MS-MU COOLING ONLY WALL-MOUNT NON-INVERTER SYSTEMS

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1. INDOOR UNITS

- MS-A09WA-1
- MS-A12WA-1

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2. OUTDOOR UNITS

- MU-A09WA
- MU-A12WA-1

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3-1. SPECIFICATIONS

- Wall-mounted indoor unit for residential applications
- Compact side discharge outdoor unit
- Zone control
- Quiet operation for both indoor and outdoor units
- Wireless remote controller is included
- Indoor unit powered from outdoor unit using A-Control
- Automatic restart following a power outage
- Self-check functon — onboard diagnostics
- Dry Mode function is standard
- Limited warranty: five years on parts and defects and seven years on compressors

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MS-A09WA MS-A12WA

Model name			MS-A09WA	MS-A12WA
External finish			White	
Power supply	V, phase, Hz		115, 1, 60	
Max.-fuse size (time delay) / Disconnect switch	A		15	
Min. circuit ampacity	A		1.2	
Fan motor	F.L.A		0.95	
Airflow Low–Med.–High–Powerful	COOL Dry (Wet)	CFM	183 - 261 - 335 - 367 (162 - 233 - 300 - 328)	222 - 286 - 406 - 446 (198 - 254 - 363 - 399)
Moisture removal	pt./h		2.7	3.2
Sensible Heat Factor			0.68	0.70
Sound level Low–Med.–High–Powerful	dB(A)		26 - 32 - 40 - 42	33 - 38 - 45 - 47
Cond. drain connection O.D.	in.		5/8	
Dimensions	W	in.	30-11/16	
	D		8-1/4	
	H		11/-3/4	
Weight	lb.		23	
Remote controller			Wireless type	
Control voltage (by built-in transformer)			115 VAC	

NOTE : Test conditions are based on ARI 210/240
❊1 : Rating conditions (cooling) — Indoor : 80˚FDB, 67˚FWB, Outdoor : 95˚FDB, (75˚FWB) Rated frequency : 60Hz

Operating Range

		Indoor intake air temperature	Outdoor intake air temperature
Cooling	Maximum	95˚FDB, 71˚FWB	115˚FDB
	Minimum	67˚FDB, 57˚FWB	67˚FDB

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MU-A09WA MU-A12WA

Item \ Model name			MS-A09WA	MS-A12WA
Capacity Rated(Minimum~Maximum)	Cooling ※1	Btu/h	9,500	12,000
Power consumption Rated(Minimum~Maximum)	Cooling ※1	W	870	1,070
EER ※1 [SEER] ※2	Cooling		10.9 [13.0]	11.2 [13.0]
OUTDOOR UNIT MODEL			MU-A09WA	MU-A12WA
External finish			Munsell 3Y 7.8/1.1	
Power supply		V, phase, Hz	115, 1, 60	
Max. fuse size (time delay)		A	15	20
Min. circuit ampacity		A	14	16
Fan motor		F.L.A	0.63	0.926
Compressor	Model		RN092WHDHT	RN110WHDHT
	Winding resistance (at 68°F) Ω		C-R 0.81 C-S 1.49	C-R 0.66 C-S 1.23
		R.L.A	9.30	10.82
		L.R.A	47	56
Refrigerant control			Capillary tube	
Sound level		dB(A)	47	52
Dimensions	W	in.	31-1/2	33-7/16
	D	in.	11-1/4	11-7/16
	H	in.	21-5/8	23-13/16
Weight		lb.	78	96
REMOTE CONTROLLER			Wireless type	
REFRIGERANT PIPING			Not supplied	
Refrigerant pipe size (Min. wall thickness)	Liquid	in.	1/4 (0.0315)	
	Gas	in.	3/8 (0.0315)	1/2 (0.0315)
Connection method	Indoor		Flared	
	Outdoor		Flared	
Between the indoor & outdoor units	Height difference	ft.	35	
	Piping length	ft.	65	
Refrigerant charge (R410A)			2lb.5oz.	3lb. 1oz.
Refrigerating oil (Model)		cc	350 (NE022)	

NOTE : Test conditions are based on ARI 210/240.
※1 : Rating conditions (cooling) — Indoor : 80˚FDB, 67˚FWB, Outdoor : 95˚FDB, (75˚FWB)

※2

(Unit : [°F])

	Mode	Test	Indoor air condition		Outdoor air condition	
			Dry bulb	Wet bulb	Dry bulb	Wet bulb
ARI	SEER (Cooling)	"A" Cooling Steady State at rated compressor Speed	80	67	95	(75)
		"B-2" Cooling Steady State at rated compressor Speed	80	67	82	(65)
		"B-1" Cooling Steady State at minimum compressor Speed	80	67	82	(65)
		Low ambient Cooling Steady State at minimum compressor Speed	80	67	67	(53.5)
		Intermediate Cooling Steady State At Intermediate compressor Speed	80	67	87	(69)

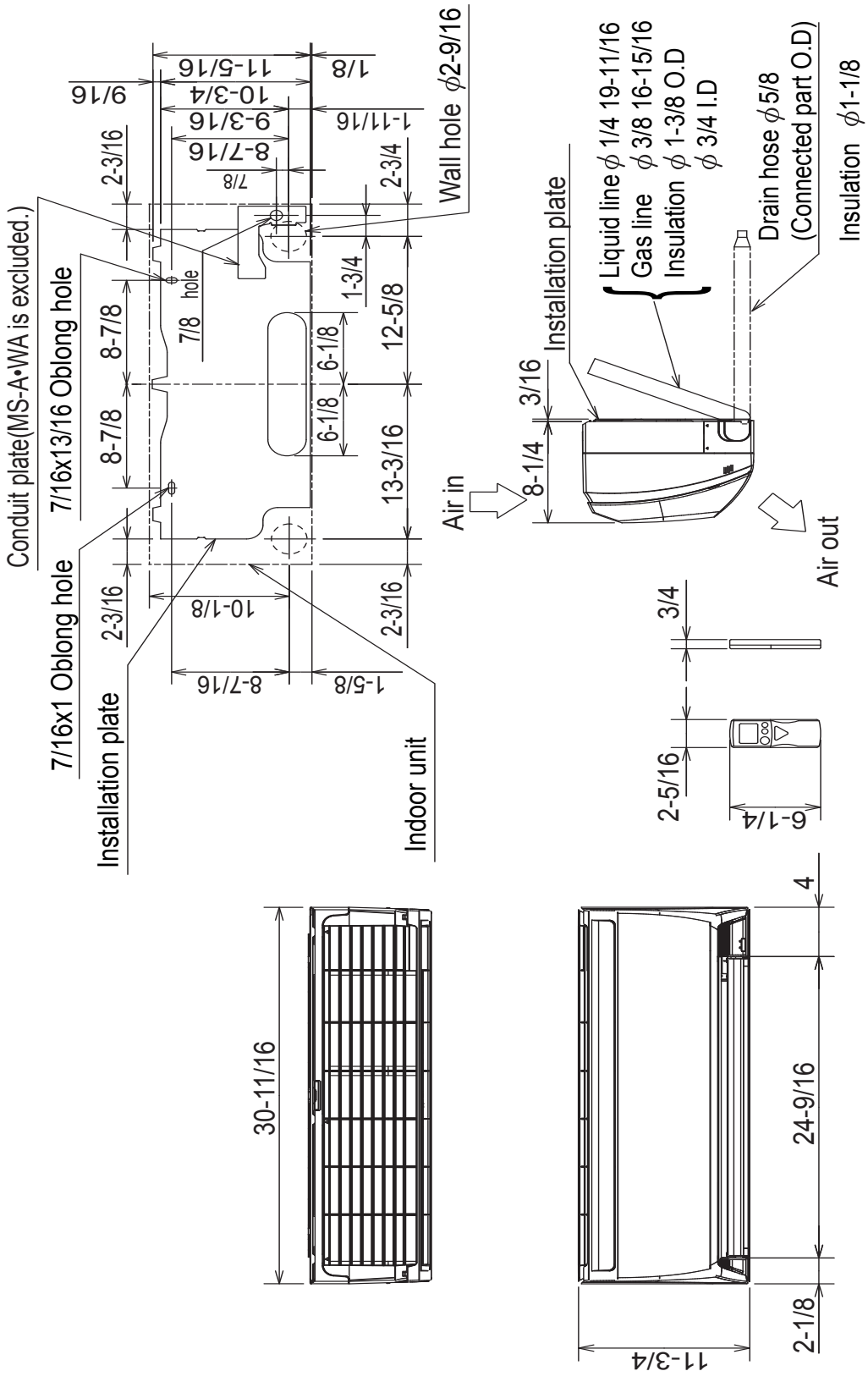
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3-2. EXTERNAL DIMENSIONS

MS-A09WA MS-A12WA

Unit: inch



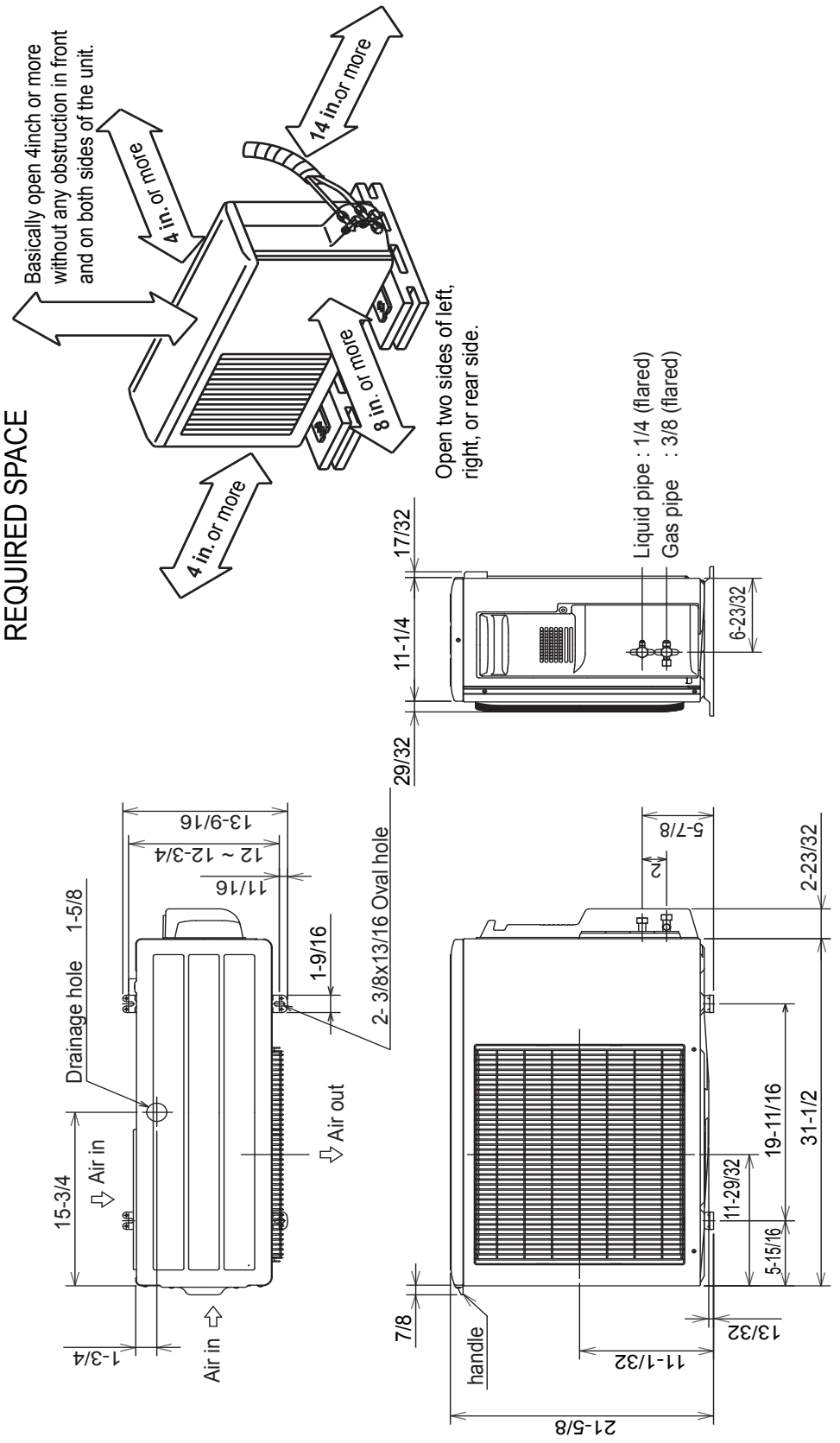
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3-2. EXTERNAL DIMENSIONS

MU-A09WA

Unit: inch



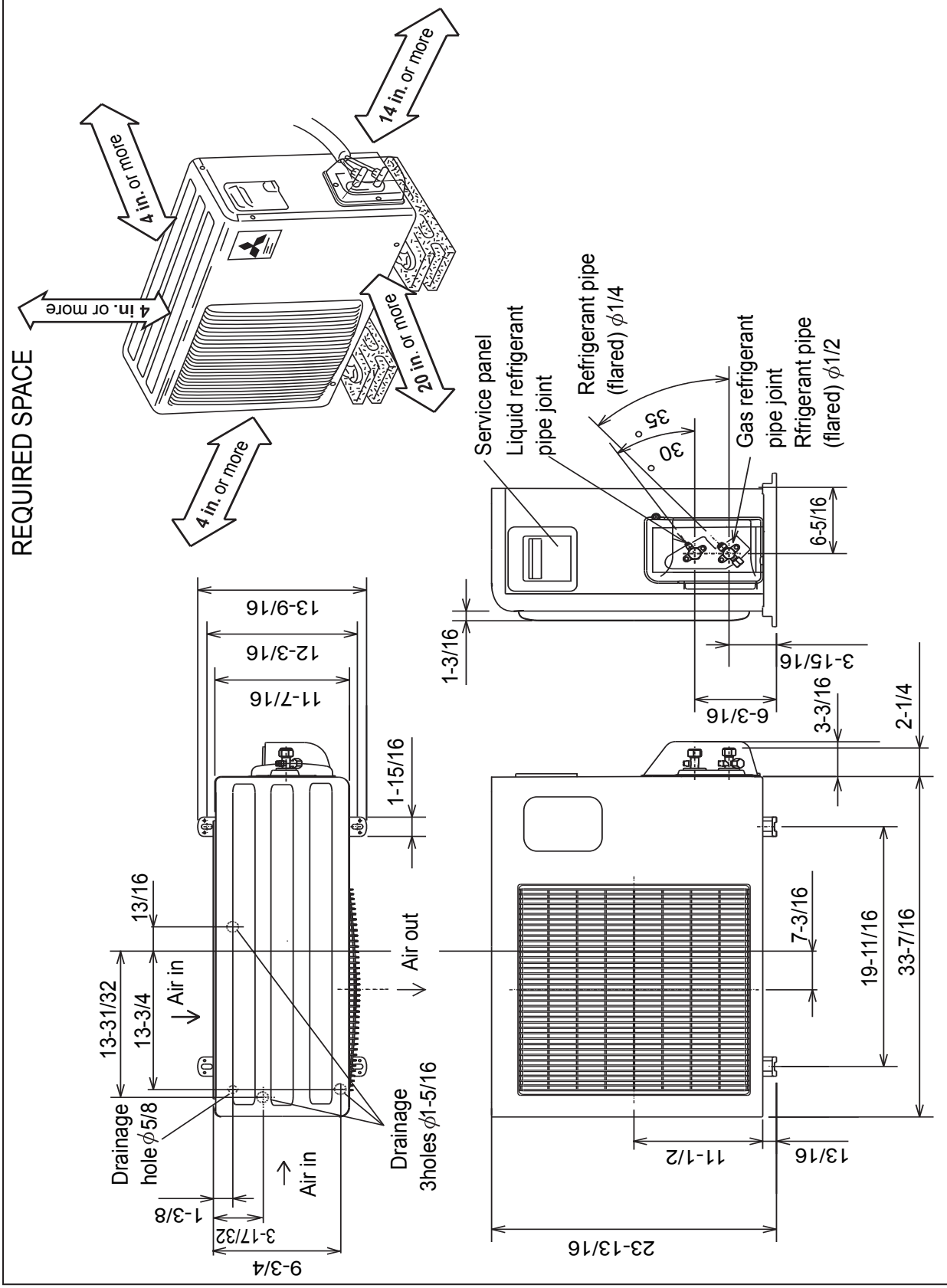
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3-2. EXTERNAL DIMENSIONS

MU-A12WA

Unit: inch



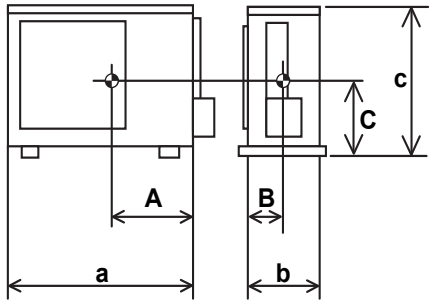
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3-3. CENTER OF GRAVITY

MS-A09WA MS-A12WA

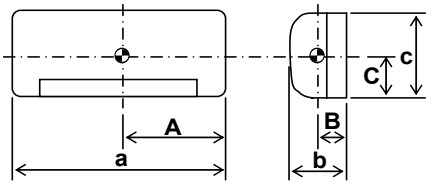
Unit: inch(mm)



Model name	A	B	C	a	b	c
MS-A09WA **MS-A12WA**	13 (330)	3-1/2 (90)	5-7/8 (150)	30-11/16 (780)	8-1/4 (210)	11-3/4 (298)

MU-A09WA MU-A12WA

Unit: inch(mm)

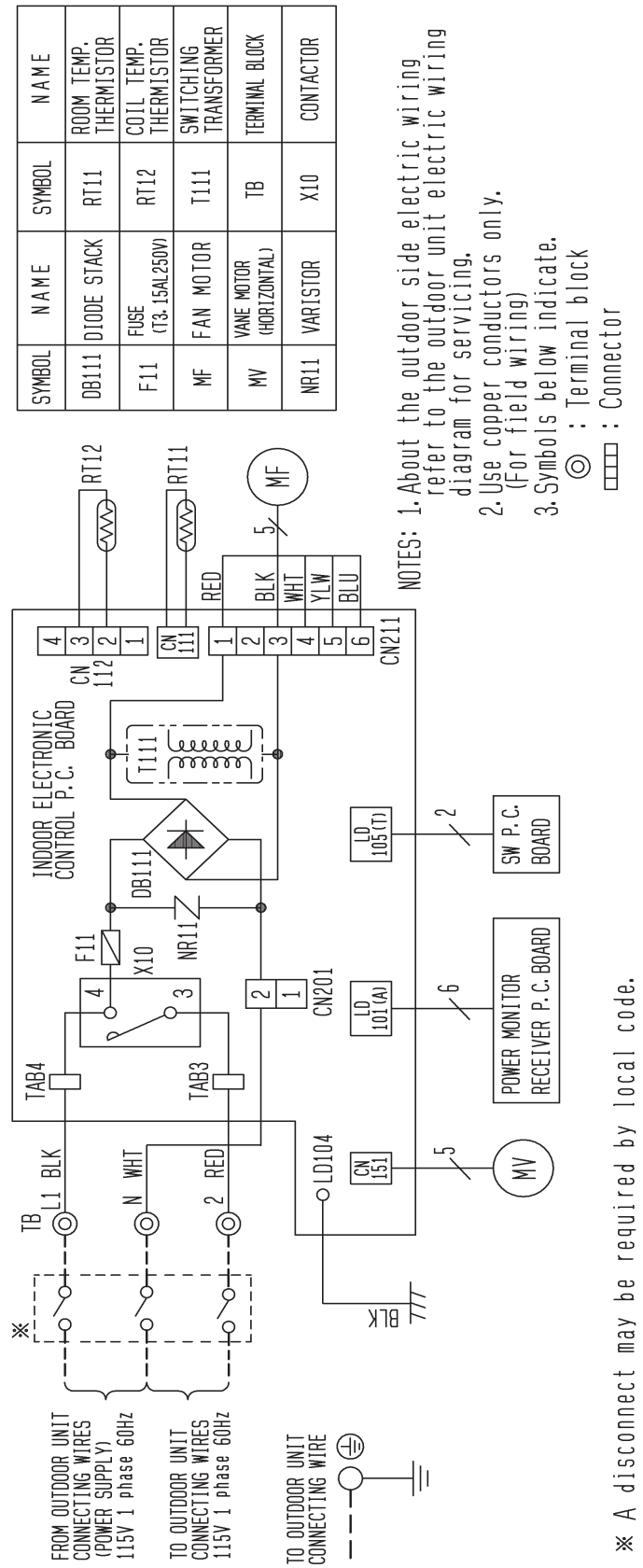


Model name	A	B	C	a	b	c
MU-A09WA	11-1/16 (280)	5-9/16 (140)	9-1/2 (240)	31-1/2 (800)	11-1/4 (285)	21-5/8 (550)
MU-A12WA	11-13/16 (300)	5-1/4 (133)	10-3/8 (263)	33-7/16 (850)	11-7/16 (290)	23-13/16 (605)

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MS-A09WA MS-A12WA



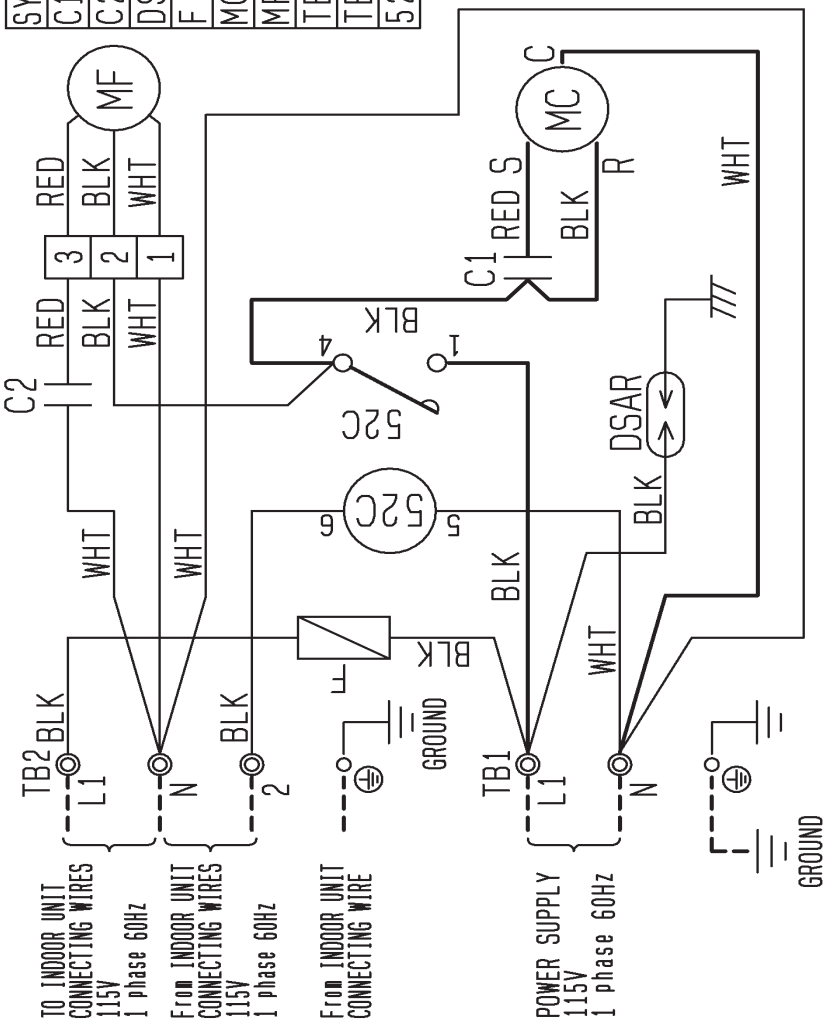
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MU-A09WA

SYMBOL	NAME
C1	COMPRESSOR CAPACITOR
C2	FAN MOTOR CAPACITOR
DSAR	SURGE ABSORBER
F	FUSE
MC	COMPRESSOR(INNER PROTECTOR)
MF	FAN MOTOR(INNER PROTECTOR)
TB1	TERMINAL BLOCK
TB2	TERMINAL BLOCK
52C	COMPRESSOR CONTACTOR

NOTES
1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2. Use copper conductors only(for field wiring).
3. Symbols below indicate.
◎:Terminal block □□□:Connector



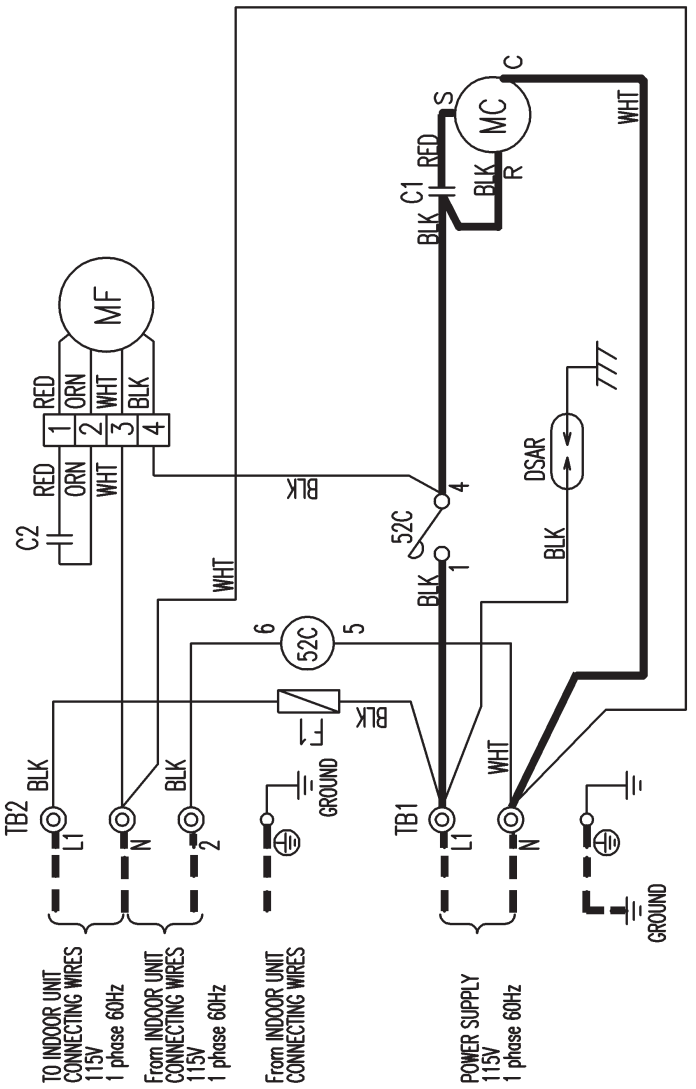
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MU-A12WA

SYMBOL	NAME
C1	COMPRESSOR CAPACITOR
C2	FAN MOTOR CAPACITOR
DSAR	SURGE ABSORBER
F1	FUSE (AC250V, 3.15A)
MC	COMPRESSOR (INNER PROTECTOR)
MF	FAN MOTOR (INNER PROTECTOR)
TB1	TERMINAL BLOCK
TB2	TERMINAL BLOCK
52C	COMPRESSOR CONTACTOR

NOTES: 1.About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2.Use copper conductors only (For field wiring).
3.Symbols below indicate.
◎:Terminal block □□□□:Connector

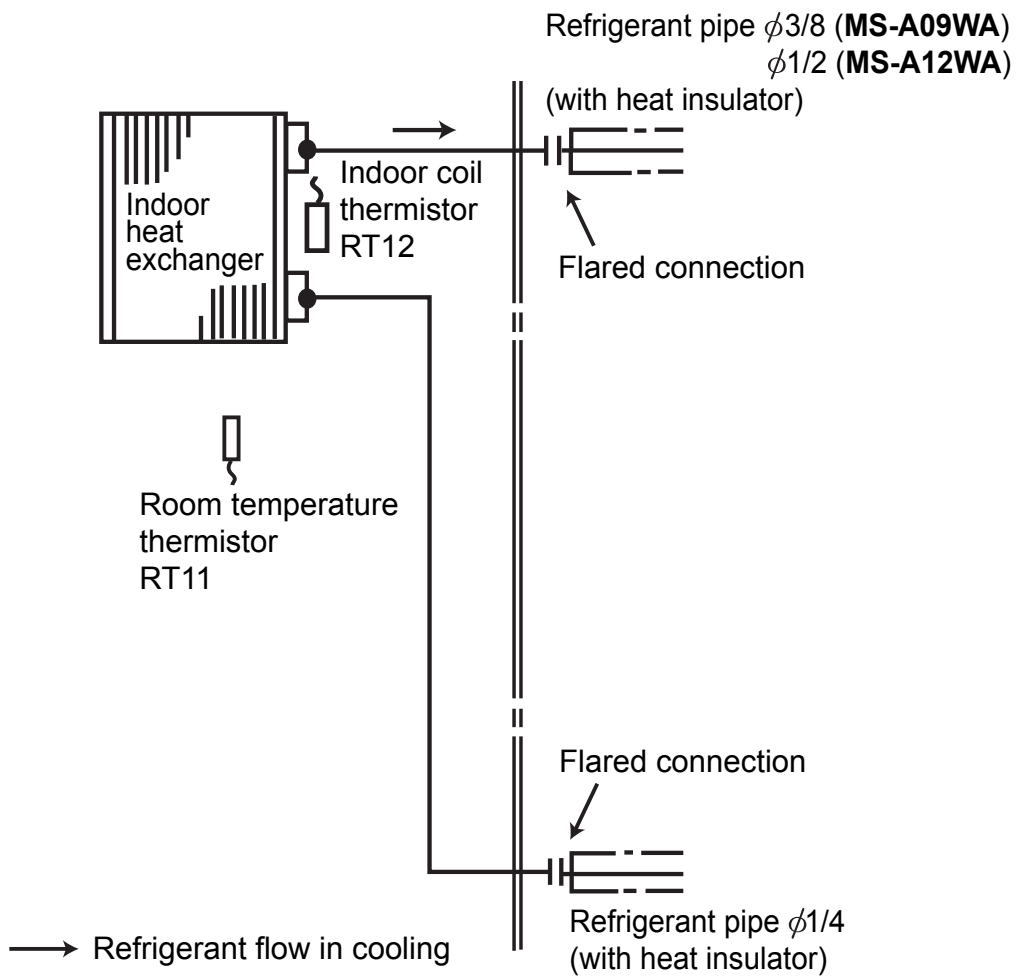


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MS-A09WA MS-A12WA

Unit: inch

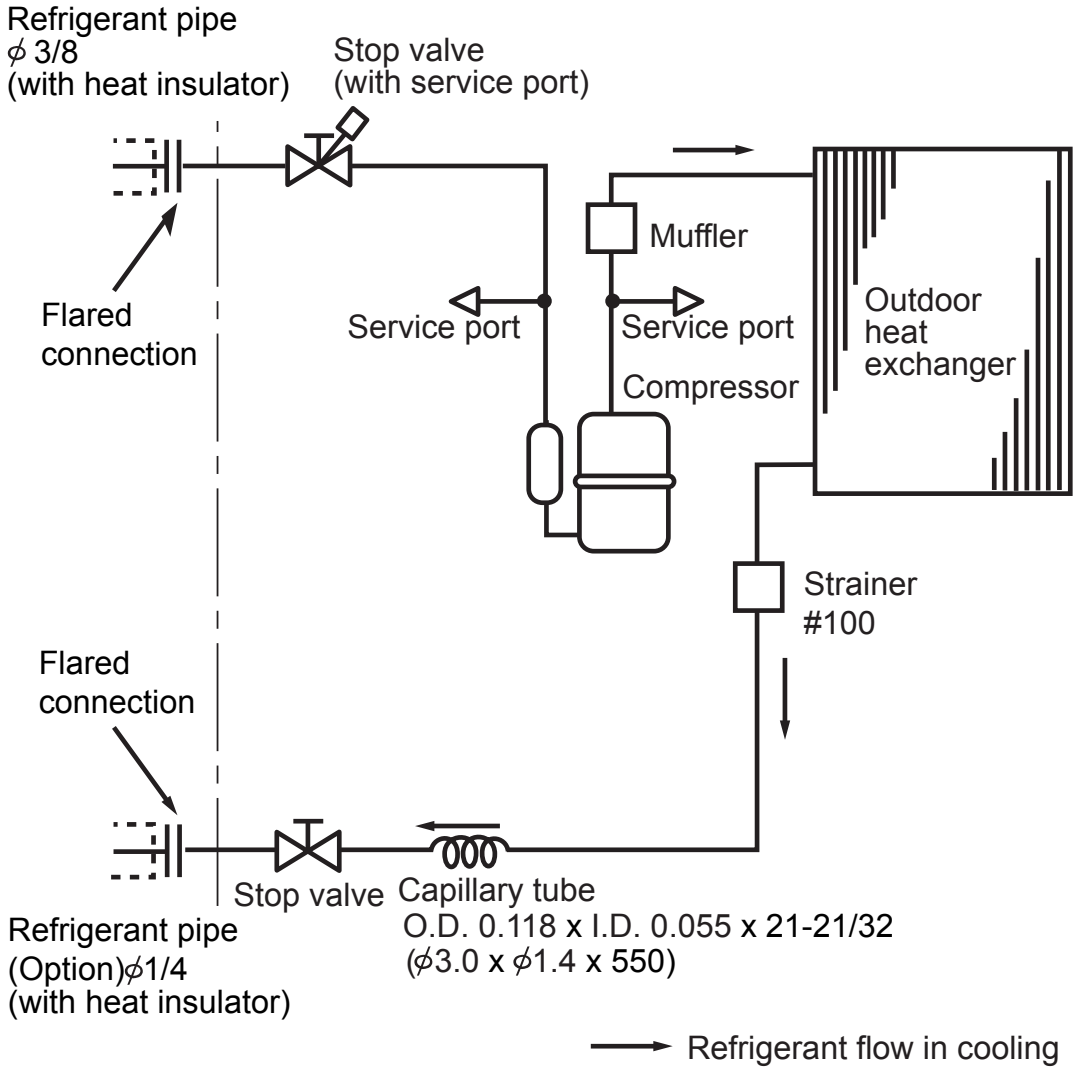


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MU-A09WA

Unit: inch



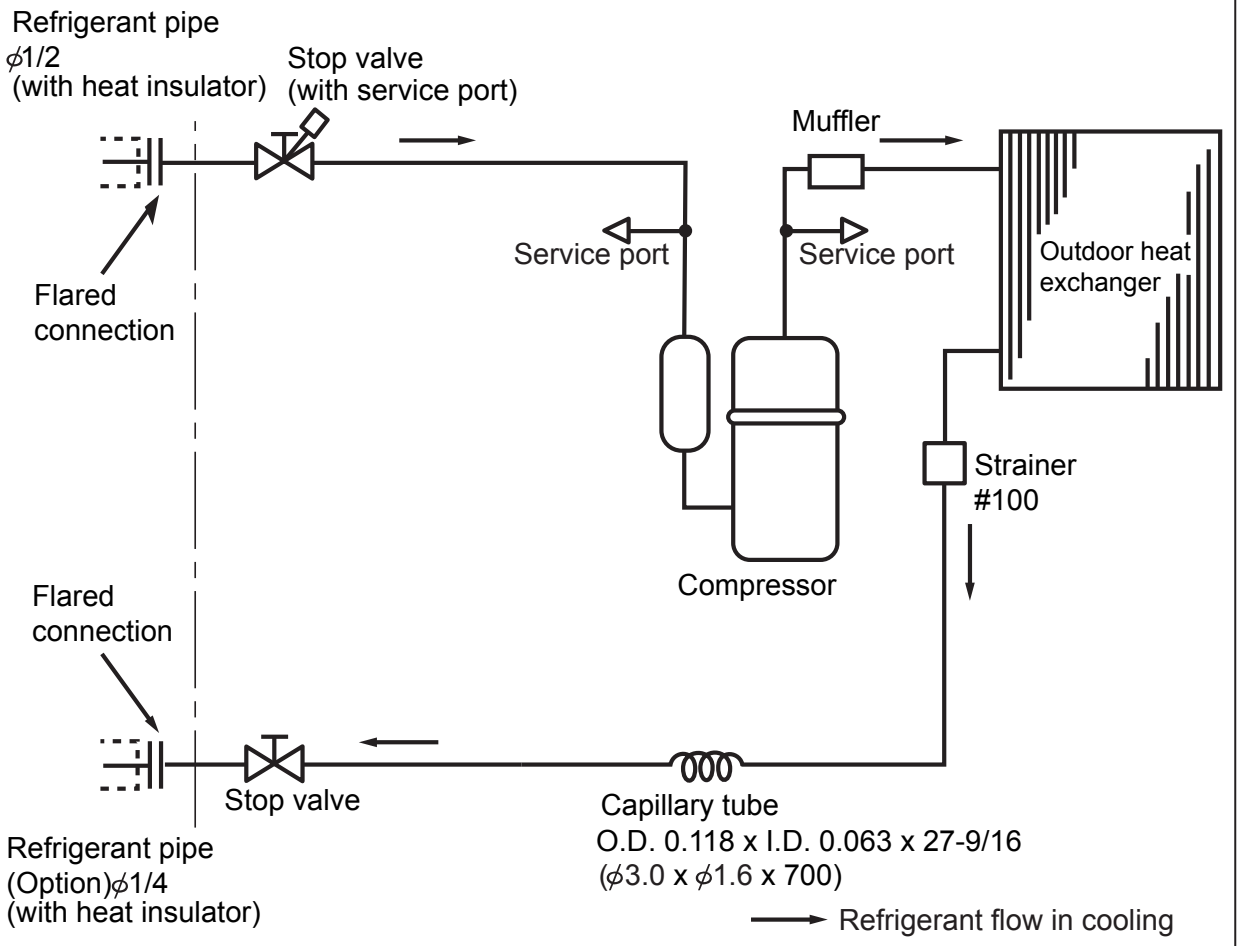
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3-5. REFRIGERANT SYSTEM DIAGRAMS

MU-A12WA

Unit: inch

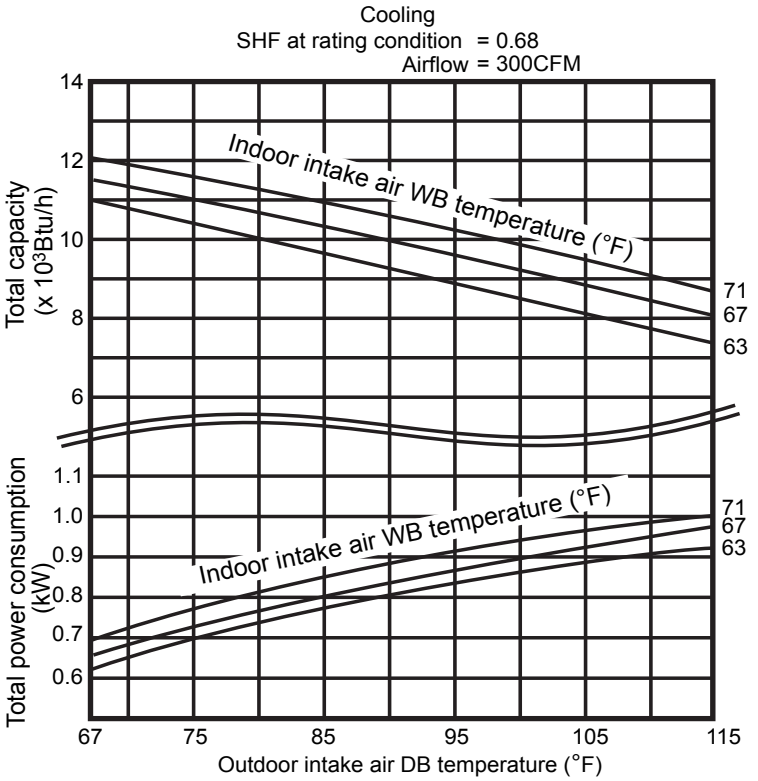


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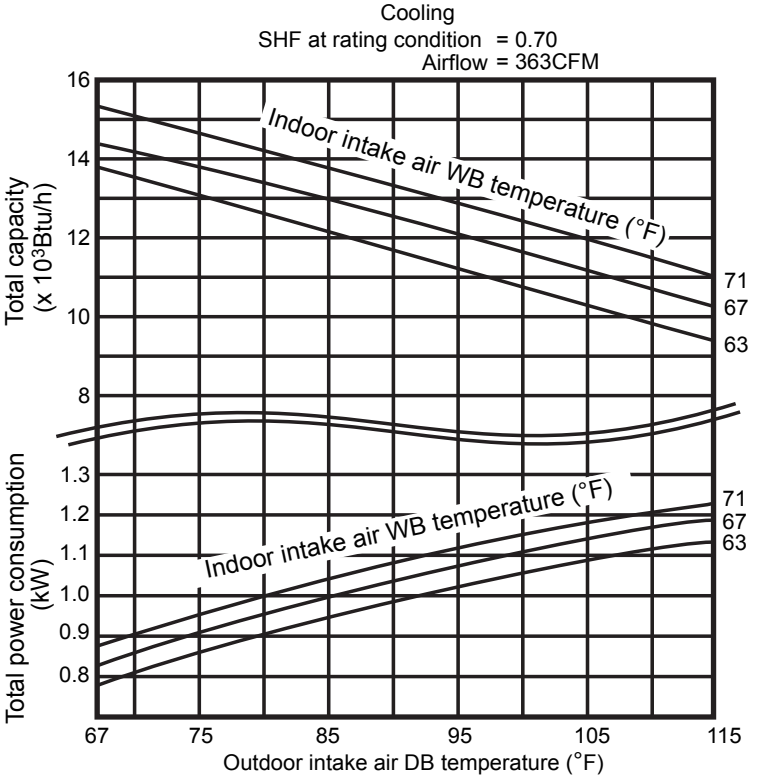
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3-6. CAPACITY CORRECTION CURVE BY TEMPERATURE

MU-A09WA



MU-A12WA



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3-7. CAPACITY CORRECTION TABLE BY TEMPERATURE

(1) M-SERIES COOLING CORRECTION

	70	77	81	86	95	104	115
60	1.11	1.06	1.01	0.97	0.91	0.83	0.76
63	1.16	1.10	1.06	1.02	0.96	0.88	0.81
64	1.18	1.13	1.08	1.04	0.98	0.90	0.83
68	1.23	1.18	1.14	1.10	1.03	0.96	0.89
72	1.28	1.23	1.20	1.15	1.09	1.02	0.95
75	1.34	1.29	1.26	1.22	1.15	1.08	1.02
79	1.38	1.34	1.32	1.28	1.21	1.14	1.07

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3-8. CAPACITY CORRECTION CURVE BY REFRIGERANT PIPING LENGTH

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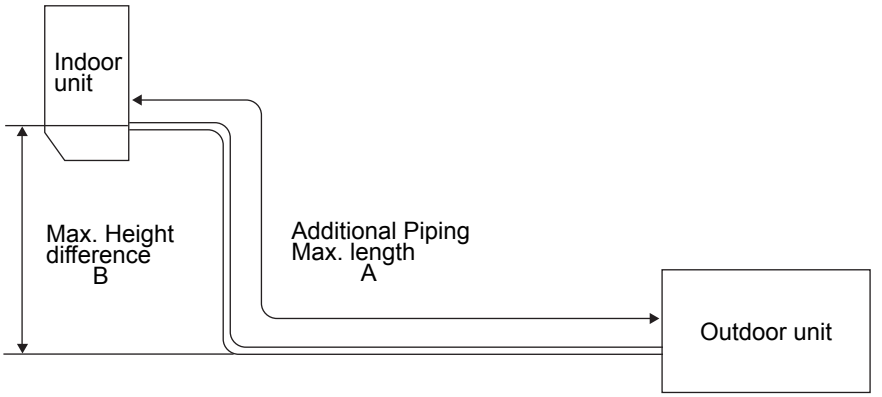
3-9. CAPACITY CORRECTION TABLE BY REFRIGERANT PIPING LENGTH

(1) Cooling capacity correction

Refrigerant piping length (one way: ft.)				
	25 (std.)	40	65	100
MU-A09WA **MU-A12WA**	1.0	0.954	0.878	-

(2) Maximum refrigerant piping length & maximum height difference

Model	Refrigerant piping: ft		Piping size: in.			
	Additional piping Max. length A	Additional piping Max. length B	Gas		Liquid	
			Outside diameter	Minimum Wall thickness	Outside diameter	Minimum Wall thickness
MU-A09WA	65	35	ϕ3/8	0.0315	ϕ1/4	0.0315
MU-A12WA			ϕ1/2			



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OUTLET AIR SPEED AND COVERAGE RANGE

MODEL	FUNCTION	AIR FLOW		AIR SPEED		COVERAGE RANGE	
		(m3/min)	(CFM)	(m/sec)	(ft/sec)	(m)	(ft)
MS-A09WA	HEAT DRY	0	0	0.00	0.0		
	COOL DRY	10.4	367	5.60	18.4	8.10	26.6
	COOL WET	8.9	316	4.81	15.8	7.00	23.0
MS-A12WA	HEAT DRY	0	0	0.00	0.0		
	COOL DRY	12.6	446	6.80	22.3	9.78	32.1
	COOL WET	10.9	383	5.85	19.2	8.45	27.7

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3-11. SOUND PRESSURE LEVELS

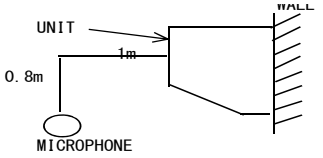
MS-A09WA

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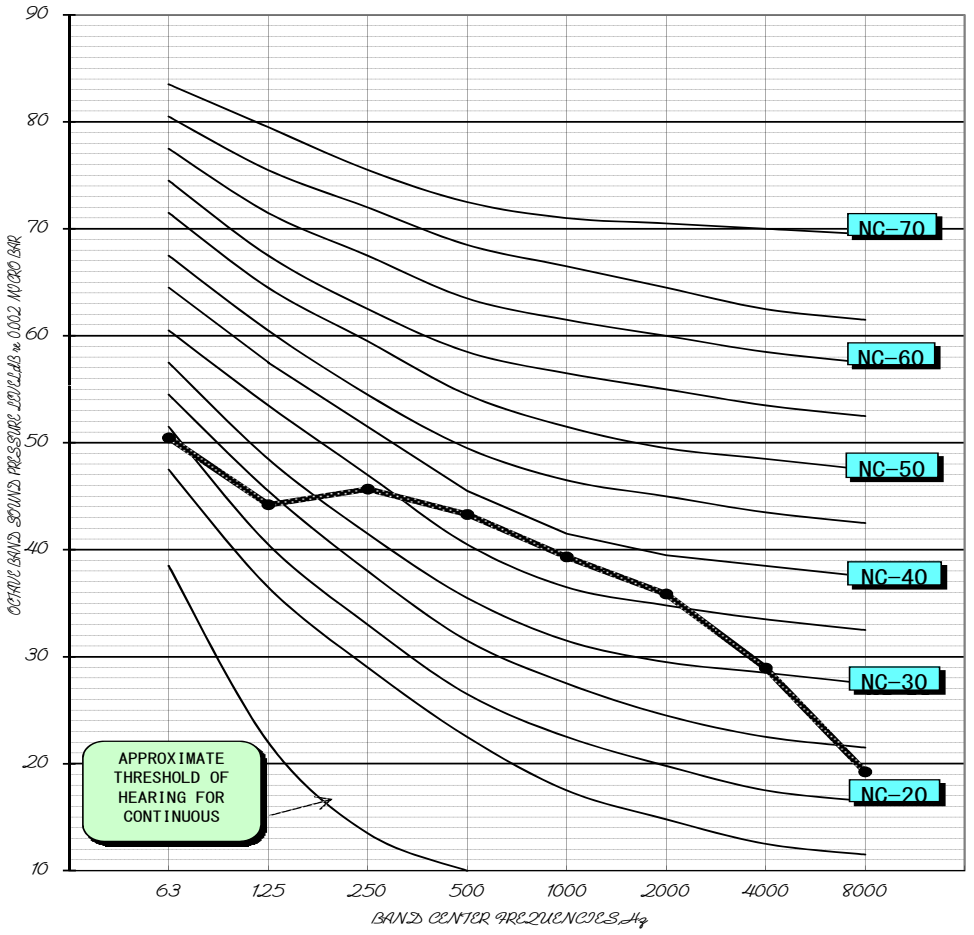
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MS-A12WA



NOTCH	SPL (dB(A))	LINE
COOL (Hi)	45	

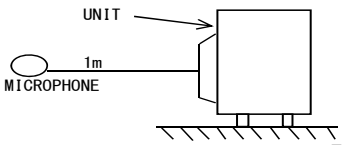
Test conditions are based on JIS Z8731



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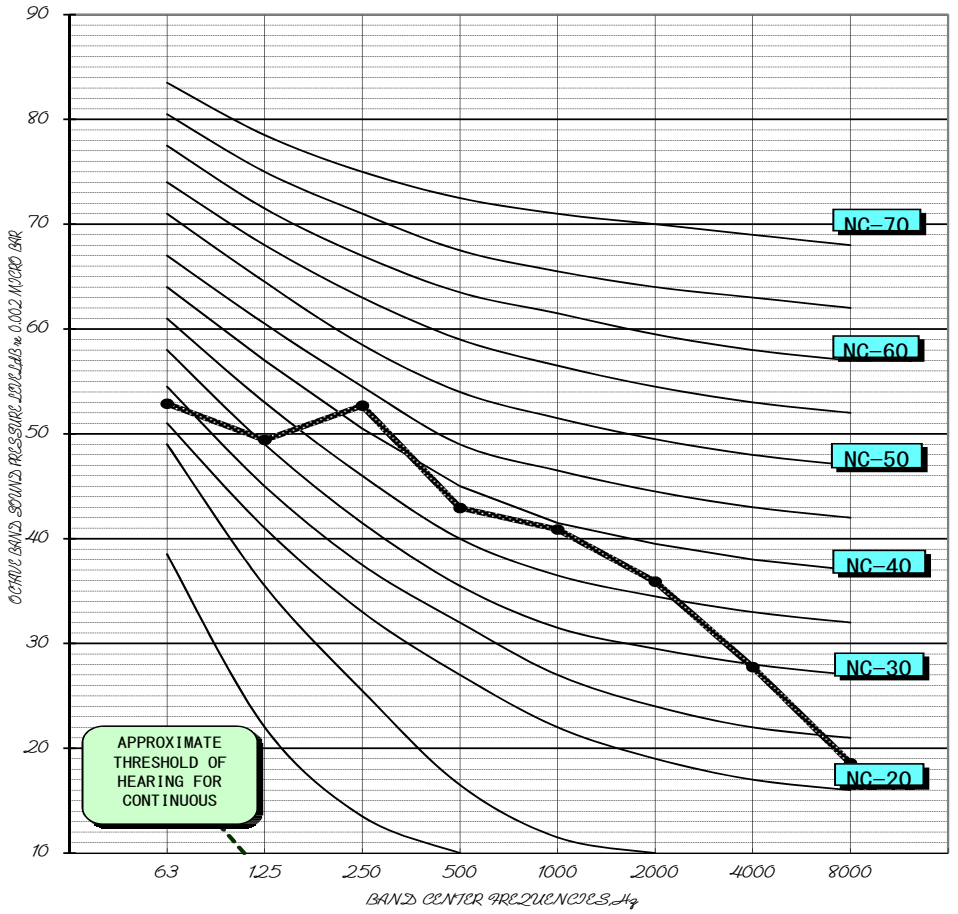
MU-A09WA



MODE	SPL (dB (A))	LINE
COOL	47	

Test conditions are based on JIS Z8731

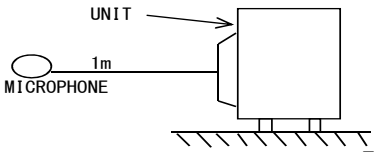
Ambient temperature Cooling DB : 35°C WB:24°C
Heating DB : 7°C WB: 6°C



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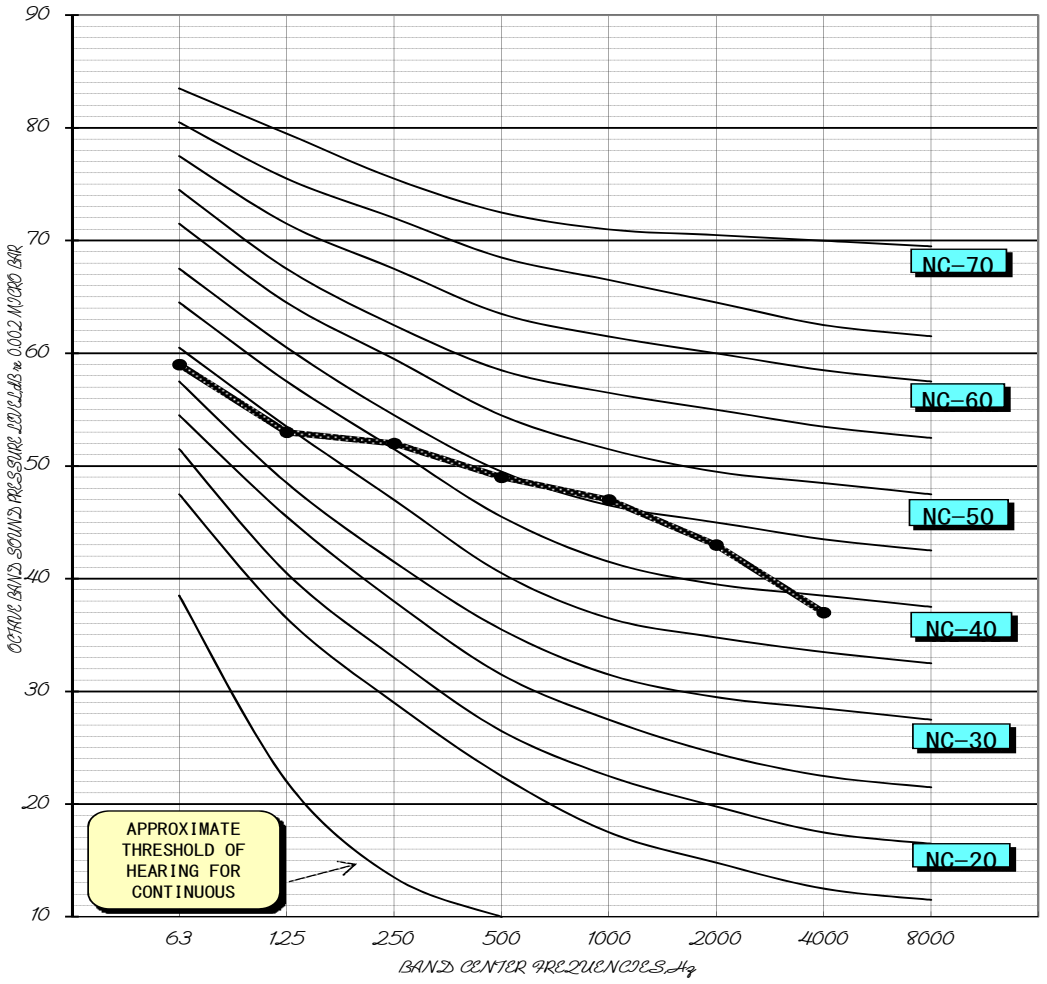
MU-A12WA



MODE	SPL (dB(A))	LINE
COOL	52	

Test conditions are based on JIS Z8731

Ambient temperature 27°C



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3-12. STANDARD OPERATION RANGE

(1) INDOOR UNIT
MS-A09WA MS-A12WA

OPERATING RANGE

		Indoor intake air temperature	Outdoor intake air temperature
Cooling	Maximum	95˚ FDB, 71˚ FWB	115˚ FDB
	Minimum	67˚ FDB, 57˚ FWB	67˚ FDB

(2) OUTDOOR UNIT
MU-A09WA MU-A12WA

OPERATING RANGE

(A) POWER SUPPLY

	Rating	Guaranteed Voltage
Outdoor unit	115V 60Hz 1ϕ	Min. 103V 115V Max. 127V

(B) OPERATION

Function	Intake air temperature / Condition	Indoor		Outdoor	
		DB (°F)	WB (°F)	DB (°F)	WB (°F)
Cooling	Standard temperature	80	67	95	—
	Maximum temperature	95	71	115	—
	Minimum temperature	67	57	67	—
	Maximum humidity	78%		—	

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3-13. ACCESSORIES

(1) INDOOR UNIT

Part Number	Descriptions	Applicable model
C13-103	Blue Diamond Sensor Extension Cable - 15 Ft.	All Models
DPLS1	Drain Pan Level Sensor/Control for indoor unit shut off to prevent Drain Pan Overflow	
RCMKP1CB	Lockdown Bracket for wireless, hand-held, remote controllers	
SI30-115	Mini-Condensation pump - 115 volt application	
SI30-230	Mini-Condensation pump - 230 volt application	
TAZ-MS303	3-Pole Disconnect Switch 30 Amps 600 volts rated for interupting power supply at/near indoor unit - fits 2 X 4 utility box	
X87-711	Advanced Blue Diamond Mini-Condensation pump w/ Resevoir & Sensor - 110 volt application	

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(1) INDOOR UNIT cont.

Part Number	Descriptions		Applicable model
MLS143812T-15	Diamondback Linesets	1/4 x 3/8 x 15' / 1/2" Twin-Tube Insulation	MS-A09
MLS143812T-30		1/4 x 3/8 x 30' / 1/2" Twin-Tube Insulation	
MLS143812T-50		1/4 x 3/8 x 50' / 1/2" Twin-Tube Insulation	
MLS143812T-65		1/4 x 3/8 x 65' / 1/2" Twin-Tube Insulation	
MLS141212T-15		1/4 x 1/2 x 15' / 1/2" Twin-Tube Insulation	MS-A12
MLS141212T-30		1/4 x 1/2 x 30' / 1/2" Twin-Tube Insulation	
MLS141212T-50		1/4 x 1/2 x 50' / 1/2" Twin-Tube Insulation	
MLS141212T-65		1/4 x 1/2 x 65' / 1/2" Twin-Tube Insulation	
MLS141212T-100		1/4 x 1/2 x 100' / 1/2" Twin-Tube Insulation	

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(2) OUTDOOR UNIT

Part Number	Descriptions	Applicable model
CWMB1	4 piece (1 pair) condensing unit wall mounting brackets - painted steel	All Models
DSD-400P	Outdoor Unit 3-1/4 inch Mounting Base (Pair) - Plastic	
ICM-326HM-2	Low Ambient Head Pressure Fan Controller(application also requires a 30-40 watt crankcase heater)	
ULTRILITE1	Condensing Unit Mounting Pad 16” x 36” x 3”	

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