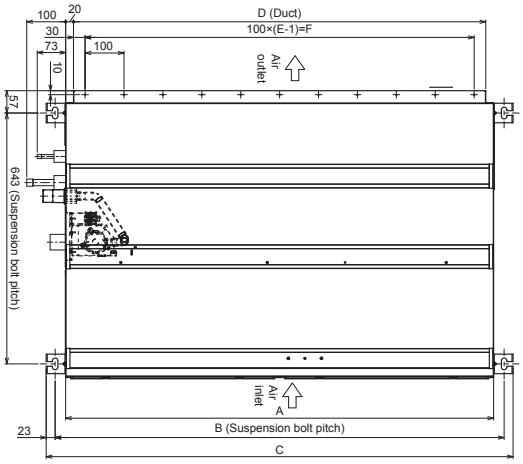


PEFY-M-VMA-A1 INDOOR UNITS		PEFY-M20VMA-A1	PEFY-M25VMA-A1	PEFY-M32VMA-A1	PEFY-M40VMA-A1	PEFY-M50VMA-A1	PEFY-M63VMA-A1	PEFY-M80VMA-A1	PEFY-M100VMA-A1	PEFY-M125VMA-A1
CAPACITY (kW)	Heating (nominal)	2.5	3.2	4.0	5.0	6.3	8.0	10.0	12.5	16.0
	Cooling (nominal)	2.2	2.8	3.6	4.5	5.6	7.1	9.0	11.2	14.0
	UK Heating	2.5	3.2	4.0	5.0	6.3	8.0	10.0	12.5	16.0
	UK Total Cooling - Hi (Sensible)	2.00 (1.90)	2.50 (2.10)	3.20 (2.60)	4.0 (3.6)	5.00 (4.80)	6.40 (5.40)	8.10 (7.2)	10.0 (8.4)	12.5 (9.70)
	UK Total Cooling - Mi1	1.92	2.40	3.05	3.57	4.27	5.79	6.86	9.64	12.37
	UK Total Cooling - Mi2	1.83	2.28	2.87	3.31	4.00	5.32	6.33	9.17	12.01
	UK Total Cooling - Lo	1.65	2.06	2.62	3.07	3.60	4.86	5.62	8.38	11.09
POWER INPUT (kW)	Heating (nominal)	0.04	0.04	0.06	0.09	0.13	0.23	0.22	0.21	0.22
	Cooling (nominal)	0.04	0.04	0.06	0.09	0.13	0.14	0.17	0.21	0.22
AIRFLOW (l/s) Cooling	Lo-Mi2-Mi1-Hi	100-125-142-166	100-125-142-166	123-150-175-208	166-191-225-316	208-241-275-426	225-266-320-436	241-300-350-518	383-466-533-616	425-516-566-616
AIRFLOW (l/s) Heating	Lo-Mi2-Mi1-Hi	100-125-142-166	100-125-142-166	123-150-175-208	166-191-225-316	208-241-275-426	225-266-320-516	241-300-350-610	383-466-533-616	425-516-566-616
EXTERNAL STATIC PRESSURE (Pa)		35-50-70-100-150	35-50-70-100-150	35-50-70-100-150	35-50-70-100-150	35-50-70-100-150	35-50-70-100-150	40-50-70-100-150	40-50-70-100-150	40-50-70-100-150
SOUND PRESSURE LEVEL (dBA)*1 (50Pa) Cooling	Lo-Mi2-Mi1-Hi	21.5-23-26.5-30	21.5-23-26.5-30	24-28-31.5-35.5	23.5-25.5-28.5-37	22-24-26.5-37	23-26-30-37.5	22-25-27.5-38.5	29.5-34-37.5-40	31.5-36.5-38.5-40.5
SOUND PRESSURE LEVEL (dBA)*1 (50Pa) Heating	Lo-Mi2-Mi1-Hi	21.5-23-26.5-30	21.5-23-26.5-30	24-28-31.5-35.5	23.5-25.5-28.5-37	22-24-26.5-37	23-26-30-41.5	22-25-27.5-40.5	29.5-34-37.5-40	31.5-36.5-38.5-40.5
WEIGHT (kg)		21	21	21	25	30	30	37	37	38
DIMENSIONS (mm)	Width	700	700	700	900	1100	1100	1400	1400	1400
	Depth	732	732	732	732	732	732	732	732	732
	Height	250	250	250	250	250	250	250	250	250
ELECTRICAL SUPPLY		220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz
PHASE		Single	Single	Single	Single	Single	Single	Single	Single	Single
RUNNING CURRENT (A)	Heating / Cooling	0.33/0.33	0.33/0.33	0.48/0.48	0.67/0.67	0.90/0.90	1.48/0.95	1.41/1.11	1.38/1.38	1.33/1.33
FUSE RATING (BS88) - HRC (A)		6	6	6	6	6	6	6	6	6
MAINS CABLE No. Cores		3	3	3	3	3	3	3	3	3

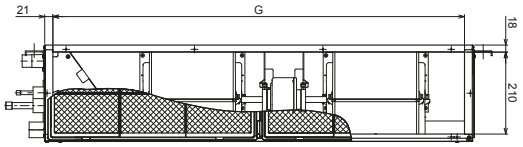
Note: *1 Measured in an anechoic chamber with a 1m inlet duct and 2m air outlet duct, 1.5m below unit.

PEFY-M20/25/32/40/50/63/71/80/100/125VMA-A1 DIMENSIONS

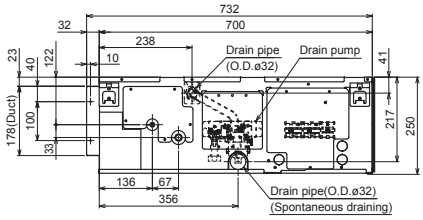
UPPER VIEW



FRONT VIEW



SIDE VIEW



Model	A	B	C	D	E	F	G
PEFY-M20,25,32VMA-A1	700	754	800	660	7	600	658
PEFY-M40VMA-A1	900	954	1000	860	9	800	858
PEFY-M50,63VMA-A1	1100	1154	1200	1060	11	1000	1058
PEFY-M80,100,125VMA-A1	1400	1454	1500	1360	14	1300	1358

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

Effective as of July 2022

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MITSUBISHI ELECTRIC

MASTER BC CONTROLLERS

CMB-M108/1012/1016V-JA1
CMB-P1016V-KA1 (R410A Only)

CITY MULTI

R32 R410A

At the heart of both the R2 and WR2 Series, the BC controller makes simultaneous heating and cooling possible. Improved system efficiency is achieved when energy is transferred intelligently around the building.

Key Features:

- Allows unique 2-pipe heat recovery application
- Simultaneous heating and cooling
- Instructs the heat source unit/outdoor unit on the amount of refrigerant (liquid or gas) that is required to achieve the requested cooling or heating requirements
- Slim profile for more flexible installation
- Easy servicing and maintenance access through underside drain pan
- Brazed connections



Air Conditioning | **Product Information**

CITY MULTI

CMB-M108/1012/1016V-JA1
CMB-P1016V-KA1 (R410A Only)
MASTER BC CONTROLLERS





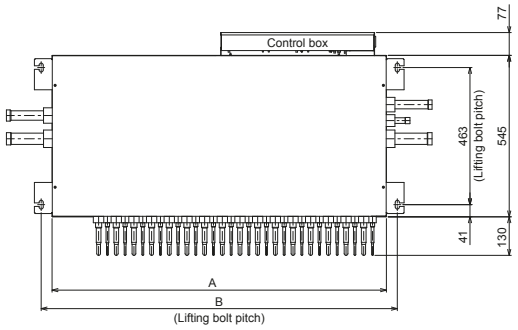
R32 R410A

MASTER BC CONTROLLERS		CMB-M108V-JA1	CMB-M1012V-JA1	CMB-M1016V-JA1	CMB-P1016V-KA1
NUMBER OF CONNECTIONS		8	12	16	16
WEIGHT (kg)		48	60	68	69
DIMENSIONS (mm)	Width	911	1135	1135	1135
	Depth	622	622	622	622
	Height	252	252	252	250
ELECTRICAL SUPPLY		220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz
PHASE		Single	Single	Single	Single
POWER INPUT (kW)		0.144	0.211	0.279	0.279
RUNNING CURRENT (A)		0.63	0.92	1.22	1.22
FUSE RATING (BS88) - HRC (A)		6	6	6	6
MAINS CABLE NO. CORES		3	3	3	3

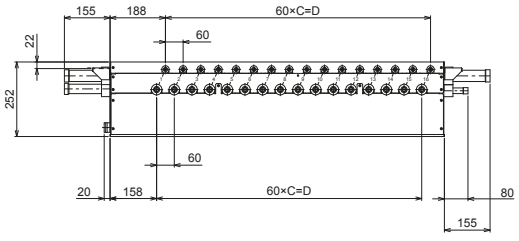
Note: CMB-M-V-JA1 units are for use with PURY-EM200-300YNW-A1, PURY-M200-300YNW-A1, PURY-EP200-900Y(S)NW-A, PURY-P200-900Y(S)NW-A & PQRY-P200-900Y(S)LM-A units only.
CMB-P1016V-KA1 unit is for use with PURY-P950-1100YSNW-A and PURY-EP950-1100YSNW-A units only.

CMB-M108/1012/1016V-JA1 DIMENSIONS

UPPER VIEW



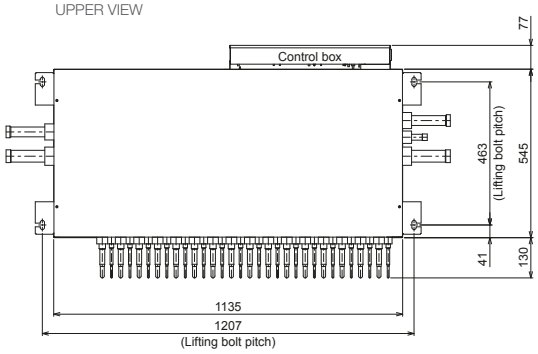
SIDE VIEW



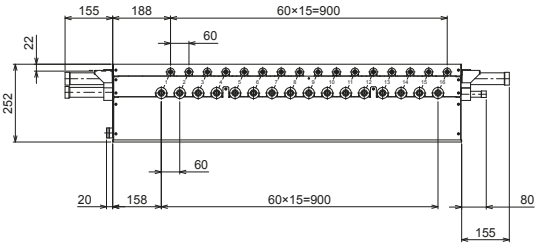
	A	B	C	D
CMB-M108V-JA1	911	983	7	420
CMB-M1012V-JA1	1135	1207	11	660
CMB-M1016V-JA1	1135	1207	15	900

CMB-P1016V-KA1 DIMENSIONS

UPPER VIEW



SIDE VIEW



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Effective as of November 2019

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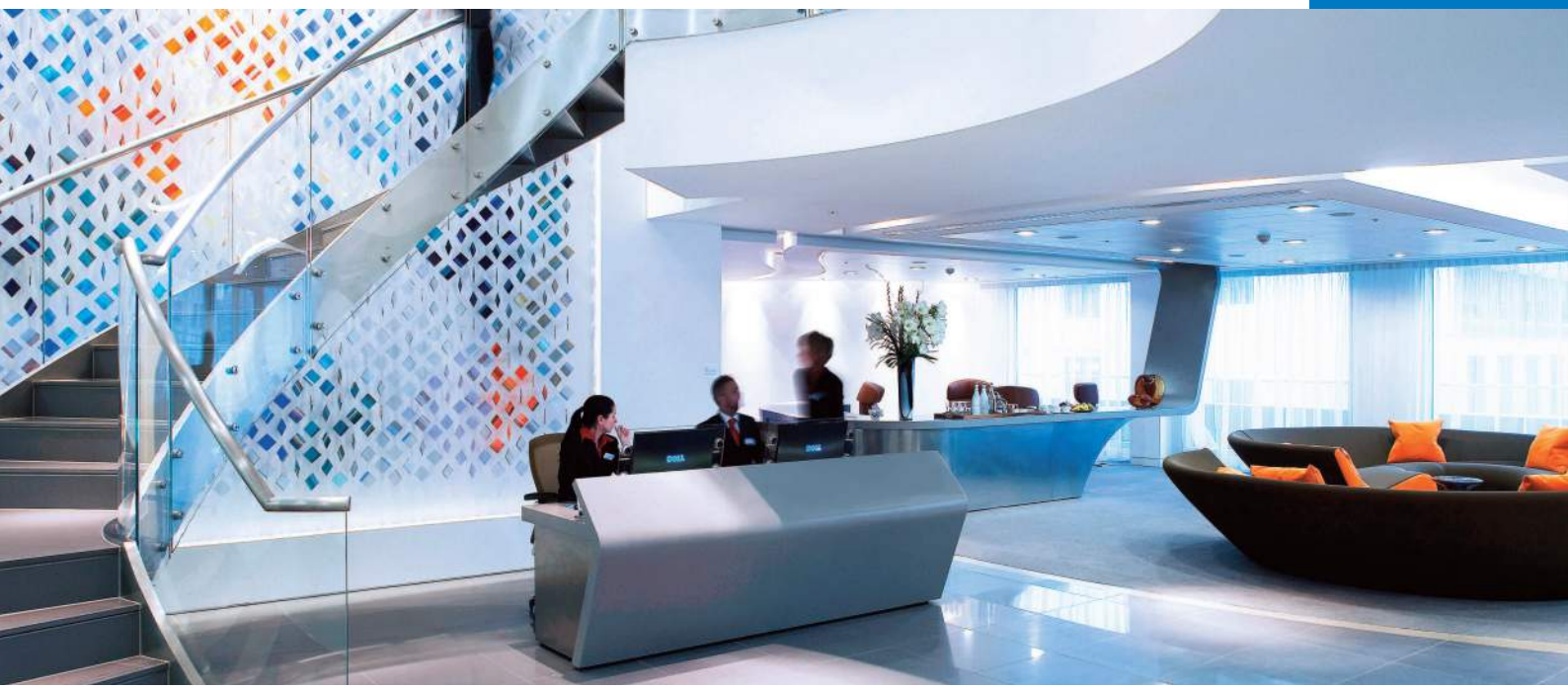
Controls

Product Information

AE-200E
Centralised Controller

Making a World of Difference

CONTROLS



The **AE-200E** is a large 10.4" touch screen centralised controller with simple intuitive operation and control over M-NET network.

Key Features

- 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

MITSUBISHI ELECTRIC

Cooling | Heating | Ventilation | Controls

Controls

Product Information

AE-200E
Centralised Controller

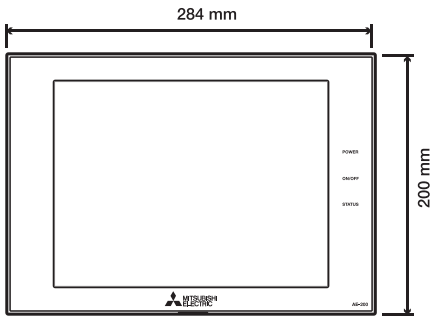
Making a World of Difference

CENTRALISED CONTROLLER		AE-200E
Description		10.4" Touch Screen Controller
Connect to		M-NET Network
Max Number of Units		50 and 4 Pulse Meters
Compatibility		M Series, Mr Slim, City Multi, Lossnay and Ecodan CAHV
Power Supply		220-240v, 50Hz
Dimensions (mm) (WxDxH)		283 x 64 x 199
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		✓
Night Set Back		✓
Web Pages		✓
Optimised Start		✓
Automatic Setpoint Adjustment		✓
Load Shedding		✓
Occupied / Unoccupied Settings Reset		x
Remote Monitoring with M2M		✓
Simple Energy Monitoring		✓
Advanced Energy Monitoring		✓

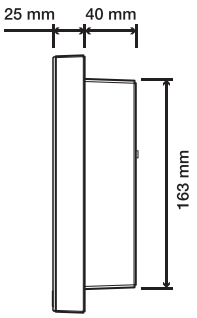
✓= Yes, x = No, - = Not applicable.

DIMENSIONS

Front View

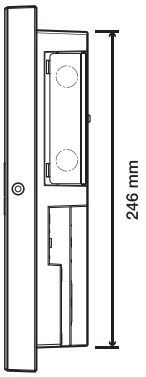


Side View

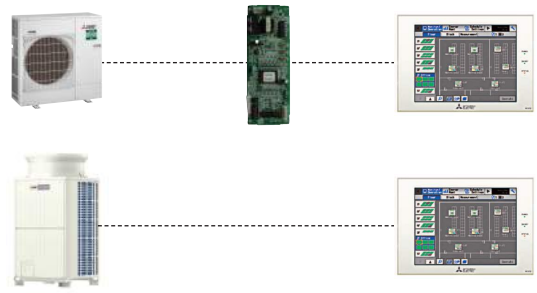


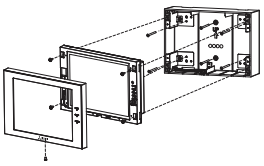
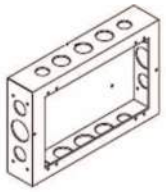


Upper View



SYSTEM DIAGRAM



OPTIONS	PAC-YG82TB	PAC-YG84UTB
		
Description	AE-200E Plastic Wall Mounted Box	AE-200E Metal Wall Mounted Box
Compatibility	AE-200E	AE-200E
Dimensions (mm) (WxDxH)	282 x 77 x 198	380 x 90 x 280

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Effective as of September 2017

PAR-41MAA

Standard Wired Remote Controller

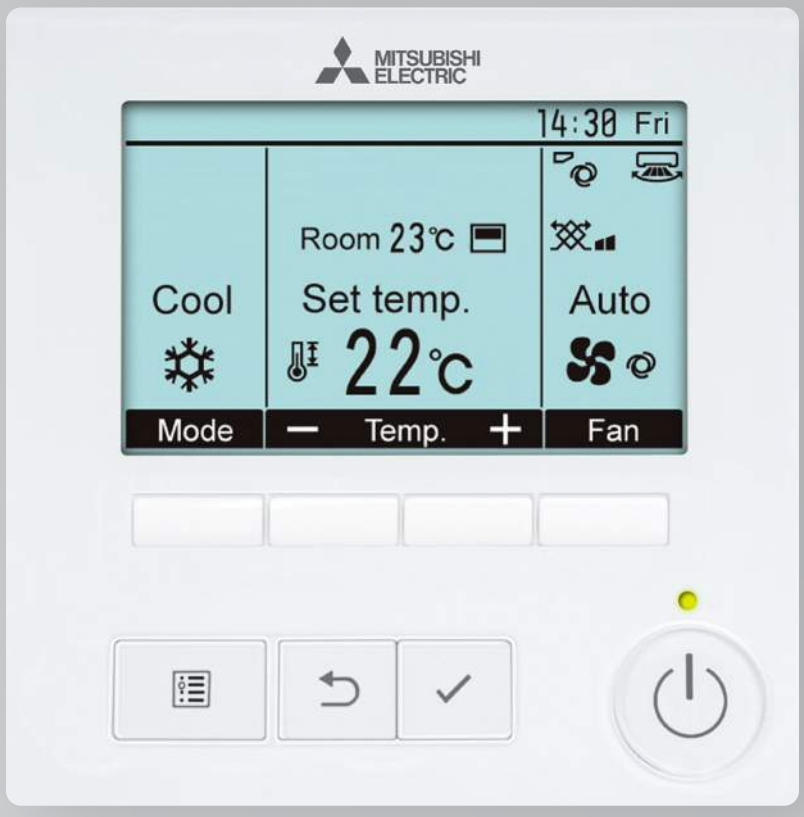
The **PAR-41MAA** standard wired remote controller is used to control Mr Slim and City Multi indoor units.

It is also compatible with M Series indoor units via MAC-587IF / MAC-397IF and is our most popular controller due to its user friendly backlit screen.

Key Features & Benefits:

- Displays model name and serial number*
- 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
- Smart Defrost
- Daylight saving function
- 14°C cooling
- 2+1 Backup Rotation

*Compatible only with suitable Mr Slim units.



Controls | **Product Information**

PAR-41MAA
Standard Wired Remote Controller



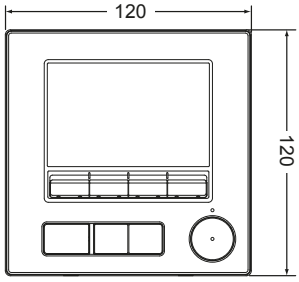
REMOTE CONTROLLER		PAR-41MAA
Description		Standard Wired Remote Controller
Connect to		Indoor
Max Number of Units		16
Compatibility		Mr Slim, City Multi & M Series via MAC-587IF / MAC-397IF
Dimensions (mm) (WxDxH)		20 x 14.5 x 120
Control	On/Off	✓
	Mode	✓ (0.5ºC)
	Setpoint	✓
	Fan Speed	✓
	Air Direction	✓
	Permit/Prohibit	✓
	Filter Sign	✓
Monitor	On/Off	✓
	Mode	✓ (0.5ºC)
	Setpoint	✓
	Fan Speed	✓
	Air Direction	✓
	Permit/Prohibit	✓
	Filter Sign	✓
	Fault Codes	✓ (0.5ºC)
	Room Temperature	✓
Backlight		✓
Setpoint Limitation		✓
Independent Vane Control		✓
Contact Number under Fault Condition		✓
Scheduling		Weekly
Night Set Back		✓
Button Lock		✓
Easy Maintenance with Mr Slim		✓
Run / Standby with Mr Slim		✓
Silent Mode with Mr Slim		✓
Energy Saving with Mr Slim		✓
3D Total Airflow*1		✓
Model Name & Serial Number*1		✓
Energy Consumption Monitoring*1		✓
2+1 Backup Rotation*1		✓
Smart Defrost*1		✓
14ºC Cooling*1		✓

Notes: ✓= Yes, x = No, - = Not applicable

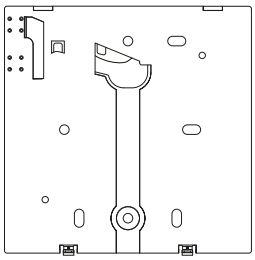
*1 Compatible only with suitable Mr Slim units.

PAR-41MAA DIMENSIONS
All dimensions (mm)

FRONT VIEW



BACK VIEW



SIDE VIEW



PAR-41MAA System Diagram



Selectable Black Background



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Effective as of Dcember 2021

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LGH-RVX3-E

Commercial Series

The 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 and latent 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 sensors allow automatic incremental fan control for a healthy indoor environment; sensors powered by Lossnay unit
- 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



LGH-RVX3-E
Commercial Series





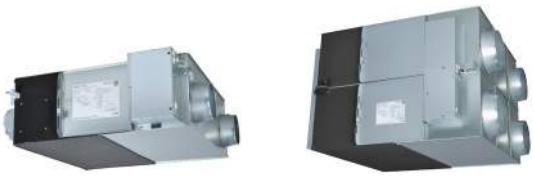
MODEL			LGH-15RVX3-E	LGH-25RVX3-E	LGH-35RVX3-E	LGH-50RVX3-E	LGH-65RVX3-E	LGH-80RVX3-E	LGH-100RVX3-E	LGH-160RVX3-E	LGH-200RVX3-E
25%	Air Volume	m^3/h	38	63	88	125	163	200	250	400	500
(Default speed 1)		l/s	10	17	24	35	45	56	69	111	139
	External Static Pressure	Pa	8	8	10	10	10	11	12	11	11
	Temperature 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 %	73.0	75.0	74.5	68.0	74.0	70.5	73.5	70.5	71.0
	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%	Air Volume	m^3/h	75	125	175	250	325	400	500	800	1000
(Default speed 2)		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 %	66.0	68.0	68.5	63.0	66.5	65.0	66.0	65.0	65.0
	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%	Air Volume	m^3/h	113	188	263	375	488	600	750	1200	1500
(Default speed 3)		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 %	62.0	63.5	64.5	58.0	60.0	58.5	61.0	58.5	60.0
	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%	Air Volume	m^3/h	150	250	350	500	650	800	1000	1600	2000
(Default speed 4)		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 %	58.0	59.0	60.0	53.5	55.5	54.5	55.5	54.5	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								

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.

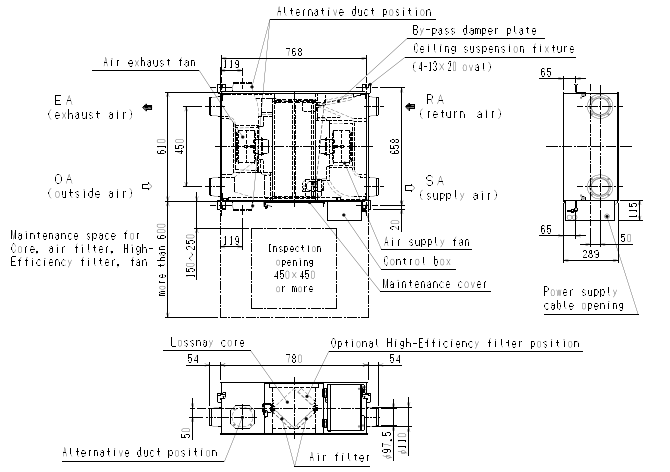
*1: EN 779 G4 equivalent according to 'REHVA Filter Class Conversion between EN 779 and EN ISO 16890-1'.

ACCESSORIES		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
Remote Controller		PZ-62DR-EB								
Filters	Standard Replacement Filter (Coarse 60%)	PZ-15RF3-E	PZ-25RF3-E	PZ-35RF3-E	PZ-50RF3-E	PZ-65RF3-E	PZ-80RF3-E	PZ-100RF3-E	PZ-80RF3-E (2 sets)	PZ-100RF3-E (2 sets)
	ePM_1 75%	PZ-15RFP3-E	PZ-25RFP3-E	PZ-35RFP3-E	PZ-50RFP3-E	PZ-65RFP3-E	PZ-80RFP3-E	PZ-100RFP3-E	PZ-80RFP3-E (2 sets)	PZ-100RFP3-E (2 sets)
CO_2 Sensors		PZ-70CSW-E (Wall mounted) / PZ-70CSD-E (Duct mounted)								
Vertical Mounting Brackets		PZ-1VS-E	PZ-1VS-E	PZ-1VS-E	PZ-1VS-E	PZ-2VS-E	PZ-2VS-E	PZ-2VS-E	-	-
Weather Proof Housings		-	KS4-KWH25RVX	KS4-KWH35RVX	KS4-KWH50RVX	KS4-KWH65RVX3	KS4-KWH80RVX	KS4-KWH100RVX	KS4-KWH150RVX	KS4-KWH200RVX

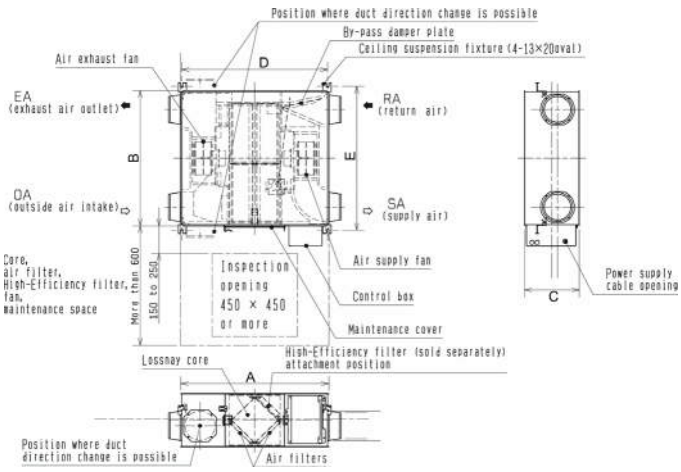
LGH-RVX3-E
Commercial Series



LGH-15RVX3-E DIMENSIONS

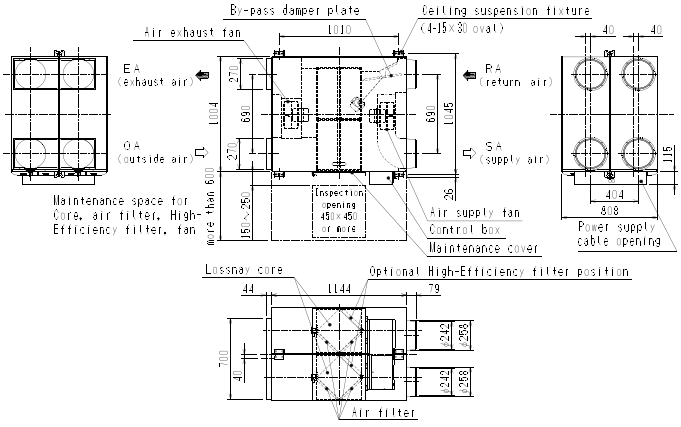


LGH-25-100RVX3-E DIMENSIONS

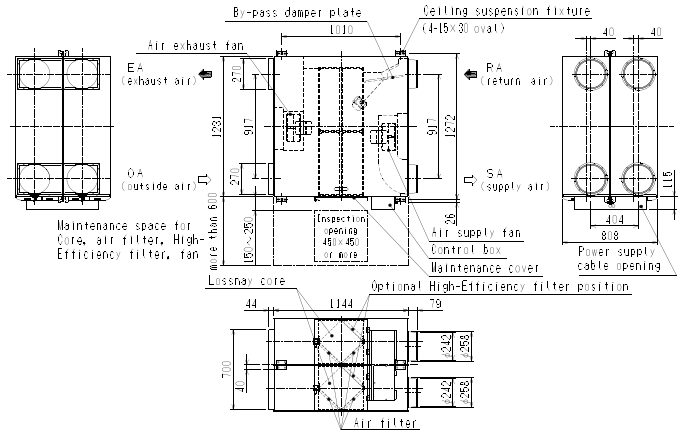


MODEL	DIMENSIONS			CEILING SUSPENSION FIXTURE PITCH		NOMINAL DUCT DIAMETER
	A	B	C	D	E	
LGH-25RVX3-E	780	735	289	768	782	150
LGH-35RVX3-E	888	874	331	875	921	150
LGH-50RVX3-E	888	1016	331	875	1063	200
LGH-65RVX3-E	908	954	404	895	1001	200
LGH-80RVX3-E	1144	1004	404	1131	1051	250
LGH-100RVX3-E	1144	1231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

LGH-160RVX3-E DIMENSIONS



LGH-200RVX3-E DIMENSIONS



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Note: The fuse rating is for guidance only and 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), R290 (GWP:3), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R454C (GWP:148), R1234ze (GWP:7) or R1234yf (GWP:4). *These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).

Effective as of July 2024

Green Gateway greengateway.mitsubishielectric.co.uk

CITY MULTI

SYSTEM SCHEMATIC DWG.

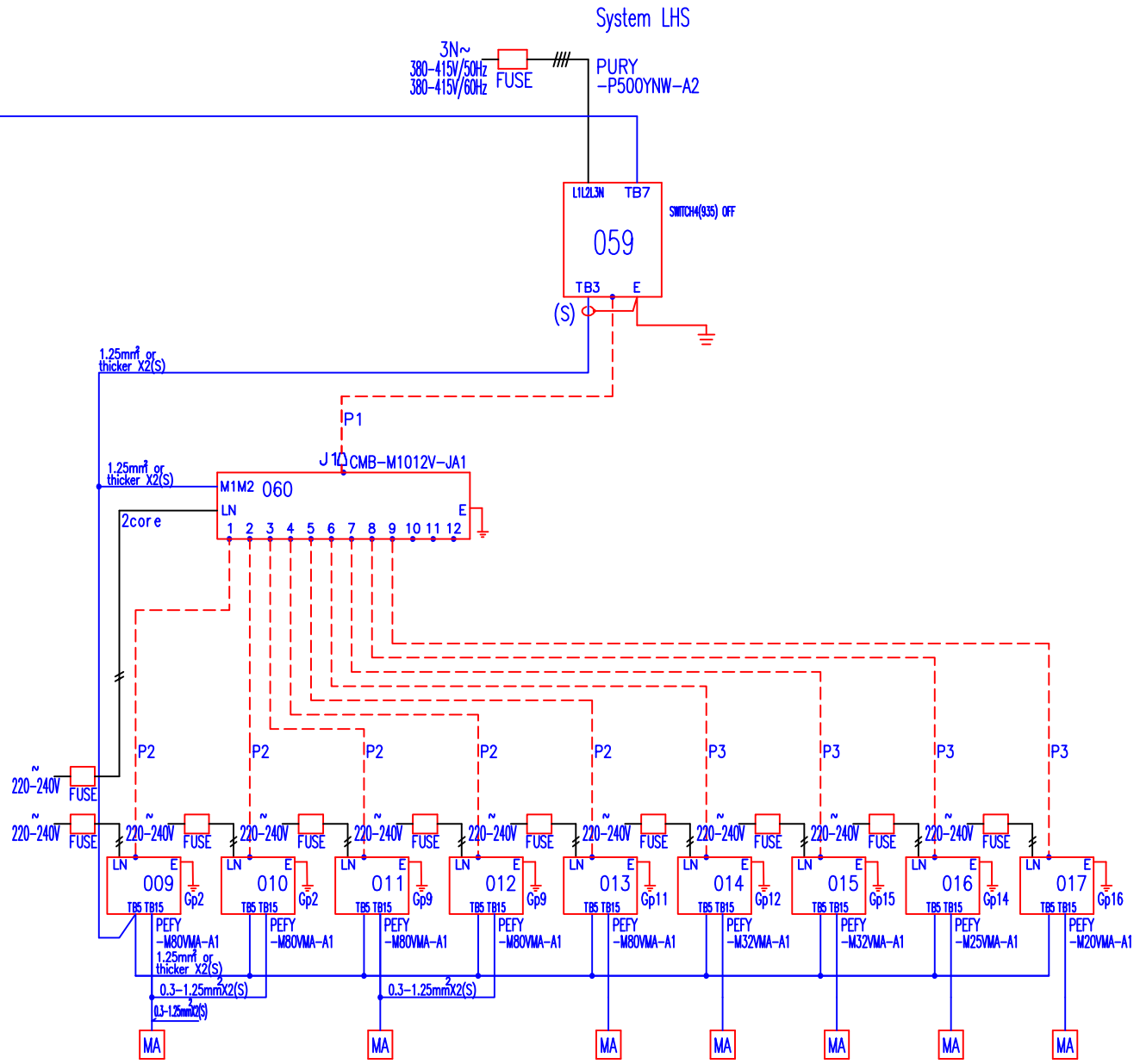
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Appropriate Circuit Protection Device in accordance with local government regulations are mandatory required such as GFI(inverter type) and MB etc.
Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.
1.25mm²(16 AWG) : 1.25mm²(16 AWG) or more. 1.25mm²(16 AWG) : 1.25mm²(16 AWG) or more.
Warning: HWRF pipe size is dependent on pipe length, please confirm before implementation.

DIAGRAM SYMBOL LEGEND	
DISPLAY	DESCRIPTION
-#- -###-	POWER WIRE
———	CONTROL WIRE
- - - - -	REF. PIPE / WATER PIPE
——//——	POWER SIGNAL WIRE

The symbol of replace judgment	
Symbol	Definition
#1	Standard
#2	Usable (Unit performance will be affected.)
#3	Usable (Refrigerant charge will be limited.)
#4	Usable (Piping length will be limited.)
#5	Piping length and vertical separation will be limited.

PIPING LIST	
SYMBOL	BRANCH PIPE MODEL NAME
J1	CMY-R302S-G1
SYMBOL	LIQUID PIPE/GAS PIPE SIZE
P1	22.2 / 28.58
P2	9.52 / 15.88
P3	6.35 / 12.7



REMARKS

Kooltech Ltd

PREPARED ON 2024/11/14

CITY MULTI

SYSTEM SCHEMATIC DWG.

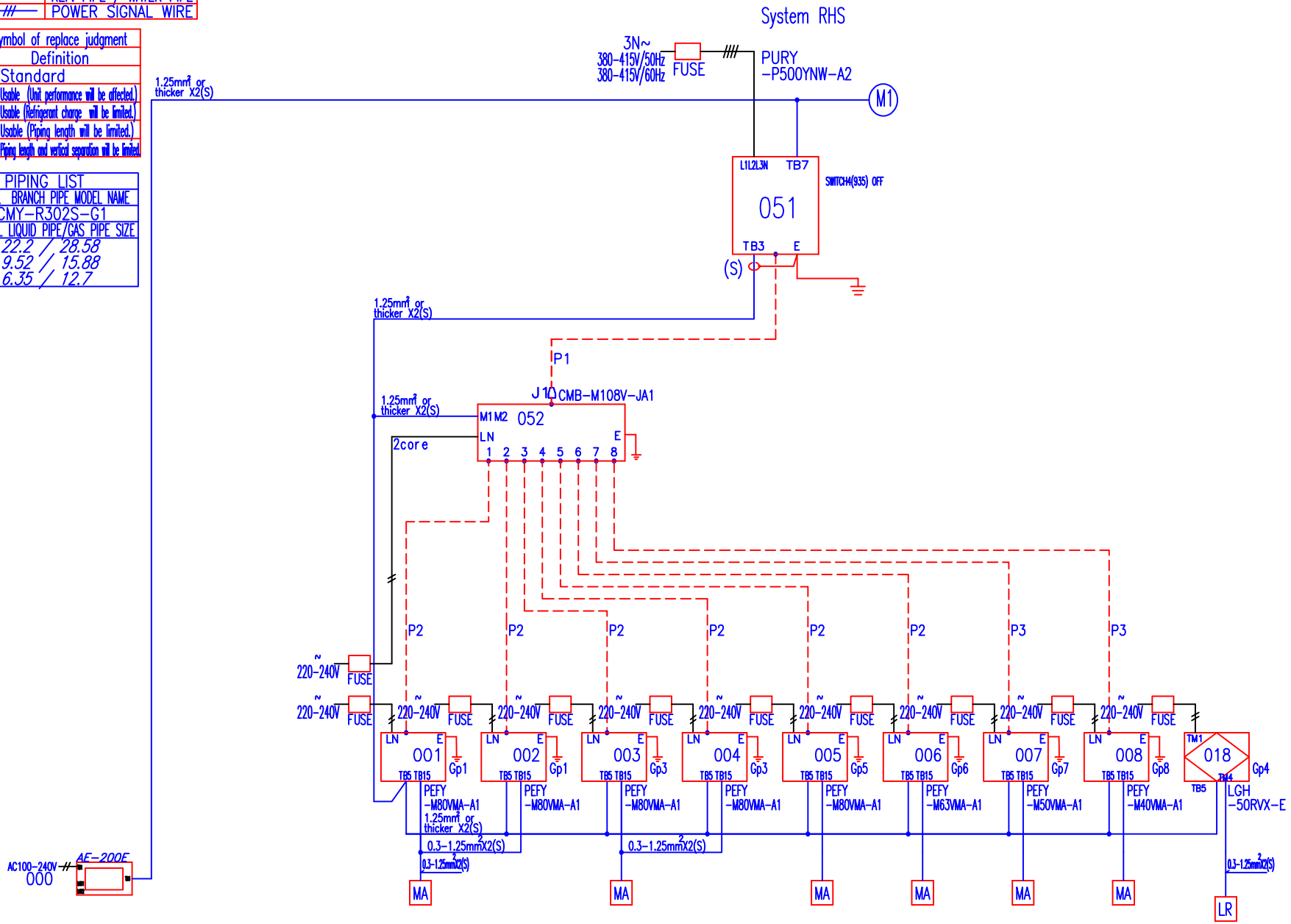
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