

TRANSMITTAL FORM

TO: **Jenner Construction**

PROJECT: **1873 Gravesend**

FOR THE ATTENTION OF: **Steve Restall**

SUBMITTAL NO: **1873 -HCL-ZZ-XX-TS-M-0601**

DATE: **02.04.24**

REV: **P01**

Please find enclosed the following:

Drawings ☐ Samples ☐ Specifications ☒ Technical submittal ☒

Change Order ☐ Other ☐

Please find attached for your comments/approval manufacturers Information and technical data associated with the:

Air Conditioning System & Associated Equipment

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PREPARED BY:

Adam Hill

FOR HARNISS CONTRACTING LTD

Please acknowledge safe receipt of the above-mentioned transmittal(s) with your comments/approval by signing below:

Acknowledgement required no later than: **16/04/24**

REMARKS

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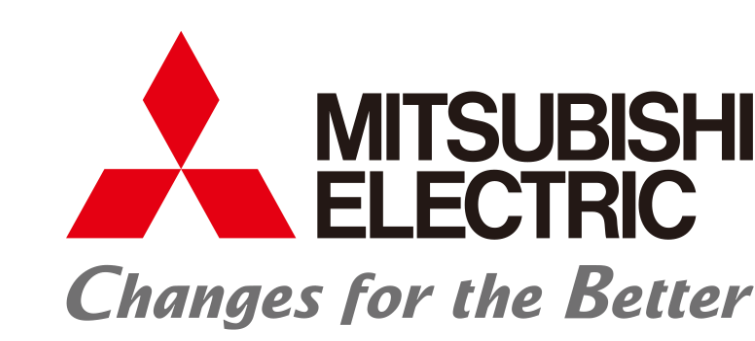
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SIGNED BY:
(CLIENT)

DATE:



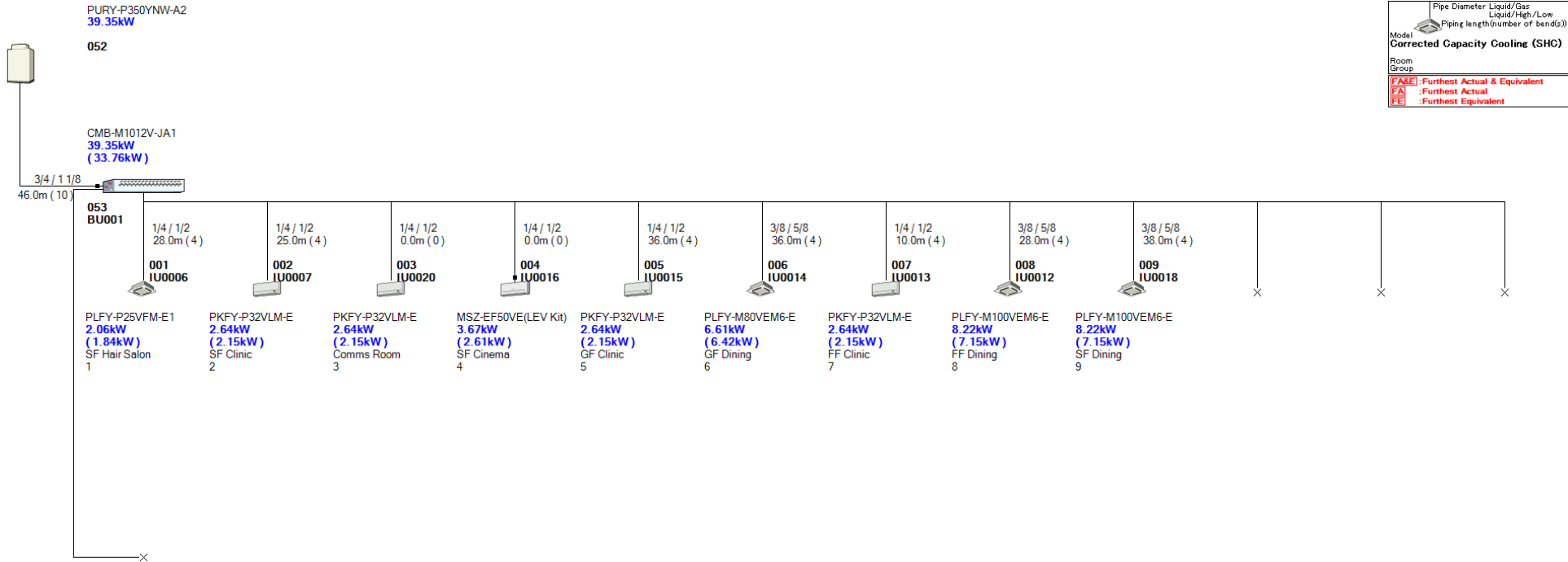
Mitsubishi Electric - Technical Data Schedule

Project:

Ref:

Date:2024/01/09

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
FCU_EC_Reference	Room Name	Indoor_Outdoor Model	Connection Ratio	Air On Coil DB Cooling	Air On Coil WB Cooling	Humidity	Actual Total Cooling	Actual Sensible Cooling	Air On Coil DB Heating	Air On Coil WB Heating	Humidity	Actual Heating	Supply Air	External Static Pressure	Sound pressure level	HxWxD	Return air spigot size	Supply air spigot size	Weight	MCA	Rated Power Input Cooling	Corrected Power Input Cooling	Rated Power Input Heating	Corrected Power Input Heating	Rated Current per Phase Cooling	Rated Current per Phase Heating
				deg C	deg C	%	kW	kW	deg C	deg C	%	kW	m3/min	Pa	dB <A>	mm			kg	Amps.	kW	kW	kW	kW	Amps.	Amps.
	SF Hair Salon	PLFY-P25VFM-E1		27.0	19.0	47	2.06	1.84	20.0			2.35	6.5 - 8.0 - 9.0	0	26-30-33	208 x 570 x 570	-	-	14	0.29	0.02		0.02	0.22	0.17	
	SF Clinic	PKFY-P32VLM-E		27.0	19.0	47	2.64	2.15	20.0			2.94	4.3 - 5.4 - 6.9 - 8.4	0	24-31-37-41	299 x 773 x 237	-	-	11	0.44	0.04		0.03	0.35	0.3	
	Comms Room	PKFY-P32VLM-E		27.0	19.0	47	2.64	2.15	20.0			2.94	4.3 - 5.4 - 6.9 - 8.4	0	24-31-37-41	299 x 773 x 237	-	-	11	0.44	0.04		0.03	0.35	0.3	
	SF Cinema	MSZ-EE50VE(LEV Kit)		27.0	19.0	47	3.67	2.61	20.0			4.27	-	0	30-33-36-40-43	-	-	-	-	0.4	0.02		0.03	0.18	0.32	
	GF Clinic	PKFY-P32VLM-E		27.0	19.0	47	2.64	2.15	20.0			2.94	4.3 - 5.4 - 6.9 - 8.4	0	24-31-37-41	299 x 773 x 237	-	-	11	0.44	0.04		0.03	0.35	0.3	
	GF Dining	PLFY-M80VEM6-E		27.0	19.0	47	6.61	6.42	20.0			7.35	16 - 20 - 23 - 35	0	28-33-37-46	298 x 840 x 840	-	-	27	1.22	0.12		0.12	0.97	0.94	
	FF Clinic	PKFY-P32VLM-E		27.0	19.0	47	2.64	2.15	20.0			2.94	4.3 - 5.4 - 6.9 - 8.4	0	24-31-37-41	299 x 773 x 237	-	-	11	0.44	0.04		0.03	0.35	0.3	
	FF Dining	PLFY-M100VEM6-E		27.0	19.0	47	8.22	7.15	20.0			9.19	17 - 22 - 28 - 35	0	29-35-41-46	298 x 840 x 840	-	-	27	1.22	0.12		0.12	0.97	0.94	
	SF Dining	PLFY-M100VEM6-E		27.0	19.0	47	8.22	7.15	20.0			9.19	17 - 22 - 28 - 35	0	29-35-41-46	298 x 840 x 840	-	-	27	1.22	0.12		0.12	0.97	0.94	
		CMB-M1012V-JA1											-			252 x 1,135 x 622	-	-	60	1.24	0.21(230V)		0.102(230V)			
		PURY-P350YNW-A2	136.6%	35.0			39.35	33.76	7.0	6.0	87	44.13	250	0-30-60-80	62.5/64.0	1,858 (1,798 without legs) x 1,240 x 740	-	-	269	27.6	14.92	15.52	13.88	12.61	25.1-23.9-23.0	23.4-22.2-21.4



Pipe Diameter	Liquid/Gas
Model	Liquid/High/Low
Corrected Capacity Cooling (SHC)	Piping length(number of bends)
Room	
Group	
FA&E	:Furthest Actual & Equivalent
FA	:Furthest Actual
FE	:Furthest Equivalent

Condition	
Cooling	
Indoor DB	27.0 °C
Humidity	47 %
Indoor WB	19.0 °C
Outdoor DB	35.0 °C
Heating	
Indoor DB	20.0 °C
Outdoor DB	7.0 °C
Humidity	87 %
Outdoor WB	6.0 °C

Project No.

09/01/2024



MITSUBISHI ELECTRIC CORPORATION

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Centralized Ctrl Sys1

>System Configuration

> Outdoor unit / Indoor unit / Controller

Refrigeran t system	Outdoor unit			Room	Indoor unit			Controller		Group name
	Ref.	Model name			Ref.	Model name	Add.	Model name	Add.	
		Add.								
VRF System		PURY- P350YNW-A2		SF Hair Salon		PLFY-P25VFM-E1	001	PAR-41MAA		1
		52			SF Clinic		PKFY-P32VLM-E	002	PAR-41MAA	
		CMB-M1012V- JA1		Comms Room		PKFY-P32VLM-E	003	PAR-41MAA		3
		53			SF Cinema		MSZ-EF50VE(LEV Kit)	004	PAR-41MAA	
				GF Clinic		PKFY-P32VLM-E	005	PAR-41MAA		5
					GF Dining		PLFY-M80VEM6-E	006	PAR-41MAA	
				FF Clinic		PKFY-P32VLM-E	007	PAR-41MAA		7
					FF Dining		PLFY-M100VEM6- E	008	PAR-41MAA	
				SF Dining		PLFY-M100VEM6- E	009	PAR-41MAA		9

Centralized Ctrl Sys1

> Product information

>Controller

Model name	Product image*1	Qty	Description
PAR-41MAA		9	MA remote controller

>PI/AI/DIDO controller

Model name	Product image*1	Qty	Description

>Air conditioning unit specifications

1. Outdoor unit

Sys.	Model name	Product image*1	Qty	Capacity(kW)		Power input (kW)		COP (kW/kW)*2			
VRF System	PURY-P350YNW-A2		1		Rated	Corrected	Rated	Corrected	Rated	Corrected	
				Cooling	40.00	39.35	14.92	15.52	2.68	2.53	
				Heating	45.00	44.13	13.88	12.61	3.24	3.49	
				Conditions					Dimension(mm)		Net weight
					D.B.(deg C)	W.B.(deg C)	Humidity(%)	Water inlet(deg C)	H X W X D		(kg)
				Cooling	35.0	-	-	-	1,858 (1,798 without legs) x 1,240 x 740		269
				Heating	7.0	6.0	87	-			

2. BC controller / Hydro unit

Sys.	Model name	Product image*1	Qty		Power input (kW)	Dimension(mm)	Net weight
VRF System	CMB-M1012V-JA1		1		Rated	H X W X D	
				Cooling	0.160(220V) / 0.211(230V) / 0.236(240V)	252 x 1,135 x 622	60
				Heating	0.090(220V) / 0.102(230V) / 0.114(240V)		

*1 The product image refers to a representative model. The actual product may differ from the image shown.

*2 Ability using in the COP calculation is corrected by capacity of connected indoor unit.

Centralized Ctrl Sys1

> Product information

3. Indoor unit

Sys.	Model name	Product image*1	Qty		Capacity(kW)		Sensible capacity(kW)		Power input (kW)	Current (A)	Air flow rate (m3/min)	External static pressure
VRF System	PLFY-P25VFM-E1		1		Rated	Corrected	Rated	Corrected	Rated			
				Cooling	2.80	2.06	2.10	1.84	0.02	0.22	6.5 - 8.0 - 9.0	*3
				Heating	3.20	2.35			0.02	0.17		
					Conditions			Dimension(mm)		Net weight		
					D.B.(deg C)	W.B.(deg C)	Humidity(%)	H X W X D		(kg)		
				Cooling	27.0	19.0	47	208 x 570 x 570		14		
				Heating	20.0	-	-					

Sys.	Model name	Product image*1	Qty		Capacity(kW)		Sensible capacity(kW)		Power input (kW)	Current (A)	Air flow rate (m3/min)	External static pressure
VRF System	PKFY-P32VLM-E		4		Rated	Corrected	Rated	Corrected	Rated			
				Cooling	3.60	2.64	2.17	2.15	0.04	0.35	4.3 - 5.4 - 6.9 - 8.4	*3
				Heating	4.00	2.94			0.03	0.3		
					Conditions			Dimension(mm)		Net weight		
					D.B.(deg C)	W.B.(deg C)	Humidity(%)	H X W X D		(kg)		
				Cooling	27.0	19.0	47	299 x 773 x 237		11		
				Heating	20.0	-	-					

Sys.	Model name	Product image*1	Qty		Capacity(kW)		Sensible capacity(kW)		Power input (kW)	Current (A)	Air flow rate (m3/min)	External static pressure
VRF System	MSZ-EF50VE(LEV Kit)		1		Rated	Corrected	Rated	Corrected	Rated			
				Cooling	5.00	3.67	4.60	2.61	0.02	0.18	-	*3
				Heating	5.80	4.27			0.03	0.32		
					Conditions			Dimension(mm)		Net weight		
					D.B.(deg C)	W.B.(deg C)	Humidity(%)	H X W X D		(kg)		
				Cooling	27.0	19.0	47	-		-		
				Heating	20.0	-	-					

*1 The product image refers to a representative model. The actual product may differ from the image shown.

*3 Please refer to the specification sheet in the "Product Features" section at the end.

Centralized Ctrl Sys1

> Product information

3. Indoor unit

Sys.	Model name	Product image*1	Qty		Capacity(kW)		Sensible capacity(kW)		Power input (kW)	Current (A)	Air flow rate (m3/min)	External static pressure
VRF System	PLFY-M80VEM6-E		1		Rated	Corrected	Rated	Corrected	Rated			
				Cooling	9.00	6.61	7.77	6.42	0.12	0.97	16 - 20 - 23 - 35	*3
				Heating	10.00	7.35			0.12	0.94		
					Conditions			Dimension(mm)		Net weight		
					D.B.(deg C)	W.B.(deg C)	Humidity(%)	H X W X D		(kg)		
				Cooling	27.0	19.0	47	298 x 840 x 840		27		
				Heating	20.0	-	-					

Sys.	Model name	Product image*1	Qty		Capacity(kW)		Sensible capacity(kW)		Power input (kW)	Current (A)	Air flow rate (m3/min)	External static pressure
VRF System	PLFY-M100VEM6-E		2		Rated	Corrected	Rated	Corrected	Rated			
				Cooling	11.20	8.22	8.87	7.15	0.12	0.97	17 - 22 - 28 - 35	*3
				Heating	12.50	9.19			0.12	0.94		
					Conditions			Dimension(mm)		Net weight		
					D.B.(deg C)	W.B.(deg C)	Humidity(%)	H X W X D		(kg)		
				Cooling	27.0	19.0	47	298 x 840 x 840		27		
				Heating	20.0	-	-					

4. Branch/Header/Twinning kit/Valve kit

Sys.	Model name	Product image*1	Qty	Description
-	-		-	-

> Ventilators

Model name	Product image*1	Qty	Description	Fan Speed	Air Volume(m3/h)
-		-	-	-	-

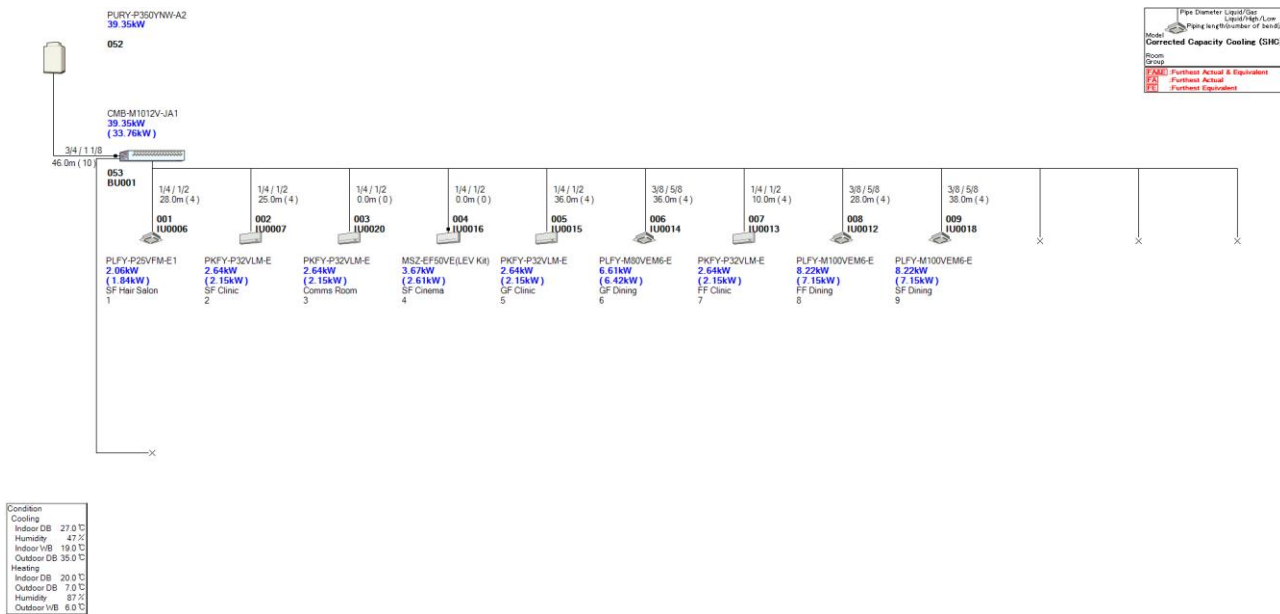
*1 The product image refers to a representative model. The actual product may differ from the image shown.

*3 Please refer to the specification sheet in the "Product Features" section at the end.

Centralized Ctrl Sys1 VRF System

> Piping Design

1. Piping diagram



Centralized Ctrl Sys1 VRF System

> Piping Design

2. Refrigerant Piping

	Liquid/High (inch)	Gas/Low(inch)	Low/Gas/Bypass/Oil(inch)	Total length(m)	Number of bent
BC controller to Indoor unit	1/4	1/2		99	16
BC controller to Indoor unit	3/8	5/8		102	12
Outdoor Unit to BC controller	3/4	1 1/8		46	10

3. Summary totals (Refrigerant piping)

Pipe Size (inch)	Total length(m)	Number of bent
1/4	99	16
3/8	102	12
1/2	99	16
5/8	102	12
3/4	46	10
1 1/8	46	10

4. Refrigerant charge

Additional refrigerant required	R410A	X	21.6	kg
Total refrigerant amount	R410A	X	29.6	kg

5. Water flow rate (for WY/WR2/HCM(Water Cooled))

Flow rate(m3/h)	Pressure drop(kPa)
-	-

Centralized Ctrl Sys1

> Electrical Wiring Information

Svs.	9	x	PAR-41MAA
	Power supply info.		
	Power source:	-	
	MCA(A):	-	
	Max.Fuse(A):	-	
	Connection:	-	
	Power supply cable:	-	
	size	-	
	Transmission info.		
	Connection:	-	
	Transmission cable:	Sheathed 2-core cable (unshielded) CVV	
	size	0.3mm2	

Svs.	1	x	PURY-P350YNW-A2
	Power supply info.		
	Power source:	3-phase 4-wire 380/400/415V 50Hz	
	MCA(A):	27.6	
	Max.Fuse(A):	-	
	Connection:	TB1(L1,L2,L3,N),ground	
	Power supply cable:	Metal conduit wiring	
	size	6.0mm2 or thicker(main) 6.0mm2 or thicker(ground)	
	Transmission info.		
	Connection:	TB3(M1,M2,S)TB7(M1,M2,S) *2	
	Transmission cable:	Shielding wire (2-core) CVVS, CPEVS or MVVS	
	size	1.25mm2 or thicker	

Svs.	1	x	CMB-M1012V-JA1
	Power supply info.		
	Power source:	1-phase 220/230/240V 50Hz	
	MCA(A):	1.24	
	Max.Fuse(A):	-	
	Connection:	-	
	Power supply cable:	-	
	size	-	
	Transmission info.		
	Connection:	-	
	Transmission cable:	-	
	size	-	

Svs.	1	x	PLFY-P25VFM-E1
	Power supply info.		
	Power source:	1-phase 220/230/240V 50Hz	
	MCA(A):	0.29	
	Max.Fuse(A):	-	
	Connection:	TB2(L,N),ground	
	Power supply cable:	Metal conduit wire	
	size	-	
	Transmission info.		
	Connection:	TB5(M1,M2,S)TB15(1,2) *4	
	Transmission cable:	Shielding wire (2-core) CVVS, CPEVS or MVVS	
	size	1.25mm2[AWG16] or thicker	

Svs.	4	x	PKFY-P32VLM-E
	Power supply info.		
	Power source:	1-phase 220/230/240V 50Hz	
	MCA(A):	0.44	
	Max.Fuse(A):	-	
	Connection:	TB2(L,N),ground	
	Power supply cable:	Metal conduit wire	
	size	1.5mm2 or thicker(main) *3 1.5mm2 or thicker(ground) *3	
	Transmission info.		
	Connection:	TB5(M1,M2,S)TB15(1,2) *4	
	Transmission cable:	Shielding wire (2-core) CVVS, CPEVS or MVVS	
	size	1.25mm2 or thicker	

Svs.	1	x	MSZ-EF50VE(LEV Kit)
	Power supply info.		
	Power source:	1-phase 230V 50Hz	
	MCA(A):	0.4	
	Max.Fuse(A):	-	
	Connection:	-	
	Power supply cable:	-	
	size	-	
	Transmission info.		
	Connection:	-	
	Transmission cable:	-	
	size	-	

*2 TB7 is used for centralized controller.

*3 The wiring size differs depending on the total operating current of the indoor unit. 1.5mm2 or thicker(16A or less), 2.5mm2 or thicker(25A or less), 4.0mm2 or thicker(32A or less)

*4 TB5 is used for ME remote controller. TB15 is used for MA remote controller.

Centralized Ctrl Sys1

> Electrical Wiring Information

Svs.	1	x	PLFY-M80VEM6-E
VRF System		Power supply info.	
		Power source:	1-phase 220/230/240V 50Hz
		MCA(A):	1.22
		Max.Fuse(A):	-
		Connection:	TB2(L,N),ground
		Power supply cable:	-
		size	1.5mm2 or thicker(main) *3
			1.5mm2 or thicker(ground) *3
			-
			-
		Transmission info.	
		Connection:	TB5(M1,M2,S)TB15(1,2) *4
		Transmission cable:	Shielding wire
			CVVS or CPEVS
			-
		size	1.25mm2 or thicker
			-

Svs.	2	x	PLFY-M100VEM6-E
VRF System		Power supply info.	
		Power source:	1-phase 220/230/240V 50Hz
		MCA(A):	1.22
		Max.Fuse(A):	-
		Connection:	TB2(L,N),ground
		Power supply cable:	-
		size	1.5mm2 or thicker(main) *3
			1.5mm2 or thicker(ground) *3
			-
			-
		Transmission info.	
		Connection:	TB5(M1,M2,S)TB15(1,2) *4
		Transmission cable:	Shielding wire
			CVVS or CPEVS
			-
		size	1.25mm2 or thicker
			-

*3 The wiring size differs depending on the total operating current of the indoor unit. 1.5mm2 or thicker(16A or less), 2.5mm2 or thicker(25A or less), 4.0mm2 or thicker(32A or less)

*4 TB5 is used for ME remote controller. TB15 is used for MA remote controller.

Summary List

> Equipment list

1. Controller

Model name	Quantity
PAR-41MAA	9

2. PI/AI/DIDO controller

Model name	Quantity
-	-

3. Outdoor unit

Model name	Quantity
PURY-P350YNW-A2	1

4. BC controller / Hydro unit

Model name	Quantity
CMB-M1012V-JA1	1

5. Indoor unit

Model name	Quantity
PLFY-P25VFM-E1	1
PKFY-P32VLM-E	4
MSZ-EF50VE(LEV Kit)	1
PLFY-M80VEM6-E	1
PLFY-M100VEM6-E	2

6. Branch/Header/Twinning kit/Valve kit

Model name	Quantity
-	-

7. Lossnay

Model name	Quantity
-	-

8. HUB (Field supply)

Model name	Quantity
-	-

Summary List

> Equipment list

9. Air volume controller (Field supply)

Model name	Quantity
-	-

10. Twinning pipe (Field supply)

Model name	Quantity
-	-

11. Piping parts (Field supply)

Model name	Quantity
-	-

Summary List

> Field providing list

1. Refrigerant Piping Materials

Pipe Size(inch)	Total length(m)	Number of bent
1/4	99	16
3/8	102	12
1/2	99	16
5/8	102	12
3/4	46	10
1 1/8	46	10

2. Refrigerant charge

Additional refrigerant required	R410A	X	21.6	kg
Total refrigerant amount	R410A	X	29.6	kg

3. Electrical cables

Power supply cable size	Cable type	Usage
1.5mm ² or thicker *4	Metal conduit wire *1 *2 *3	Indoor unit power supply cable (main and ground wire)
6.0mm ² or thicker	Metal conduit wiring	Outdoor unit power supply cable (main and ground)
Transmission cable size	Cable type	Usage
0.3mm ²	Sheathed 2-core cable (unshielded) CVV	MA remote controller transmission cable
1.25mm ² or thicker	Shielding wire CVVS or CPEVS	Indoor/outdoor transmission cable
1.25mm ² or thicker	Shielding wire (2-core) CVVS, CPEVS or MVVS	Indoor/outdoor transmission cable

*1 The wire size is the minimum value for metal conduit wiring. If the voltage drops, use a wire that is one rank thicker in diameter.
Make sure the power-supply voltage does not drop more than 10%.

*2 Specific wiring requirements should adhere to the wiring regulations of the region.

*3 Power supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord (design 245 IEC57). For example, use wiring such as YZW.

*4 The wiring size differs depending on the total operating current of the indoor unit.
1.5mm² or thicker(16A or less), 2.5mm² or thicker(25A or less), 4.0mm² or thicker(32A or less)

CVVS,MVVS : PVC insulated PVC jacketed shielded control cable

CPEVS : PE insulated PVC jacketed shielded communication cable

CVV : PVC insulated PVC sheathed control cable