# MITSUBISHI ELECTRIC MULTI AIR CONDITIONERS OPTIONAL PARTS MITSUBISHI ELECTRIC Outdoor Twinning Kit Installation Manual

• For your safety, thoroughly read the following instructions prior to installation.

## **Safety Precautions**

- · Thoroughly read the following "Safety Precautions" to ensure proper installation.
- · Observe the following important safety precautions at all times.
- · Hazards that can occur from incorrect handling are classified by the symbols below:

	Incorrect handling can result in death or serious injury.										
	<b>FION</b> Incorrect handling can result in bodily injury and/or structure damage.										
A WARNING											
Only a dealer installation.	or qualified technician should perform	Properly install all parts according to the instruction in the Installation Manual.									
Improper instal equipment dan	lation may result in refrigerant gas leakage and hage.	• If the wrong twinning pipe or wrong size connecting pipe is used, air conditioning performance will suffer.									
Consult your	any modifications or alterations. dealer for repair. lation may result in water leakage, electric shock,	When installing or relocating the unit, check that no substance other than the specified refrigerant (R410A) enters the refrigerant circuit.									
or fire.	f a refrigerant leak thoroughly ventilate	Any presence of foreign substance or air can cause abnormal pressure rise or explosion.									

In the event of a refrigerant leak, thoroughly ventilate the room.

• If refrigerant leaks and comes in contact with an open flam toxic gases will be generated.

If refrigerant leaks and comes in contact with an open flame, toxic gases will be generated.	If leaked refrigerant comes in contact with a heat source, such as a fan heater, stove, or electric grill, toxic gases will be				
	generated.				
	AUTION				
Properly dispose of packing materials.	Do not touch the refrigerant pipes and refrigerant circuit components with bare hands during and				
<ul> <li>Plastic bags can pose suffocation and choking hazards: keep them out of the reach of children. Tear the plastics bags before</li> </ul>	immediately after operation.				
disposing of them.	<ul> <li>During or immediately after operation, certain parts of the unit such as pipes and compressor may be either very cold or hot, depending on the state of the refrigerant in the unit at the time.</li> </ul>				

To reduce the risk of frostbites and burns, do not touch these

Insulation cover

Pipe B (Before the twinning)

Twinning kit

L-shape pipe D (After the twinning

Pipe C (After the twinning)

1

Twinning A

After installation, check for a refrigerant leak.

parts with bare hands.

# \* See the Installation Manual that came with the outdoor unit for installation instructions.

## 1. Confirming the Package Contents

The following twinning and accessory piping parts are included with the Twinning Kit (CMY-Y100VBK2, CMY-Y200VBK2, and CMY-Y300VBK2). Verify that all items are present before starting installation.

After checking, prepare the twinning kit by connecting the twinning pipes B, C, and D to the twinning pipe A.

\*Always use the twinning pipes included in the kit when preparing the twinning kit. If the field-supplied pipes do not fit the parts in the kit, use the accessory piping parts listed below.

(1) 10011	ning pi	Jes						(Unit: mm[in])
Model	Section	Label	Twinning A	Pipe B (Before the twinning)	Pipe C (After the twinning)	L-shape pipe D (After the twinning)	Insulation cover	Instruction
	Liquid	А	ID15.88[5/8]×ID12.7[1/2]× ID12.7[1/2]	OD15.88[5/8]-ID15.88[5/8] L83[3-9/32]	OD12.7[1/2]-ID12.7[1/2] L128[5-1/16]	OD12.7[1/2]-ID12.7[1/2]	Small	
CMY-Y100VBK2	Gas	D	ID28.58[1-1/8]×ID25.4[1]× ID25.4[1]	OD28.58[1-1/8]-ID28.58[1-1/8] L342[13-15/32]	OD25.4[1]-ID22.2[7/8] L190[7-1/2]	OD25.4[1]-ID22.2[7/8]	Large	
СМУ-У200УВК2	Liquid	С	ID19.05[3/4]×ID15.88[5/8]× ID15.88[5/8]	OD19.05[3/4]-ID19.05[3/4] L85[3-3/8]	OD15.88[5/8]-ID15.88[5/8] L123[4-27/32]	OD15.88[5/8]-ID15.88[5/8]	Small	
	Gas	в	ID31.75[1-1/4]×ID28.58 [1-1/8]×ID28.58[1-1/8]	OD31.75[1-1/4]-ID34.93[1-3/8] L337[13-9/32]	OD28.58[1-1/8]-ID28.58[1-1/8] L192[7-9/16]	OD28.58[1-1/8]-ID28.58[1-1/8]	Large	1
	Liquid Second row	A (Red)	ID15.88[5/8]×ID12.7[1/2]× ID12.7[1/2]	OD15.88[5/8]-ID19.05[3/4] L85[3-3/8]	OD12.7[1/2]-ID12.7[1/2] L128[5-1/16]	OD12.7[1/2]-ID12.7[1/2]	Small	(This sheet)
	Liquid First row	C (Red)	ID19.05[3/4]×ID15.88[5/8]× ID15.88[5/8]	OD19.05[3/4]-ID19.05[3/4] L85[3-3/8]	OD15.88[5/8]-ID19.05[3/4] L125[4-15/16]	OD15.88[5/8]-ID15.88[5/8]	Small	
CMY-Y300VBK2 -	Gas Second row	D (Red)	ID28.58[1-1/8]×ID25.4[1]× ID25.4[1]	OD28.58[1-1/8]-ID34.93[1-3/8] L337[13-9/32]	OD25.4[1]-ID28.58[1-1/8] L192[7-9/16]	OD25.4[1]-ID28.58[1-1/8]	Large	
	Gas First row	B (Red)	ID31.75[1-1/4]×ID28.58 [1-1/8]×ID28.58[1-1/8]	OD31.75[1-1/4]-ID38.1[1-1/2] L339[13-3/8]	OD28.58[1-1/8]-ID34.93[1-3/8] L187[7-3/8]	OD28.58[1-1/8]-ID28.58[1-1/8]	Large	

Packa	ge unit na	ame			A0							Unit model	Liquid	Gas		
		Outdoor	' unit1		B0							Unit model	E or G or I	F or H or	·J	
Component unit nan	1e	Outdoor			CO							A1	A2	A3		
Outdoor unit3			D0							B1	B2	B3				
Outdoo	or Twinnin				E0					Twinning pipe~Outd	oor unit	C1	C2	C3		
Indoor unit~Twinning pig		iquid	A		FO					i i i i i i i i i i i i i i i i i i i	oor anne	D1	D2	D3	_	
300		Gas	В		GO							E1	E2	E3	_	
vinning pipe1~Twinning p		iquid Gas	<u>C</u>		H0 I0							F1	F2	F3	(Un	it: mm[in])
								(Unit: r			A1	B1	C1	D1	E1	F1
	A0	B0	C0	D0	E0	F0	G0	HO	10		A2	B2	C2	D2	E2	F2
	P950	P400	P300	P250							A3 P250	B3 P300	C3 P350	D3 P400	E3 P450	F3
	P1000	P400	P300	P300							ø9.52	2 ø12.7	ø12.7	ø15.88	ø15.88	
	P1050	P400	P350	P300	CMY-Y300VBK2	ø19.05	ø41.28	ø19.05	ø34.93		[3/8](*	) [1/2](*)	[1/2](*)	[5/8](*)	[5/8](*)	-
	P1100	P400	P350 P350	P350	CMY-Y300VBK2	[3/4]	[1-5/8](*)		[1-3/8]		ø22.2	2 ø 22.2	ø28.58	ø28.58	ø28.58	_
	P1150 P1200	P450 P450	P350 P400	P350 P350						PUHY-**YHM	[7/8](* EP20		[1-1/8]	[1-1/8]	[1-1/8]	
PUHY-**Y(S)HM	P1200	P450 P450	P400 P450	P350							Ø9.52		-	-	_	-
PUH 1-** 1(5) HIVI	EP700	EP300	EP200	EP200							[3/8](*	) [1/2](*)	-	-	-	-
	EP750	EP300		EP200	-	ø19.05 [3/4]	ø34.93		ø34.93 [1-3/8]		ø19.0	5 ø 22.2	_	_	_	_
	EP800		EP300	EP200	CMV-V300VBK2		[1-3/8](*)	ø19.05			[3/4](*					
	EP850	EP300		P250			ø41.28	[3/4]		PUHY-**THM	P250 ø9.52		P350 ø12.7	P400 ø15.88	P450 ø15.88	-
	EP900	EP300		EP300			[1-5/8](*)				[3/8](*		[1/2](*)	[5/8](*)	[5/8](*)	-
	P950	P400	P300	P250	-					PUHY-**YHMU	ø22.2		ø28.58	ø28.58	ø28.58	_
	P1000	P400	P300	P300							[7/8](*		[1-1/8]	[1-1/8]	[1-1/8]	_
	P1050	P400	P350	P300		ø19.05	ø41.28	ø19.05	ø34.93		P72	P96	P120	-	-	-
PUHY-**T(S)HM	P1100	P400	P350	P350	CMY-Y300VBK2		[1-5/8](*)				ø9.52 [3/8](*		ø12.7 [1/2](*)	-	-	-
	P1150	P450	P350	P350	]						ø19.0		ø22.2			
	P1200	P450	P400	P350							[3/4](*	(7/8](*)	[7/8](*)	-	-	-
	P1250	P450	P450	P350							P72	P96	P120	-	-	-
	P264	P120	P72	P72			ø34.93			PUHY-**THMU	ø9.52 [3/8](*	2 ø9.52 () [3/8](*)	ø12.7 [1/2](*)	-	-	-
	P288	P120	P96	P72		2 ø19.05 [3/4]	[1-3/8](*)	ø19.05 [3/4]	ø34.93		ø19.0		ø22.2			
PUHY-**Y(S)HMU	P312	P120	P120	P72	CMY-Y300VBK2				[1-3/8]		[3/4](*	) [7/8](*)	[7/8](*)	-	-	-
	P336	P120	P120	P96			ø41.28 [1-5/8](*)				P200		P300	P350	P400	P450
	P360 P264	P120 P120	P120 P72	P120 P72			[1-0/0]()			PUHY-**YHC	ø9.52 [3/8](*		ø12.7 [1/2](*)	ø12.7 [1/2](*)	ø15.88 [5/8](*)	ø15.88 [5/8](*)
	P264 P288	P120	P72 P96	P72		10	ø34.93			FURT-**TRC	g19.0		ø22.2	ø28.58	ø28.58	ø28.58
PUHY-**T(S)HMU	P312	P120	P120	P72	CMY-Y300VBK2	Ø19.05	[1-3/8](*)	Ø19.05	05 ø34.93		[3/4](*		[7/8](*)	[1-1/8]	[1-1/8]	[1-1/8]
	P336	P120	P120	P96		[3/4]	ø41.28	[3/4]	[1-3/8]							
	P360	P120	P120	P120			[1-5/8](*)									
	P850(-AH)	P350	P300	P200												
	P900(-AH)	P350	P300	P250												
	P950	P400	P300	P250												
	P1000	P400	P300	P300		ø19.05	a41 29	ø19.05	ø34.93							
PUHY-**Y(S)HC	P1050	P400	P350	P300	CMY-Y300VBK2		[1-5/8](*)		[1-3/8]							
	P1100	P400	P350	P350		[5/4]		11								
	P1150	P400	P400	P350												
	P1200	P400	P400	P400												
	P1250	P450	P450	P350	1		1									

Three outdoor units				
	Unit model	Liquid	Gas	
	Unit model	E or G or I	F or H or	
	A1	A2	A3	
	D1	<b>B</b> 2	<b>B</b> 2	

Note: Refer to the figure below for the installation

Slope of the twinning pipes are at an angle within

Twinning pipe

position of the twinning pipe.

±15° to the horizontal plane

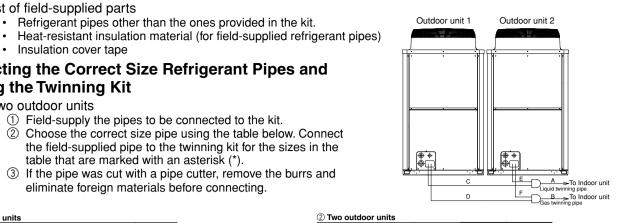
(2) Accessory piping parts (Unit: mm[in]													
Model	Section		Supplied pipe										
CMY-Y100VBK2	Liquid	OD12.7[1/2]-ID9.52[3/8] (2)	OD15.88[5/8]-ID12.7[1/2]										
	Gas	OD22.2[7/8]-ID28.58[1-1/8]	OD22.2[7/8]-ID19.05[3/4] (2)										
CMY-Y200VBK2	Liquid	OD15.88[5/8]-ID12.7[1/2] (2)											
	Gas	OD34.93[1-3/8]-ID41.28[1-5/8]											
CMY-Y300VBK2	Liquid	OD12.7[1/2]-ID9.52[3/8]	OD12.7[1/2]-ID15.88[5/8] (2)	OD15.88[5/8]-ID9.52[3/8]	OD15.88[5/8]-ID12.7[1/2]								
	Gas	OD28.58[1-1/8]-ID22.2[7/8] (3)	OD38.1[1-1/2]-ID41.28[1-5/8]	OD28.58[1-1/8]-ID19.05[3/4] (2)	OD38.1[1-1/2]-ID34.93[1-3/8]								

#### (3) List of field-supplied parts · Refrigerant pipes other than the ones provided in the kit.

 Insulation cover tape 2. Selecting the Correct Size Refrigerant Pipes and Using the Twinning Kit

# (1) Two outdoor units

- ① Field-supply the pipes to be connected to the kit. ② Choose the correct size pipe using the table below. Connect
- the field-supplied pipe to the twinning kit for the sizes in the table that are marked with an asterisk (\*). ③ If the pipe was cut with a pipe cutter, remove the burrs and
- eliminate foreign materials before connecting.



Liquid

A2

CorE DorF

A3

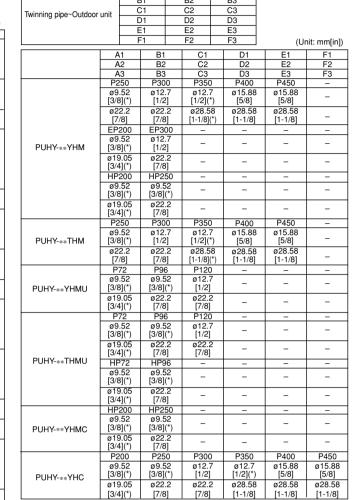
Unit model

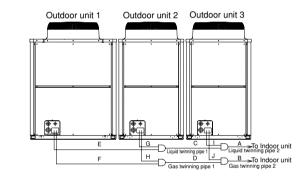
A1

1 Two outdoor units											2
Pac	kage	unit nan					A0				
Component unit na	me	Outdoor unit 1 Outdoor unit 2					B0				-
	0				2		C0				
	Out	ItIdoor Twinning Kit			^	D0 E0					
Indoor unit~Twinning	pipe	Ga				F0					
							FU			hit: mm[in])	,
		A0		30	CO			D0	E0	F0	
		2500		250	P25		ł		15.00	00 50	
		2550	P300		P25		CMY-Y	100VBK2	ø15.88 [5/8]	ø28.58 [1-1/8]	
	P600 P650		P350 P350		P25		ł		[5/8]	[1-1/0]	
		7650 700		350 350	P30 P35	-					4 -
		700 750		100	P35		ł			ø34.93	
		2800		150	P35		CMXX	200VBK2	ø19.05	[1-3/8]	
		850 9850		150 150	P40			2000012	[3/4]	ø41.28	
PUHY-**Y(S)HM		900		150 150	P40		ł			[1-5/8](*)	
		P400		200	EP2				ø12.7[1/2]	[1.0/0]()	1
		P450		200	EP2		1		012.7[1/2]		
		P500		300	EP2		1		~15.00	- 00 50	
		P550		300	P25		CMY-Y	(100VBK2	ø15.88 [5/8]	ø28.58 [1-1/8]	
		P600		300	EP3	-	1		[5/0]	[1-1/0]	
	EP650			350	EP3		1				
	HP400			200	HP2		0.00		ø15.88	ø28.58	
	H	P500	HP	250	HP2	50	CIMY-Y	100VBK2	[5/8]	[1-1/8]	
	P	°500	P2	250	P25	0					
	P550 P600		P3	300	P25	0		CMY-Y100VBK2	ø15.88	ø28.58	ΙΓ
			P3	350	P25	0			[5/8]	[1-1/8]	
	P	°650	P3	350	P30	0					
PUHY-**T(S)HM		700		350	P35					ø34.93	
		P750		100	P35			CMY-Y200VBK2	ø19.05 [3/4]	[1-3/8]	
	P800			50	P35		CMY-Y				
		850		50	P40				[3/4]	ø41.28	
		900		50	P45					[1-5/8](*)	
		144		72	P72		ł				
		2168		96	P72				~15.00	ø28.58	
PUHY-**Y(S)HMU		192		20	P72		CMY-Y	100VBK2	ø15.88 [5/8]	[1-1/8]	
. ,		216		20	P96		ł		[0/0]	[, •]	
		240 244		20 72	P12						
		144 168		72 96	P72		ł				
		192		20	P72		CMXX	(100VBK2	ø15.88	ø28.58	
PUHY-**T(S)HMU		216		20	P96			TUUVBRZ	[5/8]	[1-1/8]	
1.0111-***1(0)1100		240		20	P12		1				
		P144		P72	HP7				ø15.88	ø28.58	1 L
		P192		296	HP9		CMY-Y	(100VBK2	[5/8]	[1-1/8]	
		P400		200	HP2		0.00	(100) (D) (0	ø15.88	ø28.58	1
PUHY-**Y(S)HMC		P500		250	HP2		CMY-Y	100VBK2	[5/8]	[1-1/8]	
		0(-AH)		250	P20						
		2500		250	P25		1				
		°550		300	P25		CMY-Y	(100VBK2	ø15.88	ø28.58	
	P	°600	P3	350	P25	0	1		[5/8]	[1-1/8]	
PUHY-**Y(S)HC		°650		350	P30						
10H1-**1(3)HC	P	700	P3	350	P35	0				~04.00	I L
		750		100	P35		]		10.05	ø34.93	-
		900		100	P40	-	CMY-Y200VBK2	200VBK2	ø19.05	[1-3/8]	
		850		50	P40		l		[3/4]	ø41.28	
	P	900	P4	50	P45	0				[1-5/8](*)	]

(2) Three outdoor units

- ① Field-supply the pipes to be connected to the kit. Choose the correct size pipe using the table below. Connect the field-supplied pipe to the twinning kit for the sizes in the table that are marked with an asterisk (\*).
- ③ If the pipe was cut with a pipe cutter, remove the burrs and eliminate foreign materials before connecting.





2

4

# 3. Pipe Connection Example

Connect the pipes between outdoor units, referencing the figures below. <For two outdoor units>

#### (3) Slope of twinning pipes

Make sure the slope of the twinning pipes are at an angle within  $\pm 15^{\circ}$  to the horizontal plane.

If the slope exceeds the specified angle, the unit may be damaged.

(4) The length of the straight pipe between indoor units and the twinning pipe

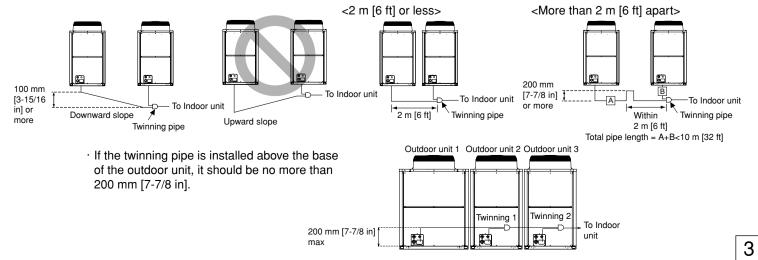
Use the pipes supplied in the twinning kit, and make sure the section of the field-supplied pipe that connects to the twinning pipe has at least 500 mm [19-11/16 in] of straight section. (The section of the fieldsupplied pipe that connects to the twinning pipe must have at least 500 mm [19-11/16 in] of straight section.) If the straight section is less than 500 mm [19-11/16 in], it may result in equipment damage.

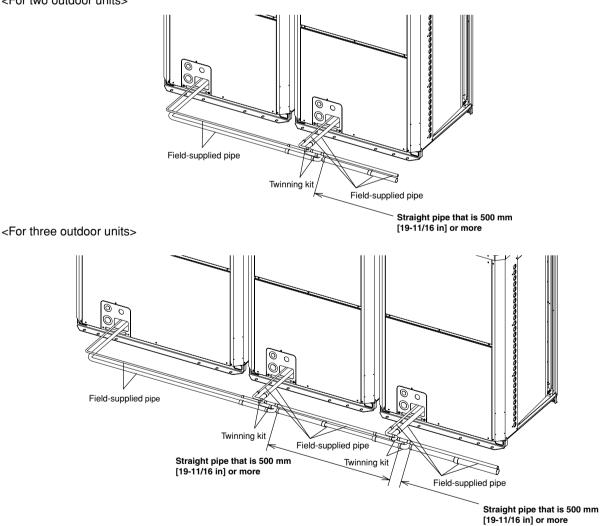
#### (5) Pipe connection

- When connecting the twinning kit to the outdoor unit, note the following:
- Make sure the pipes from the twinning pipe to the outdoor unit are sloped downwards (towards the twinning pipes). · If the piping on the outdoor unit side (from the twinning pipe) exceeds 2 m [6 ft], ensure a trap (gas pipe only) within 2 m
- [6 ft].

Make sure the height of the trap is 200 mm [7-7/8 in] or more.

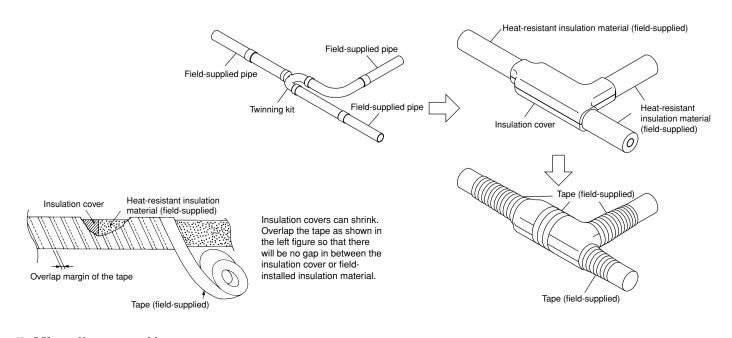
If there is no trap, oil can accumulate inside the pipe, causing a shortage of oil and may damage the compressor.





## 4. Insulation Cover Installation

Install the insulation cover on the twinning kit after brazing the pipes and twinning kit. Insulate all refrigerant pipes. Insulate the liquid and gas pipes separately, and pipes located inside the unit as well as the outside. Use heat-resistant insulation material (Heat resistant: at least 120 °C [248 °F], Thickness: liquid = 10 mm [13/32 in], gas = 20 mm [13/16 in]). Position the edges of the insulation cover and heat-resistant insulation material so as not to leave a gap, and then wrap the exterior perimeter of the pipe joints and middle with tape (field-supplied).



## 5. Miscellaneous Notes

Secure the field-supplied pipes with a pipe cover and a cable tie in place to keep them from coming in contact with other pipes as necessary.