MSZ-FE HIGH PERFORMANCE WALL-MOUNT HEAT PUMP SYSTEMS

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1. INDOOR UNITS

- MSZ-FE09NA-8
- MSZ-FE12NA-8
- MSZ-FE18NA

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2. OUTDOOR UNITS

- MUZ-FE09NA-1
- MUZ-FE12NA1
- MUZ-FE18NA

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3. SYSTEM

- Highly energy-efficient system that features 100% (FE-09/18) heating capacity at 5˚F, 92% (FE-12) heating capacity at 5˚F, 82% at -4˚F, and 62% at -13˚F
- Standard Hybrid Catechin Prefilter and anti-allergy enzyme filter for high air-purification abilities
- Updated sleek, compact indoor unit design
- “Powerful mode” function permits system to temporarily run at a lower/higher temperature with an increased fan speed, which quickly brings the room to the optimum comfort level
- Integrated i-see Sensor (MSZ-FE09/12) automatically adjusts the unit’s operation according to the temperature differences detected between the floor and the intake air, ensuring optimum comfort and energy usage
- Base heater is available as an option
- Auto fan speed control: Quiet, Low, Medium, High, and Super High
- Hand-held Wireless Remote Controller
- Advanced microprocessor control
- Auto restart following a power outage
- Catalyst Deodorizing Filter
- Limited warranty: five years parts and seven years compressor

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MSZ-FE09NA-8 MSZ-FE12NA-8 MSZ-FE18NA

Model name			MSZ-FE09NA-8	MSZ-FE12NA-8	MSZ-FE18NA
Power supply	V, phase, Hz		208/230 , 1 , 60		
Max. fuse size (time delay)/ Disconnect switch		A	15		20
Min. circuit ampacity		A	1.0		
Blower Motor (ECM)		F.L.A	0.76		
Airflow Powerful - High - Med. - Low	COOL Dry (Wet)	CFM	381 - 339 - 226 - 162 (343 - 307 - 202 - 144)	410 - 381 - 226 - 162 (367 - 350 - 202 - 144)	738 - 628 - 469 - 388 (661 - 562 - 420 - 347)
	HEAT Dry	CFM	381 - 367 - 240 - 166	420 - 399 - 240 - 166	738 - 628 - 469 - 388
Moisture removal		pt./h	2.1	2.9	2.7
Sensible Heat Factor			0.76	0.73	0.84
Sound level Low - Med. - High - Powerful	Cooling	dB(A)	42 - 39 - 31 - 22	45 - 43 - 33 - 22	53 - 49 - 41 - 34
	Heating	dB(A)	42 - 40 - 31 - 22	44 - 43 - 33 - 22	52 - 49 - 41 - 32
Cond. drain connection O.D.		in.	5/8		
Dimensions	W	in.	31-7/16		43-5/16
	D		10-1/8		9-3/8
	H		11-5/8		12-13/16
Weight		lb.	27		37
External finish			Munsell 1.0Y 9.2/0.2		
Remote controller			Wireless type		
Control voltage (by built-in transformer)			12 - 24 VDC		

NOTE: Test conditions are based on ARI 210/240.

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3-1. SPECIFICATIONS

MUZ-FE09NA-1 MUZ-FE12NA1 MUZ-FE18NA

Model name			MUZ-FE09NA-1	MUZ-FE12NA1	MUZ-FE18NA
Capacity Rated (Minimum~Maximum)	Cooling ❄1	Btu/h	9,000 (2,800~9,000)	12,000 (2,800~12,000)	18,000 (8,200~25,200)
	Heating 47 ❄1	Btu/h	10,900 (3,000~18,000)	13,600 (3,000~21,000)	21,600 (7,500~29,700)
Capacity Rated	Heating 17 ❄2	Btu/h	6,700	7,900	11,700
Power consumption Rated (Minimum~Maximum)	Cooling ❄1	W	580 (160~650)	930 (160~960)	1,270 (570~2,280)
	Heating 47 ❄1	W	710 (150~2,250)	950 (150~2,250)	1,540 (520~2,240)
Power consumption Rated	Heating 17 ❄2	W	650	750	1,240
EER ❄1 [SEER] ❄3	Cooling		15.5 [26.0]	12.9 [23.0]	14.2 [20.2]
HSPF IV ❄4	Heating		10.0	10.5	10.3
COP	Heating ❄1		4.50	4.20	4.11
Power supply	V , phase , Hz		208/230, 1 , 60		
Max. fuse size (time delay)		A	15		20
Min. circuit ampacity		A	12		17.1
Fan Motor (ECM)		F.L.A	0.56		0.93
Compressor	Model		SNB130FQBHT		SNB172FQKMT
		R.L.A	8.6		12.9
		L.R.A	10.8		16.1
	Refrigeration oil cc. (Model)		450 (NEO22)		400 (FV50S)
Refrigerant control			Linear expansion valve		
Sound level ❄1	Cooling	dB(A)	48	48	55
	Heating	dB(A)	49	49	55
Defrost method			Reverse cycle		
Dimensions	W	in.	31-1/2		33-1/16
	D	in.	11-1/4		13
	H	in.	21-5/8		34/5/8
Weight		lb.	80		119
External finish			Munsell 3Y 7.8/1.1		
Remote controller			Wireless type		
Control voltage (by built-in transformer)		VDC	12 - 24		
Refrigerant piping			Not supplied		
Refrigerant pipe size (Min. wall thickness)	Liquid	in.	1/4 (0.0315)		3/8 (0.0315)
	Gas	in.	3/8 (0.0315)		5/8 (0.0315)
Connection method	Indoor		Flared		
	Outdoor		Flared		
Between the indoor & outdoor units	Height difference	ft.	40		50
	Piping length	ft.	65		100
Refrigerant charge (R410A)			2 lb. 9 oz.		4 lb. 3 oz.

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

(Heating) — Indoor: 70˚FDB, 60˚FWB, Outdoor: 47˚FDB, 43˚FWB Rated frequency

❄2: (Heating) — Indoor: 70˚FDB, 60˚FWB, Outdoor: 17˚FDB, 15˚FWB Maximum frequency

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Efficiency Ratings

Outdoor Unit	Indoor Unit	SEER	EER	HSPF	COP @ 47° F	COP @ 17° F	Energy Star	Tax Credit	Most Efficient
WALL-MOUNT HEAT PUMP									
MUZ-FE09NA-1	MSZ-FE09NA-8	26	15.5	10	4.5	3.02	Yes	Yes	Yes
MUZ-FE12NA1	MSZ-FE12NA-8	23	12.9	10.5	4.2	3.04	Yes	Yes	Yes
MUZ-FE18NA	MSZ-FE18NA	20.2	14.2	10.3	4.11	2.76	Yes	Yes	Yes
Note: Efficiency values based on AHRI 210/240 test method.									

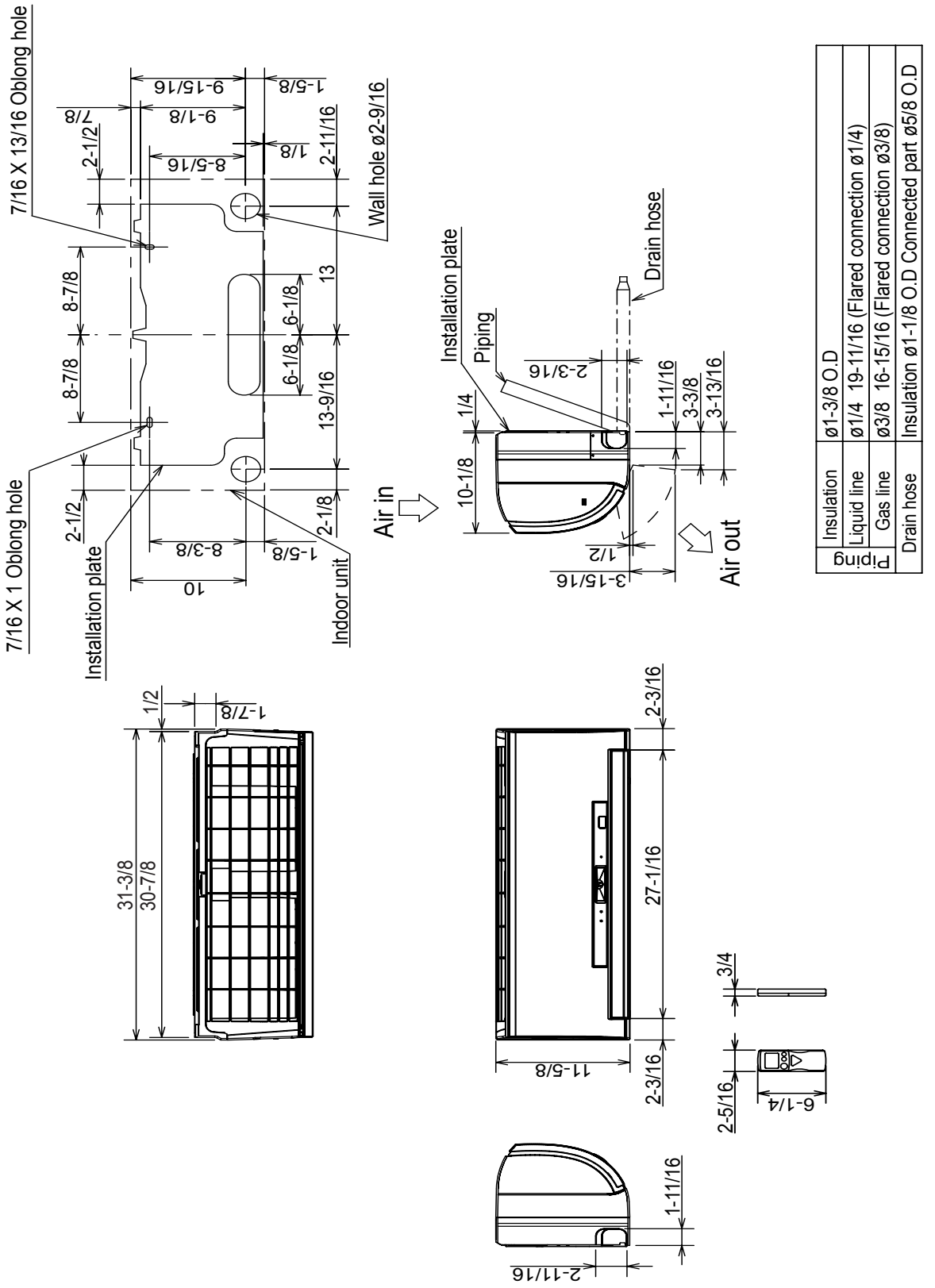
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3-2. EXTERNAL DIMENSIONS

MSZ-FE09NA-8 MSZ-FE12NA-8

Unit: inch



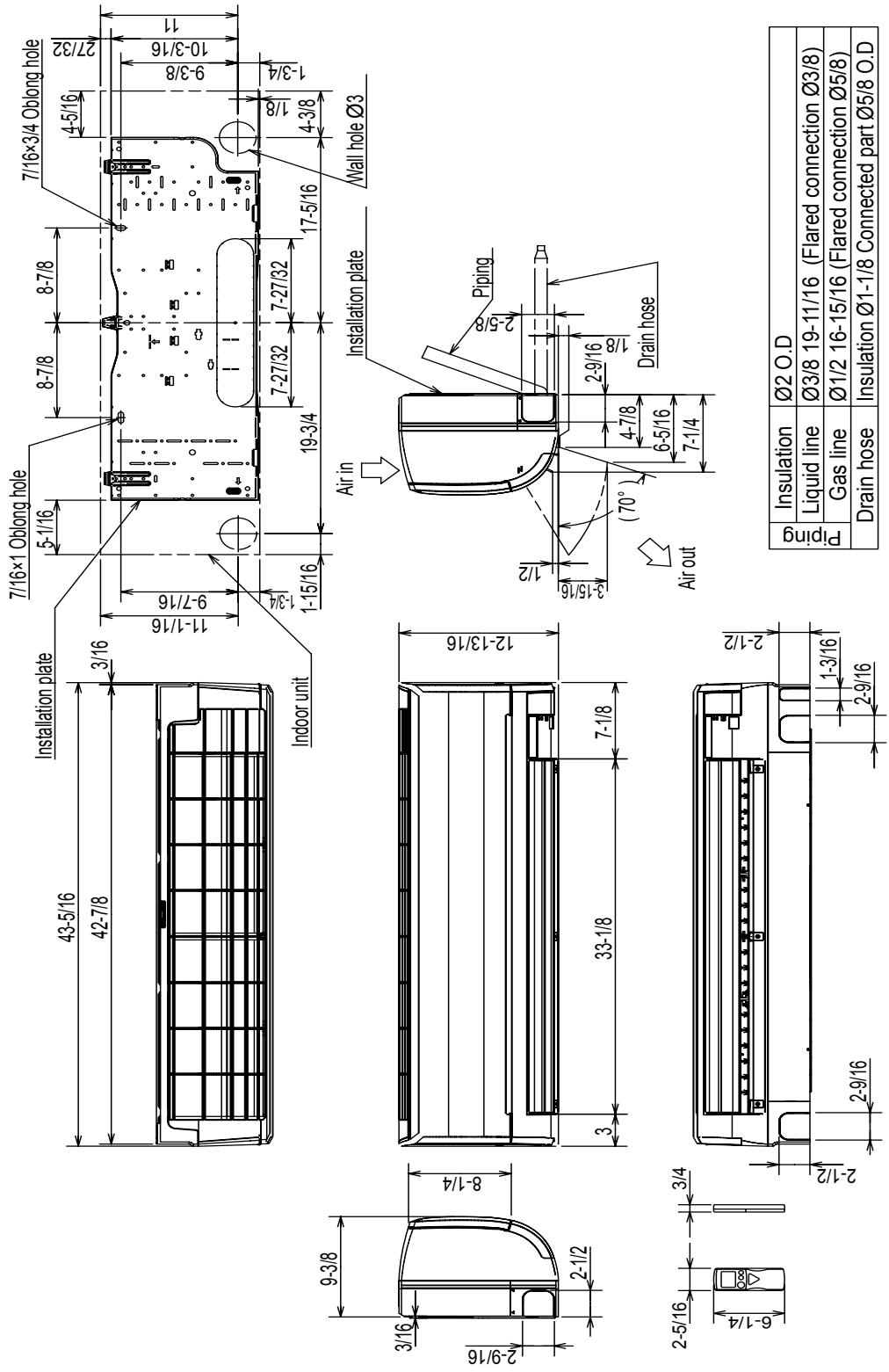
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3-2. EXTERNAL DIMENSIONS

MSZ-FE18NA

Unit: inch (mm)



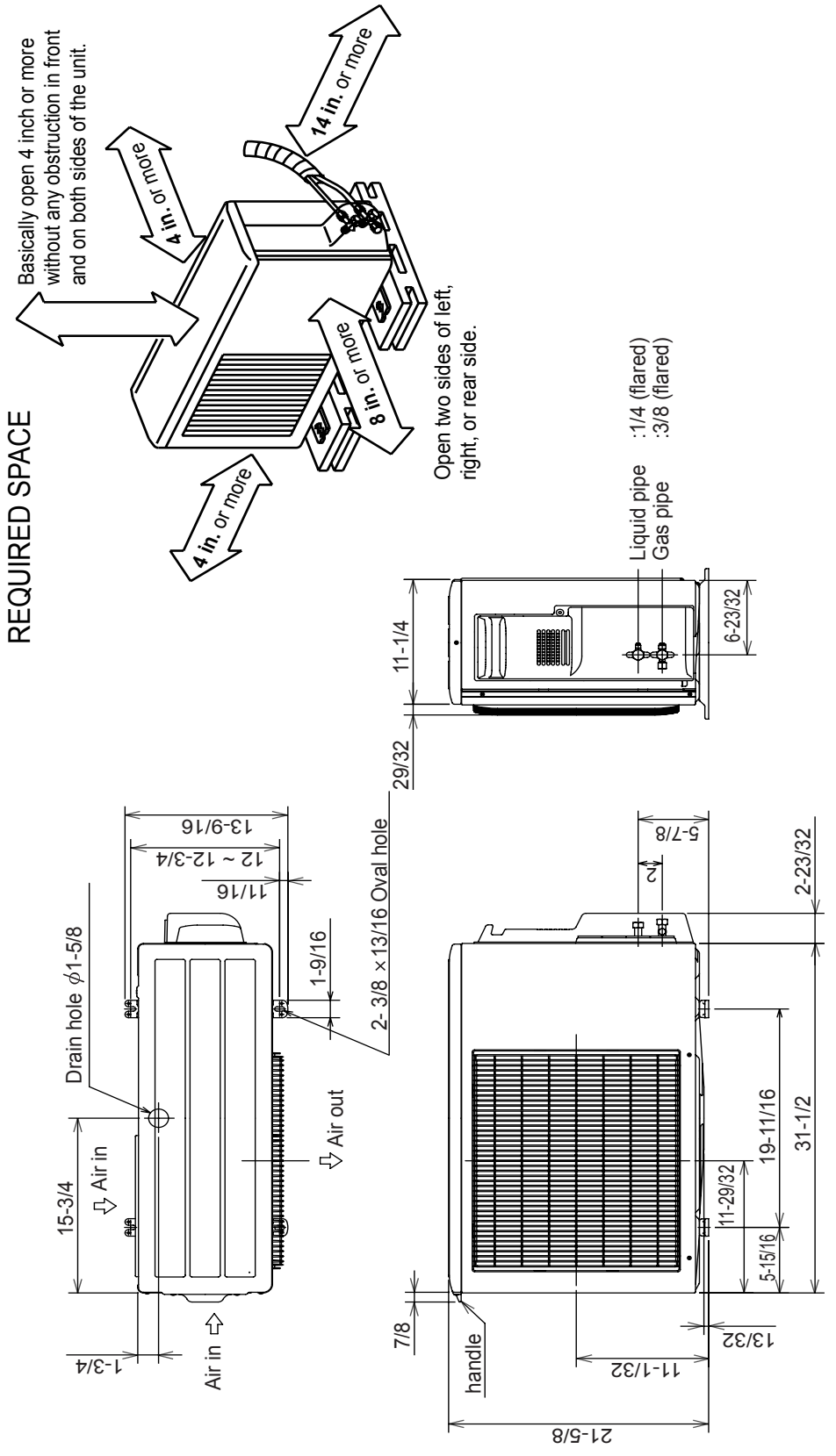
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3-2. EXTERNAL DIMENSIONS

MUZ-FE09NA-1 MUZ-FE12NA1

Unit: inch



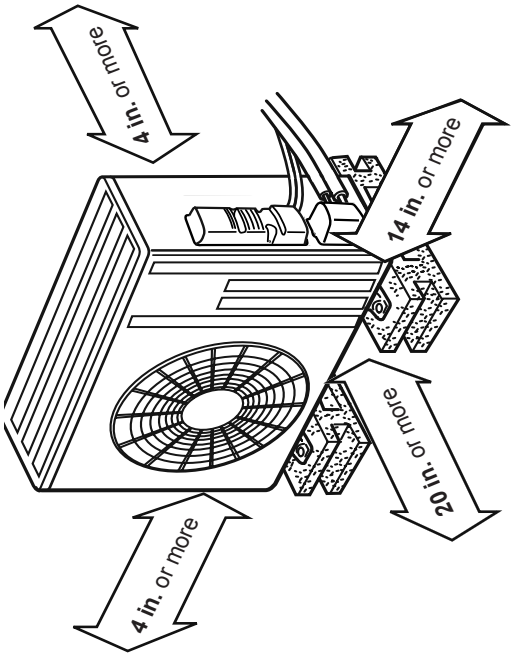
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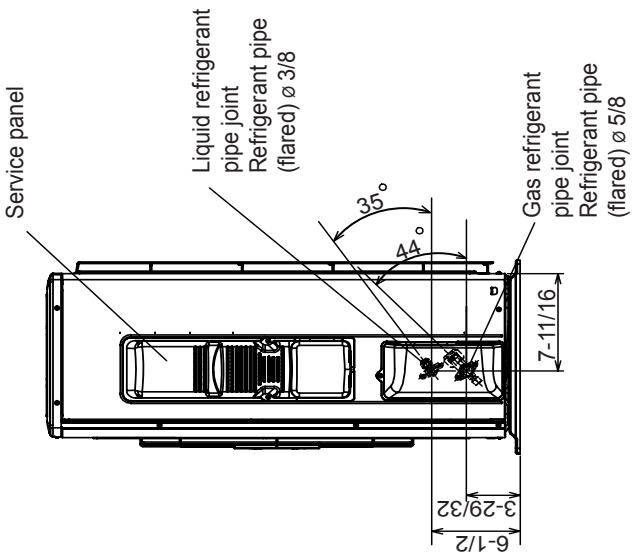
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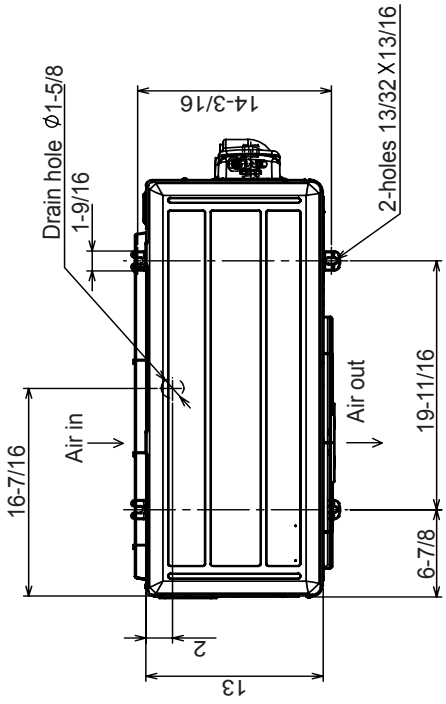
3-2. EXTERNAL DIMENSIONS

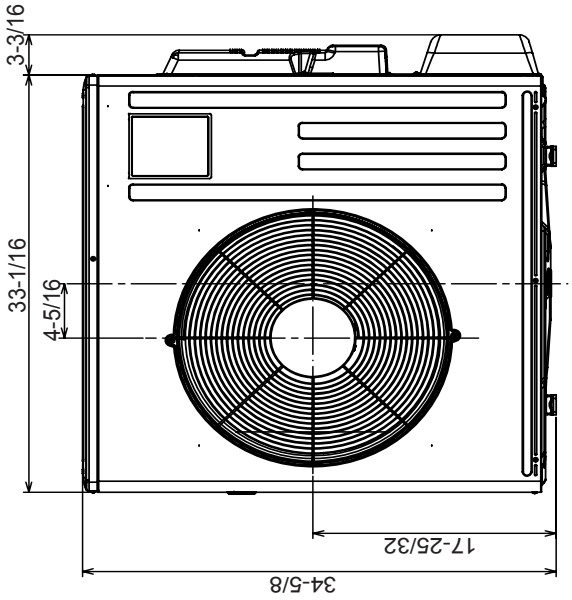
MUZ-FE18NA

Unit: inch (mm)









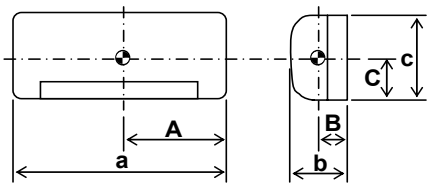
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3-3. CENTER OF GRAVITY

MSZ-FE09NA-8 MSZ-FE12NA-8 MSZ-FE18NA

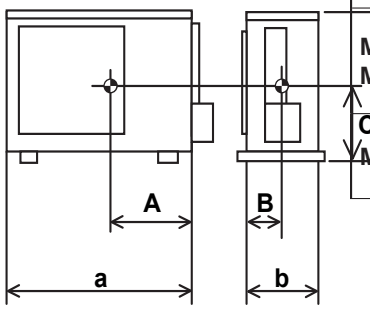
Unit: inch(mm)



Model name	A	B	C	a	b	c
MSZ-FE09NA-8 MSZ-FE12NA-8	13 (330)	3-7/16 (86)	7-5/16 (185)	31-3/8 (798)	10-1/8 (257)	11-5/8 (295)
MSZ-FE18NA	17-11/16 (450)	4-5/16 (110)	6-5/16 (160)	42-1/16 (1100)	10-1/4 (261)	12-13/16 (325)

MUZ-FE09NA-1 MUZ-FE12NA1 MUZ-FE18NA

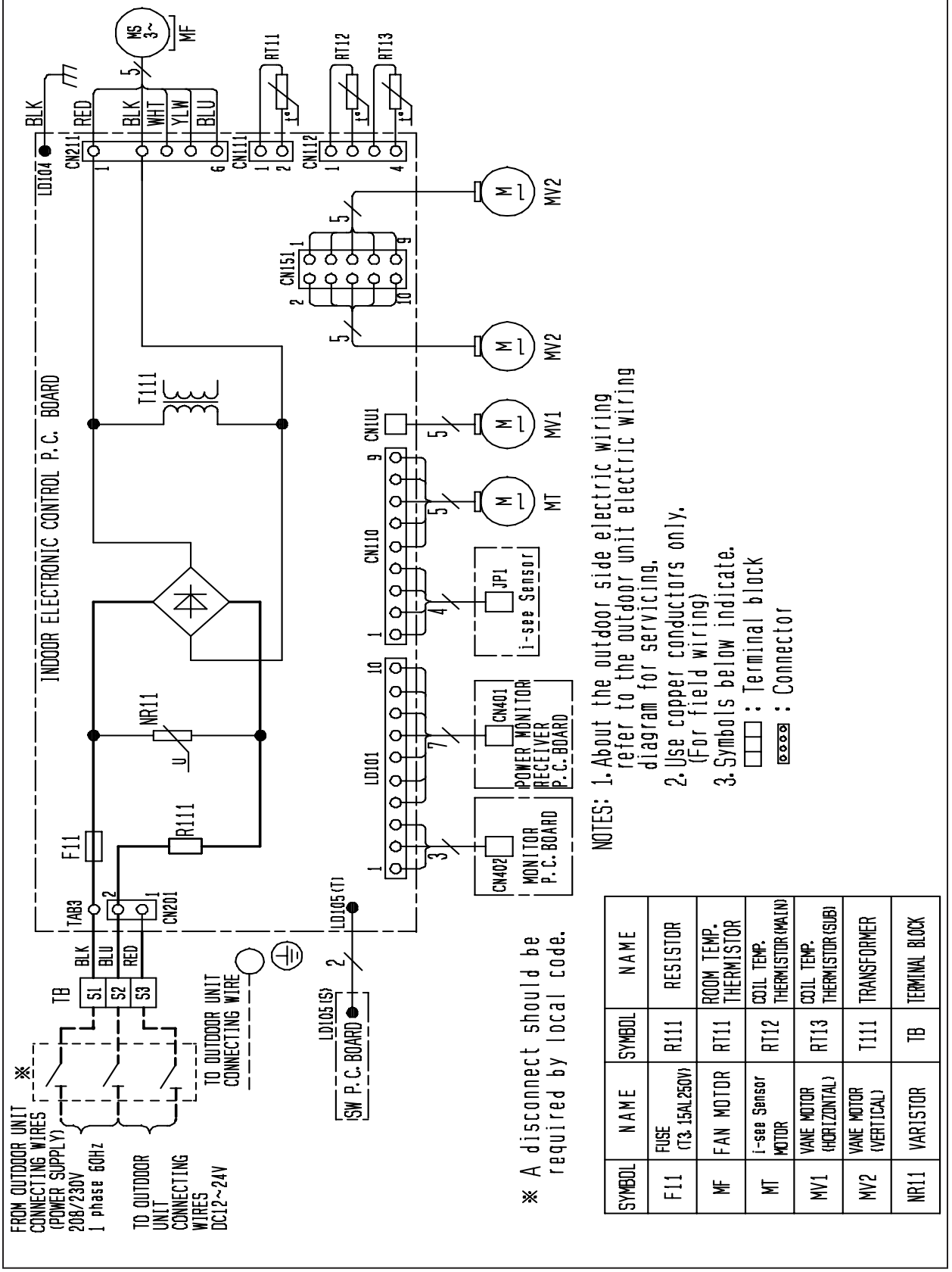
Unit: inch(mm)



Model name	A	B	C	a	b	c
MUZ-FE09NA MUZ-FE12NA	11-1/16 (280)	5-9/16 (140)	9-1/2 (240)	31-1/2 (800)	11-1/4 (285)	21-5/8 (550)
MUZ-FE18NA	11-13/16 (300)	5-7/8 (150)	13-3/8 (340)	33-1/16 (840)	13 (330)	33-7/16 (850)

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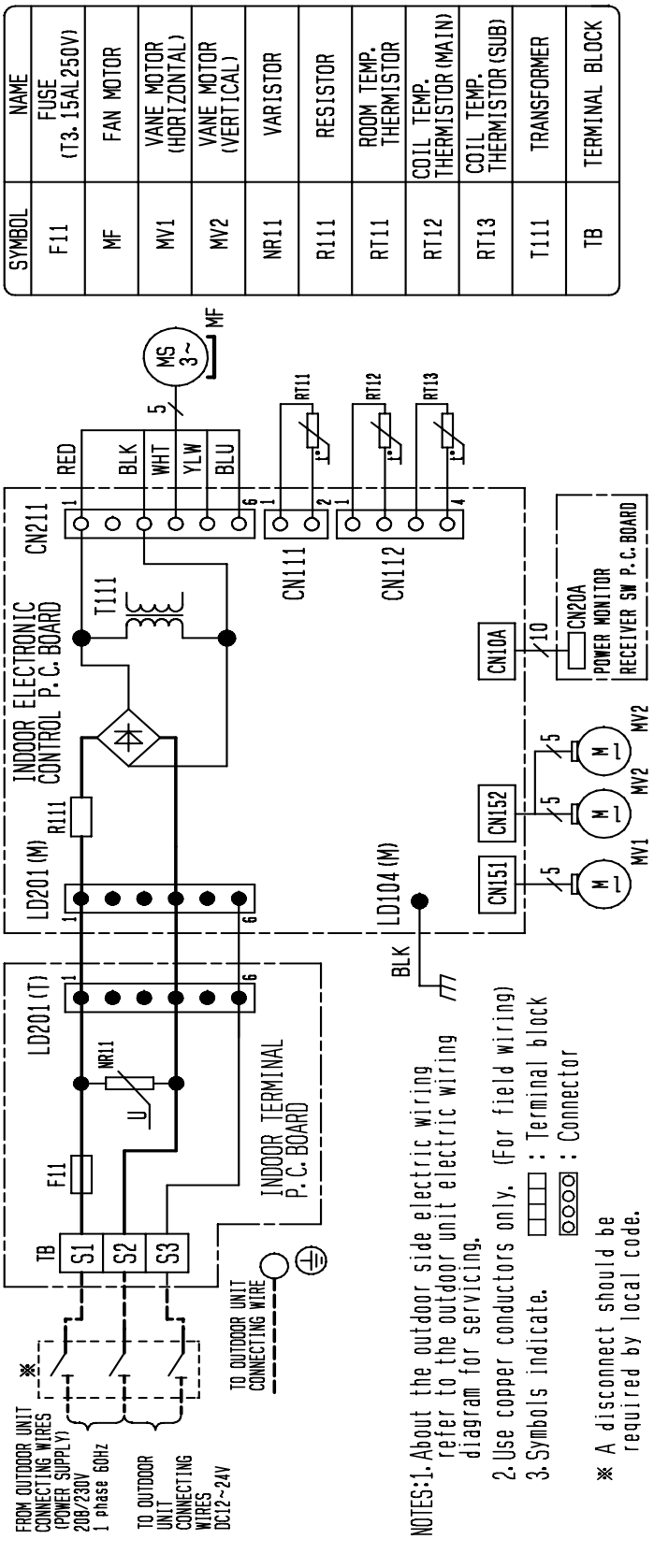
MSZ-FE09NA-8 MSZ-FE12NA-8



SYMBOL	NAME	SYMBOL	NAME
F11	FUSE (T3.15AL250V)	R111	RESISTOR
MF	FAN MOTOR	RT11	ROOM TEMP. THERMISTOR
MT	i-see Sensor MOTOR	RT12	COIL TEMP. THERMISTOR(MAIN)
MV1	VANE MOTOR (HORIZONTAL)	RT13	COIL TEMP. THERMISTOR(SUB)
MV2	VANE MOTOR (VERTICAL)	T111	TRANSFORMER
NR11	VARISTOR	TB	TERMINAL BLOCK

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MSZ-FE18NA

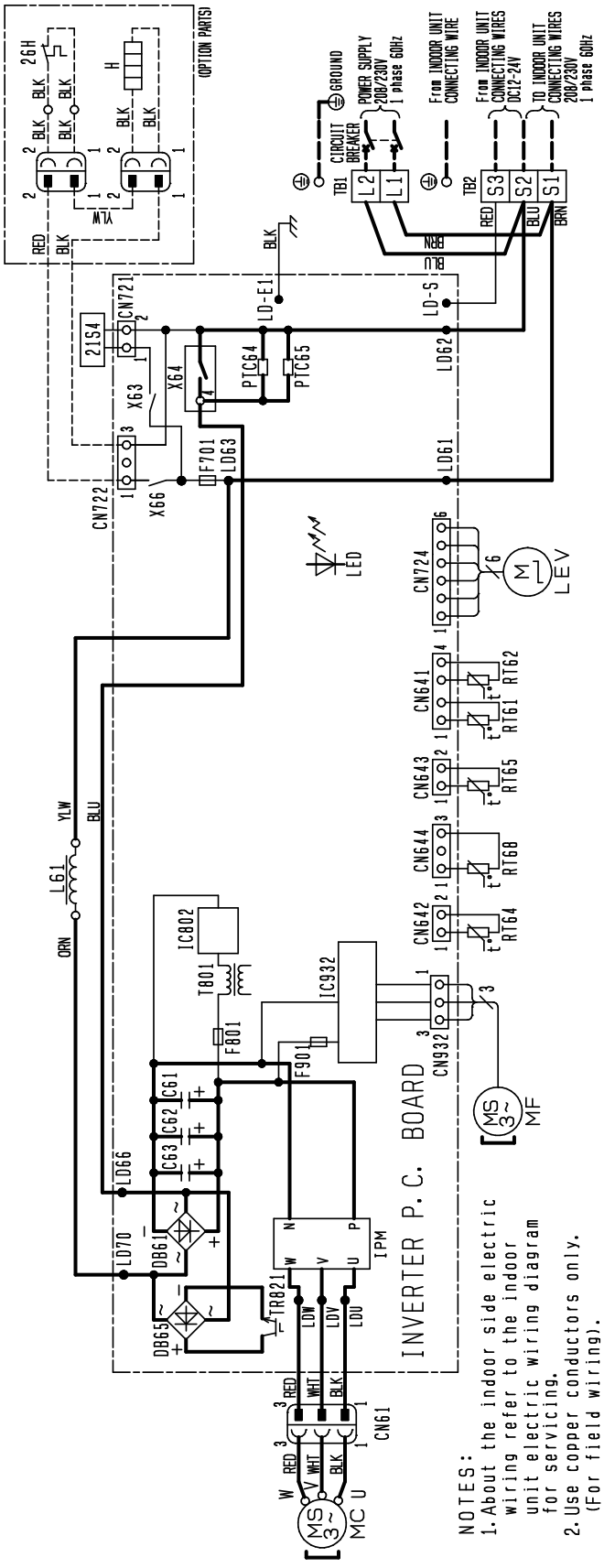


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3-4. ELECTRICAL WIRING DIAGRAMS

MUZ-FE09NA-1 MUZ-FE12NA1



SYMBOL	NAME
C61, C62, C63	SMOOTHING CAPACITOR
DB61, DB65	DIODE MODULE
F701, F801, F901	FUSE (T3.15AL250V)
H	DEFROST HEATER(OPTION PARTS)
IC802	POWER DEVICE
IPM, IC932	POWER MODULE
LED	LED
LEV	EXPANSION VALVE COIL

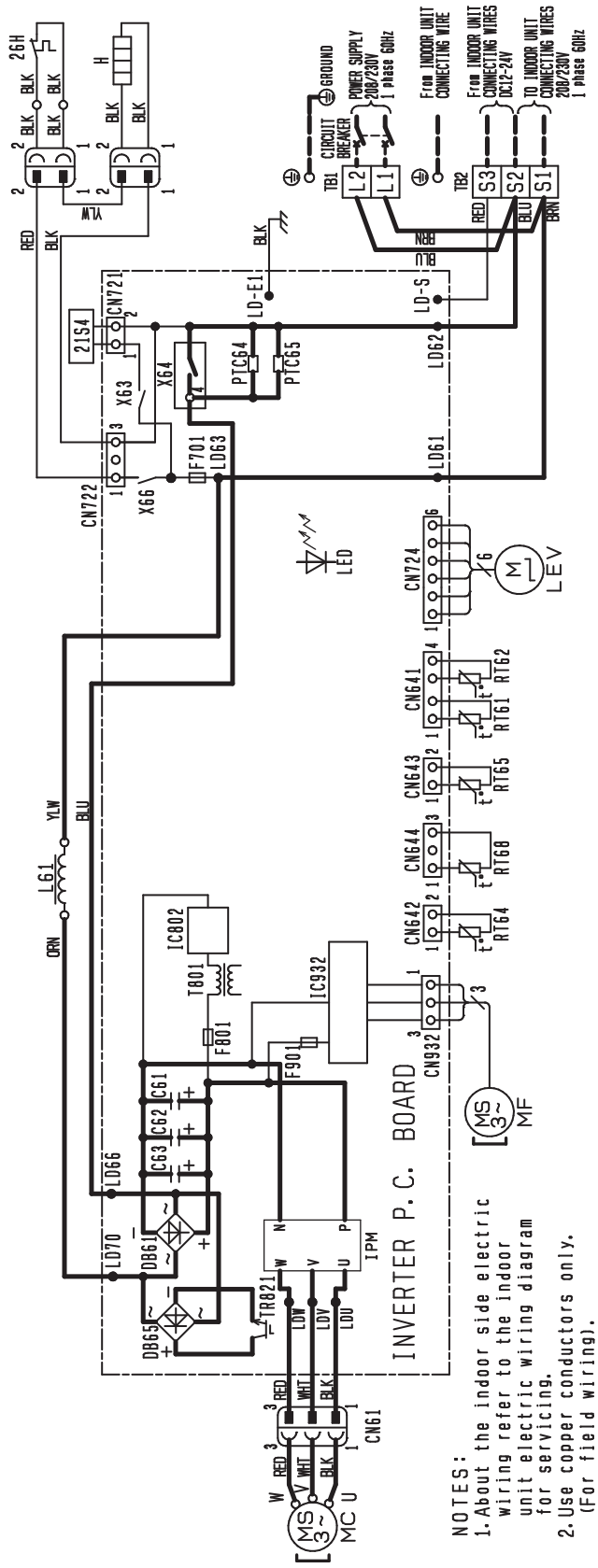
SYMBOL	NAME
L61	REACTOR
MC	COMPRESSOR
MF	FAN MOTOR
PTC64, PTC65	CIRCUIT PROTECTION
RT61	DEFROST THERMISTOR
RT62	DISCHARGE TEMP. THERMISTOR
RT64	FIN TEMP. THERMISTOR
RT65	AMBIENT TEMP. THERMISTOR

SYMBOL	NAME
RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR.
TB1, TB2	TERMINAL BLOCK
TR821	SWITCHING POWER TRANSISTOR
T801	TRANSFORMER
X63, X64, X66	RELAY
21S4	REVERSING VALVE COIL
26H	HEATER PROTECTOR(OPTION PARTS)

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MUZ-FE18NA



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).

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C61, C62, C63	SMOOTHING CAPACITOR	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR.
DB61, DB65	DIODE MODULE	MC	COMPRESSOR	TB1, TB2	TERMINAL BLOCK
F701, F801, F901	FUSE (T3.15AL250V)	MF	FAN MOTOR	TR821	SWITCHING POWER TRANSISTOR
H	DEFROST HEATER	PTC64, PTC65	CIRCUIT PROTECTION	T801	TRANSFORMER
IC802	POWER DEVICE	RT61	DEFROST THERMISTOR	X63, X64, X66	RELAY
IPM, IC932	POWER MODULE	RT62	DISCHARGE TEMP. THERMISTOR	21S4	REVERSING VALVE COIL
LED	LED	RT64	FIN TEMP. THERMISTOR	26H	HEATER PROTECTOR
LEV	EXPANSION VALVE COIL	RT65	AMBIENT TEMP. THERMISTOR		

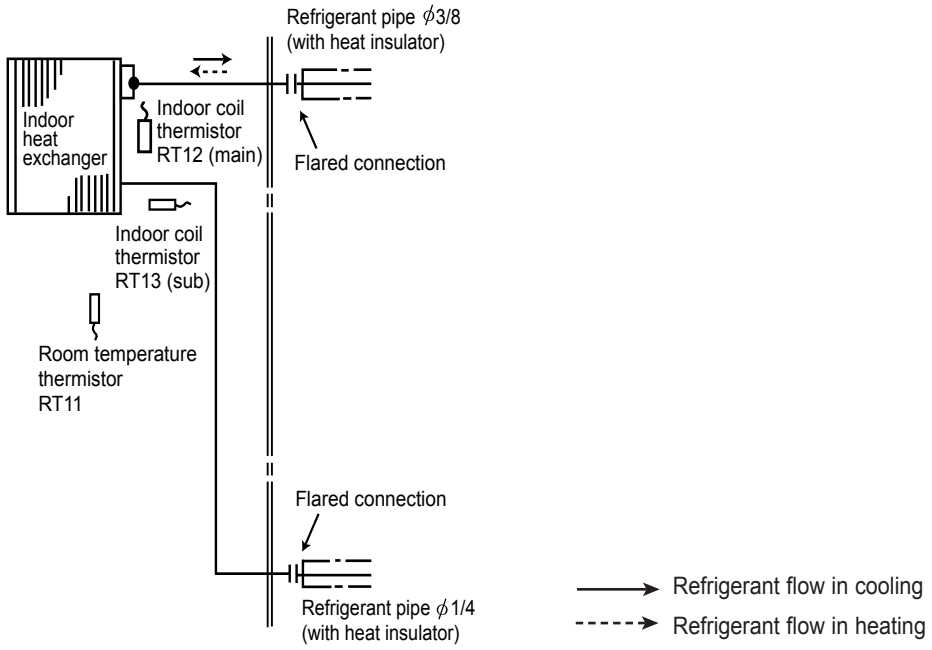
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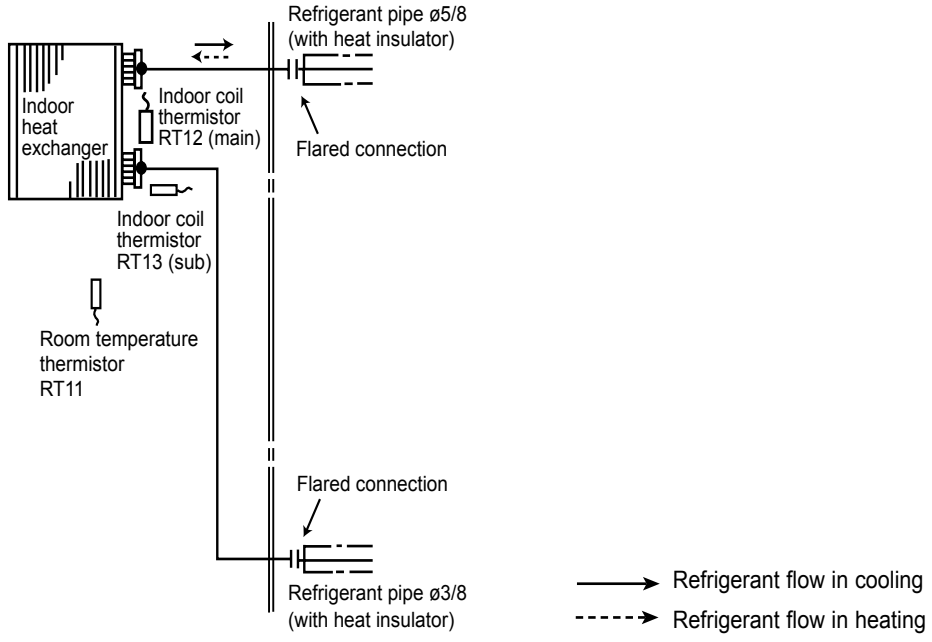
3-5. REFRIGERANT SYSTEM DIAGRAMS

MSZ-FE09NA-8 MSZ-FE12NA-8

Unit: inch (mm)



MSZ-FE18NA



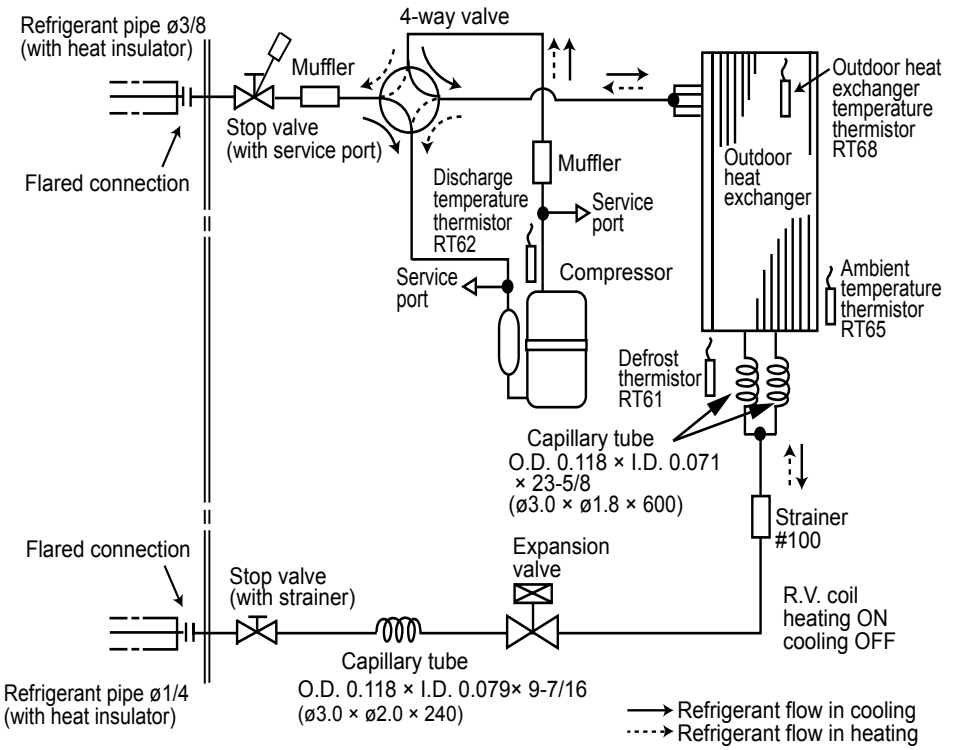
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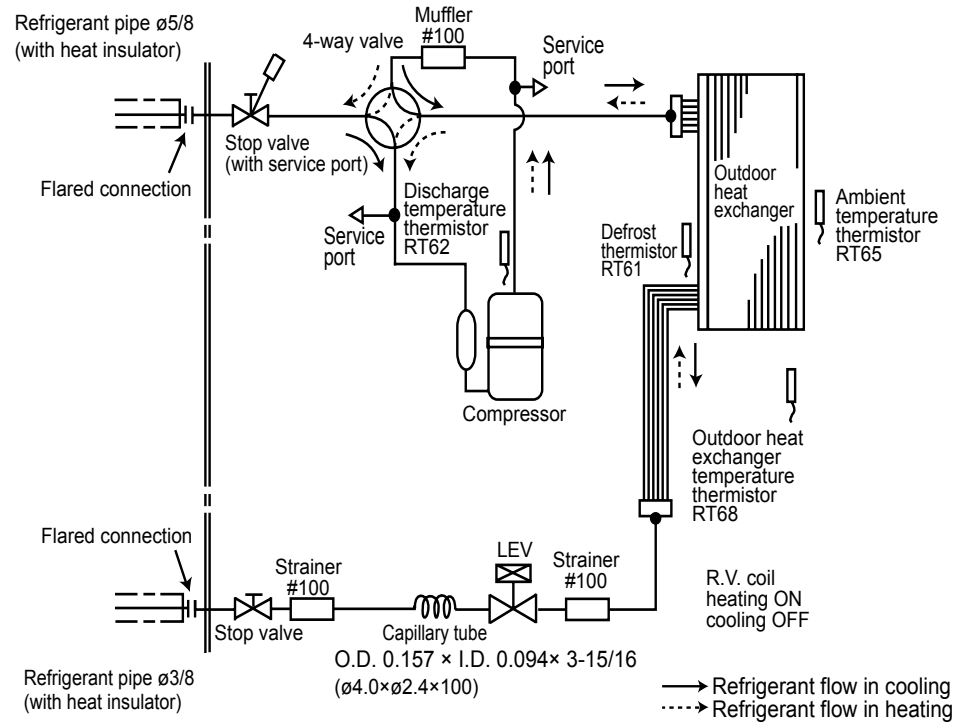
3-5. REFRIGERANT SYSTEM DIAGRAMS

MUZ-FE09NA-1 MUZ-FE12NA1

Unit: inch (mm)



MUZ-FE18NA



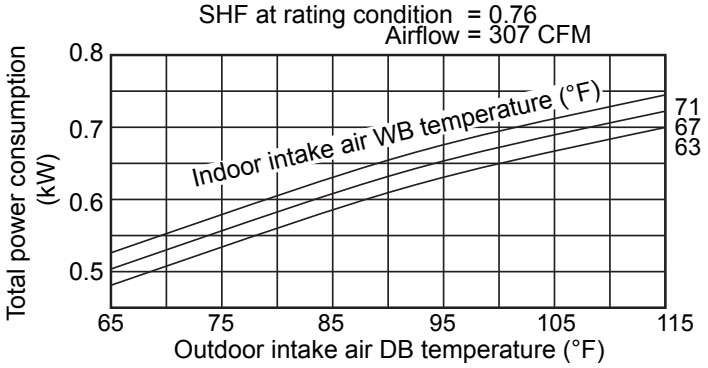
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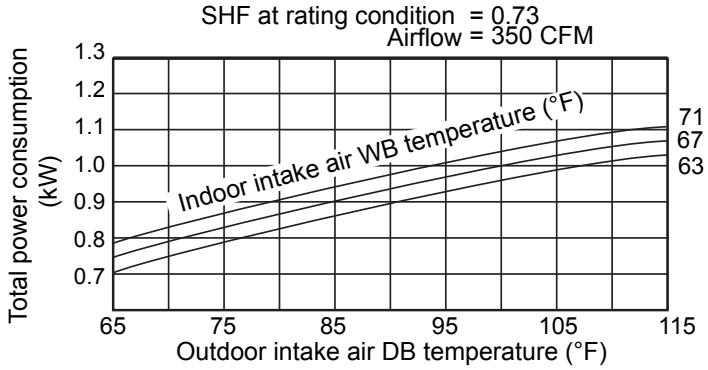
3-6. CAPACITY CORRECTION CURVE BY TEMPERATURE

(1) Cooling

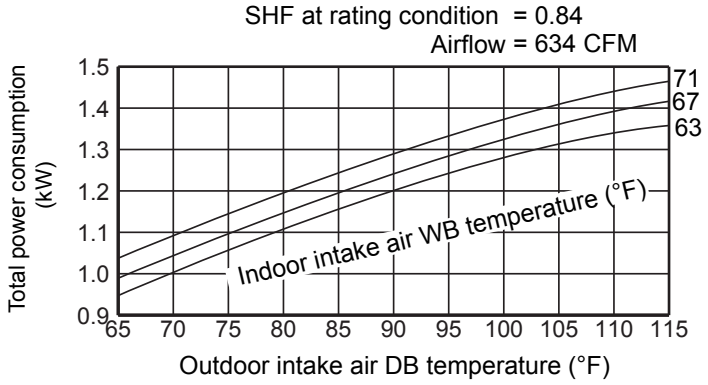
MUZ-FE09NA-1



MUZ-FE12NA1



MUZ-FE18NA

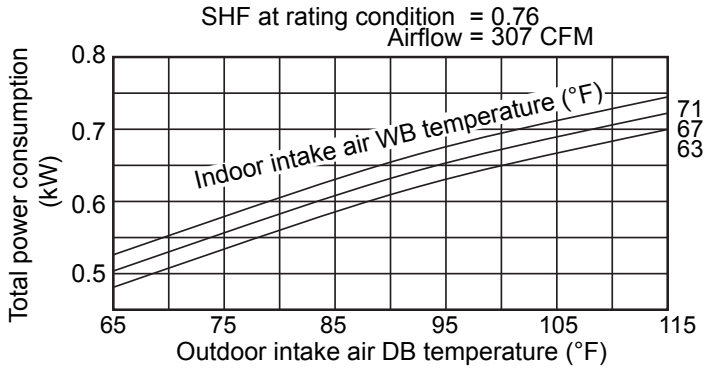


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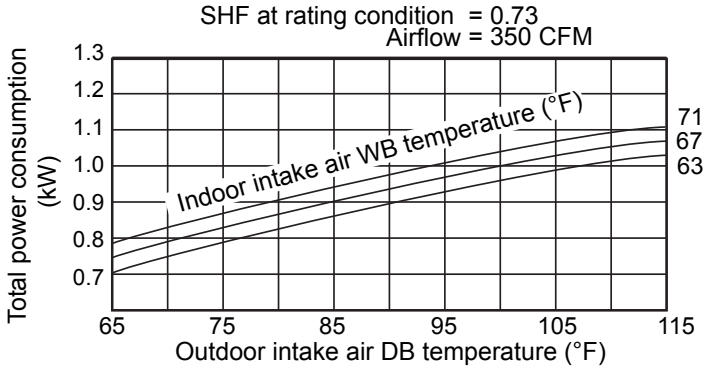
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(2) Heating

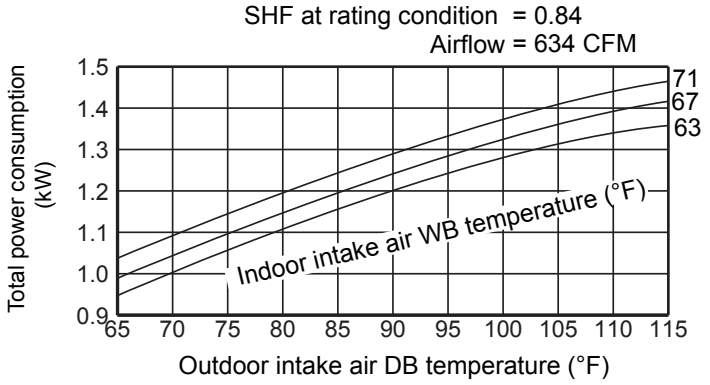
MUZ-FE09NA-1



MUZ-FE12NA1



MUZ-FH15NA



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3-7. CAPACITY CORRECTION TABLE BY TEMPERATURE

(1) Cooling Capacity

Model	Indoor air	Outdoor intake air DB temperature (˚F)														
	IWB (˚F)	75			85			95			105			115		
		TC	SHC	TPC	TC	SHC	TPC	TC	SHC	TPC	TC	SHC	TPC	TC	SHC	TPC
MUZ-FE09NA-1	71	11.0	6.9	0.58	10.3	6.5	0.63	9.7	6.1	0.68	9.0	5.6	0.72	8.3	5.2	0.75
	67	10.4	7.9	0.55	9.7	7.4	0.60	9.0	6.8	0.65	8.4	6.4	0.69	7.7	5.8	0.72
	63	9.8	8.8	0.52	9.1	8.1	0.58	8.5	7.6	0.62	7.7	6.9	0.66	7.0	6.3	0.69
MUZ-FE12NA1	71	14.7	8.8	0.85	13.7	8.2	0.94	12.9	7.7	1.01	12.0	7.2	1.06	11.0	6.6	1.10
	67	13.9	10.2	0.81	13.0	9.5	0.89	12.0	8.8	0.96	11.2	8.1	1.02	10.3	7.5	1.07
	63	13.1	11.3	0.77	12.1	10.5	0.85	11.3	9.7	0.92	10.3	8.9	0.98	9.4	8.1	1.02
MUZ-FE18NA	71	22.1	15.6	1.13	20.6	14.6	1.24	19.4	13.7	1.33	18.0	12.7	1.40	16.6	11.7	1.46
	67	20.9	17.5	1.07	19.4	16.3	1.17	18.0	15.1	1.27	16.7	14.1	1.35	15.4	12.9	1.41
	63	19.6	19.1	1.02	18.2	17.7	1.12	16.9	16.5	1.21	15.4	15.0	1.30	14.0	13.7	1.35

NOTE: 1. IWB : Intake air wet-bulb temperature TC : Total Capacity (x10^3 Btu/h)
SHC : Sensible Heat Capacity (x10^3 Btu/h) TPC : Total Power Consumption (kW)
2. SHC is based on 80˚F of indoor Intake air DB temperature.

(2) Heating Capacity

Model	Indoor air	Outdoor intake air WB temperature (˚F)													
	IDB (˚F)	5		15		25		35		43		45		55	
		TC	TPC	TC	TPC	TC	TPC	TC	TPC	TC	TPC	TC	TPC	TC	TPC
MUZ-FE09NA-1	75	4.8	0.44	6.3	0.56	7.9	0.66	9.4	0.73	10.6	0.77	11.0	0.78	12.4	0.81
	70	5.2	0.42	6.7	0.54	8.2	0.64	9.6	0.71	10.9	0.75	11.2	0.77	12.7	0.80
	65	5.5	0.41	6.9	0.52	8.6	0.62	10.0	0.69	11.2	0.73	11.6	0.74	13.0	0.78
MUZ-FE12NA1	75	6.0	0.58	7.9	0.73	9.9	0.86	11.8	0.96	13.3	1.00	13.7	1.02	15.5	1.06
	70	6.5	0.55	8.4	0.71	10.2	0.84	12.0	0.93	13.6	0.98	14.0	1.00	15.8	1.04
	65	6.8	0.53	8.6	0.68	10.7	0.81	12.4	0.91	14.0	0.96	14.4	0.97	16.2	1.02
MUZ-FE18NA	75	9.5	0.91	12.5	1.15	15.7	1.35	18.7	1.50	21.1	1.58	21.7	1.60	24.6	1.66
	70	10.3	0.87	13.3	1.11	16.2	1.32	19.1	1.46	21.6	1.54	22.2	1.57	25.2	1.63
	65	10.8	0.83	13.6	1.06	17.0	1.27	19.8	1.42	22.2	1.50	22.9	1.52	25.7	1.60

NOTE: 1. IDB : Intake air dry-bulb temperature
TC : Total Capacity (x10^3 Btu/h) TPC : Total Power Consumption (kW)
2. Above data is for heating operation without any frost.

How to operate with fixed operational frequency of the compressor.
1. Press the EMERGENCY OPERATION switch on the front of the indoor unit, and select either EMERGENCY COOL mode or EMERGENCY HEAT mode before starting to operate the air conditioner.
2. The compressor starts with operational frequency.
3. The fan speed of the indoor unit is High.
4. This operation continues for 30 minutes.
5. In order to release this operation, press the EMERGENCY OPERATION switch twice or once, or press any button on the remote controller.

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3-7. CAPACITY CORRECTION TABLE BY TEMPERATURE

(3) 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

(4) M-Series Defrost Correction

Outdoor intake temperature W.B. [° F]	43	39	36	32	28	25	21	18	14
Outdoor intake temperature W.B. [° C]	6	4	2	0	-2	-4	-6	-8	-10
Correction factor	1.00	0.80	0.82	0.84	0.87	0.90	0.93	0.96	1.00

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(5) M-Series Heating Correction

		Outdoor W.B. [° F]							
		-13	-4	5	14	23	32	41	50
	Indoor								
	EAT DB								
MUZ-FE18NA	60	0.78	0.91	1.07	1.07	1.07	1.07	1.07	1.07
MUZ-FE12NA1	60	0.61	0.80	0.98	1.07	1.07	1.07	1.07	1.07
MUZ-FE09NA-1	60	0.66	0.88	1.07	1.07	1.07	1.07	1.07	1.07
Interpolated Data Between 60 and 65 Indoor EAT DB data sets									
MUZ-FE18NA	63	0.76	0.89	1.05	1.05	1.05	1.05	1.05	1.05
MUZ-FE12NA1	63	0.60	0.78	0.96	1.05	1.05	1.05	1.05	1.05
MUZ-FE09NA-1	63	0.65	0.86	1.05	1.05	1.05	1.05	1.05	1.05
MUZ-FE18NA	65	0.75	0.88	1.03	1.03	1.03	1.03	1.03	1.03
MUZ-FE12NA1	65	0.59	0.77	0.95	1.03	1.03	1.03	1.03	1.03
MUZ-FE09NA-1	65	0.64	0.85	1.03	1.03	1.03	1.03	1.03	1.03
MUZ-FE18NA	70	0.73	0.85	1.00	1.00	1.00	1.00	1.00	1.00
MUZ-FE12NA1	70	0.58	0.75	0.92	1.00	1.00	1.00	1.00	1.00
MUZ-FE09NA-1	70	0.62	0.82	1.00	1.00	1.00	1.00	1.00	1.00
MUZ-FE18NA	75	0.70	0.82	0.96	0.96	0.96	0.96	0.96	0.96
MUZ-FE12NA1	75	0.55	0.72	0.89	0.96	0.96	0.96	0.96	0.96
MUZ-FE09NA-1	75	0.60	0.79	0.96	0.96	0.96	0.96	0.96	0.96
MUZ-FE18NA	80	0.67	0.79	0.93	0.93	0.93	0.93	0.93	0.93
MUZ-FE12NA1	80	0.53	0.69	0.85	0.93	0.93	0.93	0.93	0.93
MUZ-FE09NA-1	80	0.57	0.76	0.93	0.93	0.93	0.93	0.93	0.93

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3-8. CAPACITY CORRECTION CURVE BY REFRIGERANT PIPING LENGTH

DUE TO CONTINUING RESEARCH AND PRODUCT IMPROVEMENT, SPECIFICATIONS AND DATA ARE STILL UNDER REVIEW

Due to continuing improvement, above specification may be subject to change without notice.

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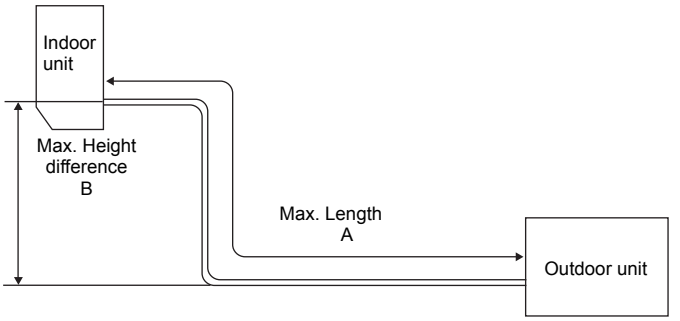
3-9. CAPACITY CORRECTION TABLE BY REFRIGERANT PIPING LENGTH

(1) Cooling Capacity Correction

Refrigerant piping length (one way: ft.)				
	25 (std.)	40	65	100
MUZ-FE09NA-1 **MUZ-FE12NA1**	1.0	0.954	0.878	-
MUZ-FE18NA				0.771

(2) Maximum Refrigerant Piping Length & Maximum Height Difference

Model	Refrigerant piping: ft.		Piping size O.D: in.	
	Max. Length A	Max. Height difference B	Gas	Liquid
MUZ-FE09NA **MUZ-FE12NA1**	65	40	3/8	1/4
MUZ-FE18NA			5/8	3/8



(3) M-Series Piping Correction Cooling

Refrigerant piping length (ft)			
25(std)	40	65	100
1.000	0.954	0.878	0.771

(4) M-Series Piping Correction Heating

Refrigerant piping length (ft)			
25(std)	40	65	100
1.000	0.989	0.972	0.955

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3-10. CHARGE CALCULATIONS

(1) Additional Refrigerant Charge (R410A: oz.)

NOTE: Refrigerant piping exceeding 25 ft. requires additional refrigerant charge according to the calculation.

Model	Outdoor unit precharged	Refrigerant piping length (one way): ft.					
		25	30	40	50	60	65
MUZ-FE09NA-1 **MUZ-FE12NA1**	2 lb. 9 oz.	0	1.62	4.86	8.10	11.34	12.96

Calculation: X oz. = 1.62/5 oz./ft. × (Refrigerant piping length (ft.) - 25)

NOTE: Refrigerant piping exceeding 25 ft. requires additional refrigerant charge according to the calculation.

Model	Outdoor unit precharged	Refrigerant piping length (one way): ft.								
		33	40	50	60	70	80	90	100	100
MUZ-FE18NA	4 lb. 3 oz.	0	4.14	10.06	15.98	21.90	27.82	33.74	39.66	16.20

Calculation: X oz. = 1.08/5 oz./ft. × (Refrigerant piping length (ft.) - 25)

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Outlet Air Speed And Coverage

Model name	Mode	Function	Airflow (CFM)	Air speed (ft./s.)	Coverage (ft.)
MSZ-FE09NA-8	HEAT	Dry	381	19.2	27.7
	COOL	Dry	339	17.1	24.7
		Wet	307	15.5	22.4
MSZ-FE12NA-8	HEAT	Dry	420	21.2	30.4
	COOL	Dry	381	19.2	27.7
		Wet	350	17.6	25.4
MSZ-FE18NA	HEAT	Dry	738	18.0	36.9
	COOL	Dry	738	18.0	36.9
		Wet	661	16.1	33.2

- The air coverage is the figure up to the position where the air speed is 1 ft./s., when air is blown out horizontally from the unit properly at the High speed position.
  The coverage should be used only as a general guideline since it varies according to the size of the room and furniture arranged inside the room.

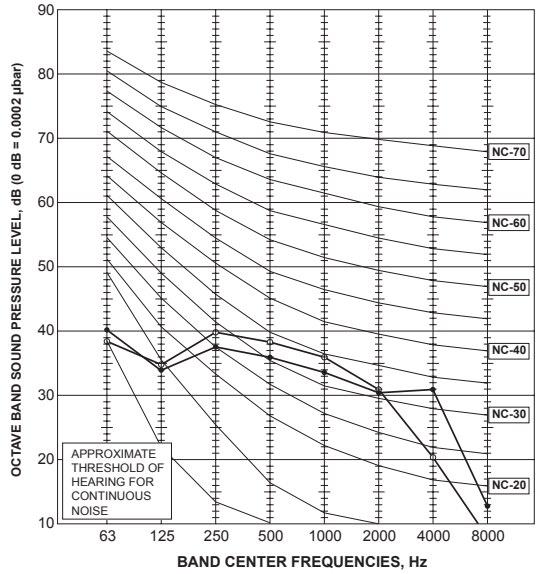
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3-12. SOUND PRESSURE LEVELS

(1) Indoor Unit

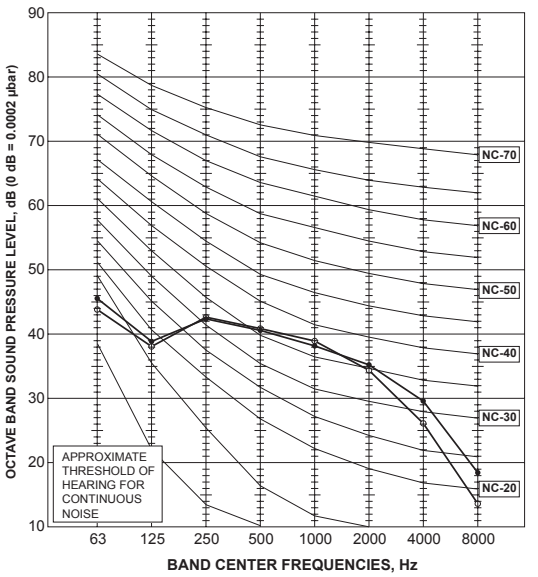
MSZ-FE09NA-8

NOTCH	SPL(dB(A))	LINE
COOLING(SHi)	39	●—●
HEATING(SHi)	40	○—○



MSZ-FE12NA-8

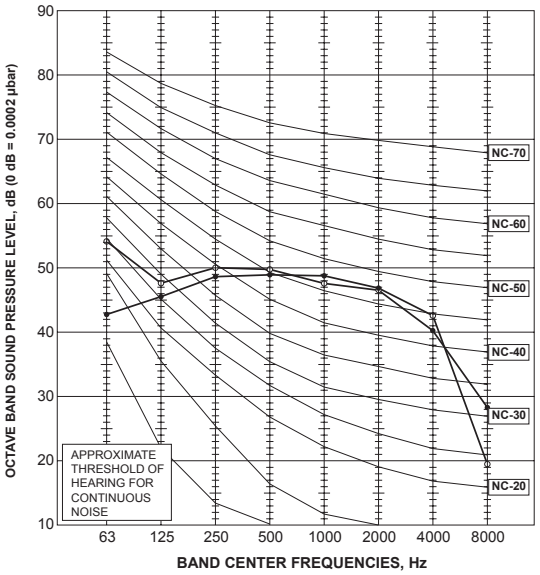
NOTCH	SPL(dB(A))	LINE
COOLING(SHi)	43	●—●
HEATING(SHi)	43	○—○

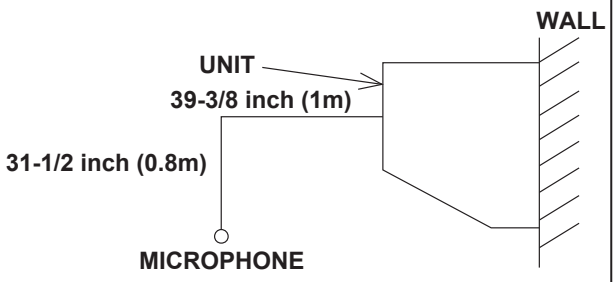


NOTE: The sound level is measured in an anechoic room where echoes are few, when compressor stops. The sound may be bigger than displayed level under actual installation condition by surrounding echoes. The sound level can be higher by about 2 dB than the displayed level during cooling and heating operation.

MSZ-FE18NA

NOTCH	SPL(dB(A))	LINE
COOLING(Rated)	53	●—●
HEATING(Rated)	53	○—○





NOTE:The sound level is measured in an anechoic room where echoes are few,when compressor stops.The sound may be bigger than displayed level under actual installation condition by surrounding echoes.The sound level can be higher by about 2 dB than the displayed level during cooling and heating operation.

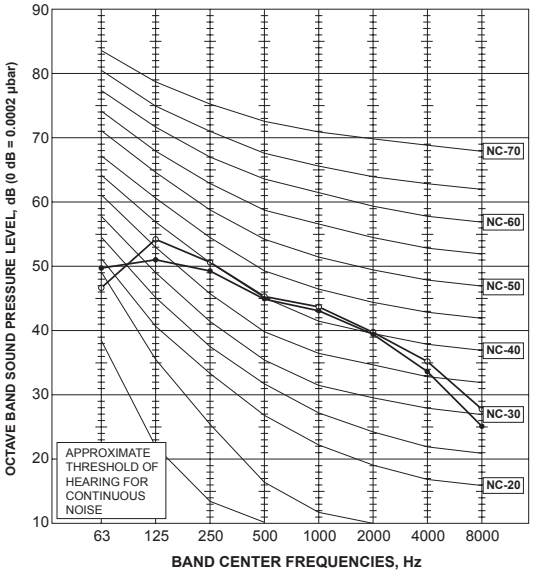
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(2) Outdoor Unit

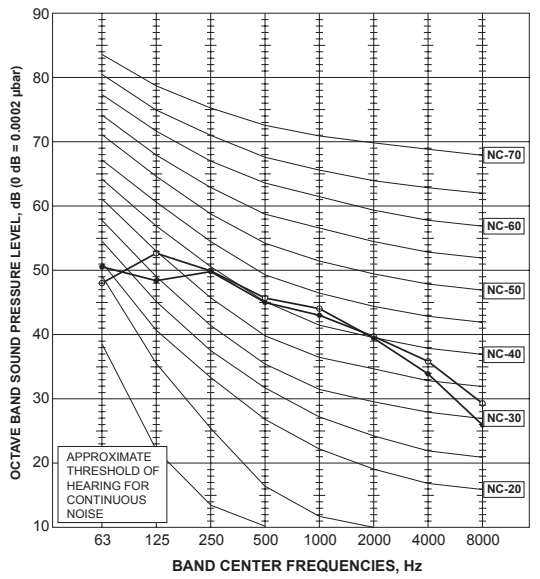
MUZ-FE09NA-1

NOTCH	SPL(dB(A))	LINE
COOLING	48	●—●
HEATING	49	○—○



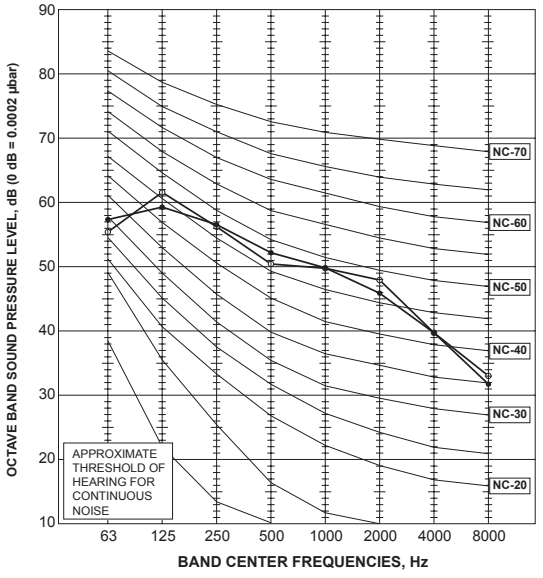
MUZ-FE12NA1

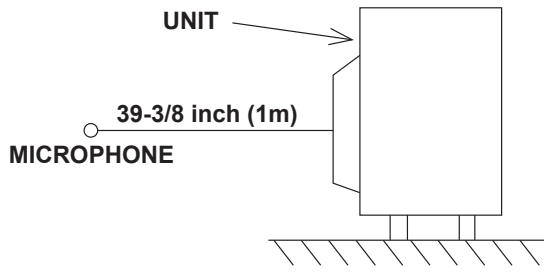
NOTCH	SPL(dB(A))	LINE
COOLING	48	●—●
HEATING	49	○—○



MUZ-FE18NA

NOTCH	SPL(dB(A))	LINE
COOLING	55	●—●
HEATING	55	○—○





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3-13. STANDARD OPERATION RANGE

OPERATING RANGE

(A) POWER SUPPLY

	Rated voltage	Guaranteed voltage (V)
Outdoor unit	208/230 V 1 phase 60 Hz	Min. 187 208 230 Max. 253

(B) OPERATION

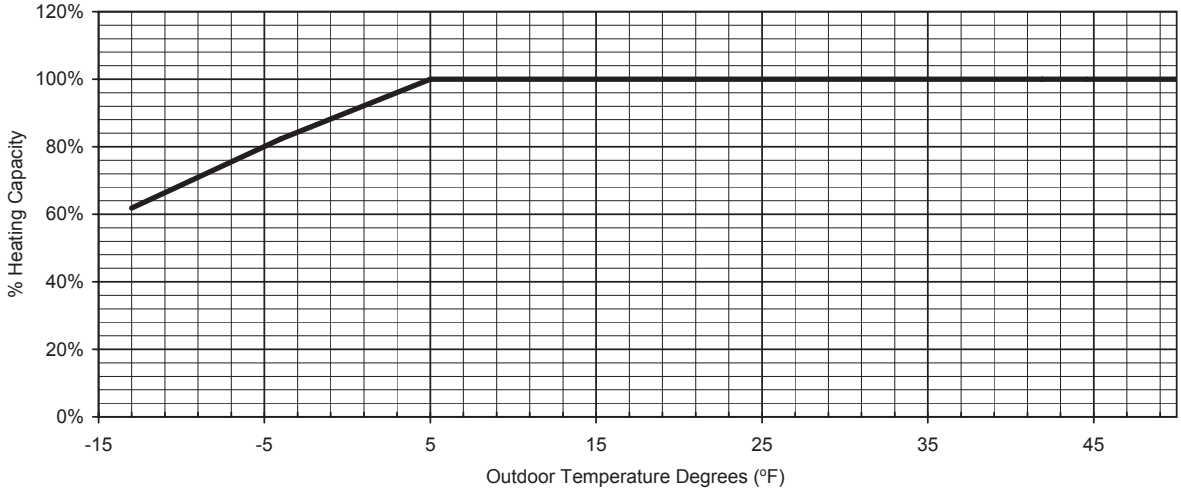
Mode	Condition	Intake air temperature (°F)			
		Indoor		Outdoor	
		DB	WB	DB	WB
Cooling	Standard temperature	80	67	95	—
	Maximum temperature	90	73	115	—
	Minimum temperature	67	57	14	—
	Maximum humidity	78 %		—	
Heating	Standard temperature	70	60	47	43
	Maximum temperature	80	67	75	65
	Minimum temperature	70	60	-13	-15

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3-14. MAXIMUM HEATING CAPACITY IN LOW AMBIENT TEMPERATURE

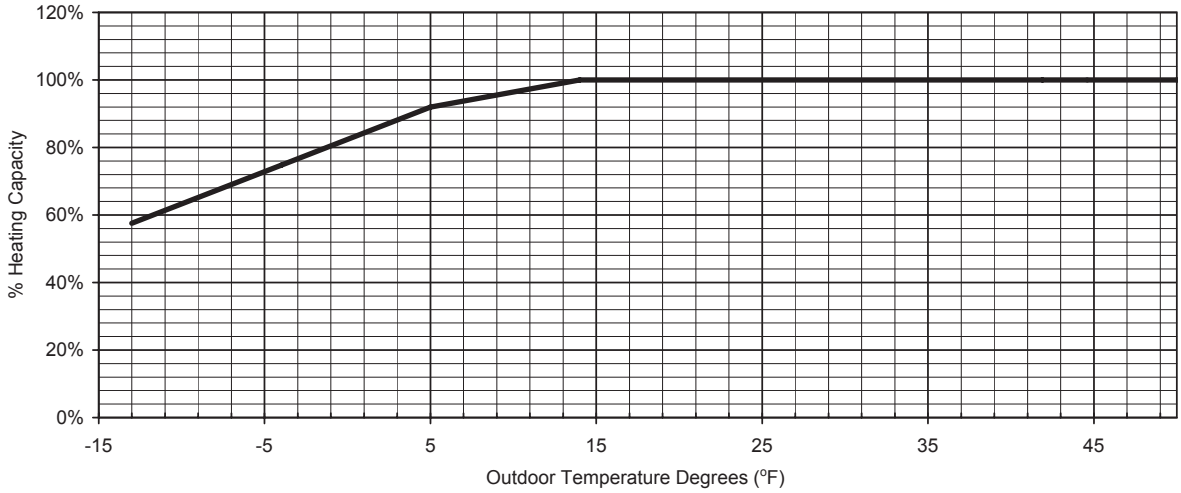
MUZ-FE09NA-1



HEATING CAPACITY

Outdoor Temperature Degrees (°F)	-13.0	-4.0	5.0	14.0	23.0	32.0	41.0	50.0	69.8
% Heating Capacity	62%	82%	100%	100%	100%	100%	100%	100%	100%

MUZ-FE12NA1



HEATING CAPACITY

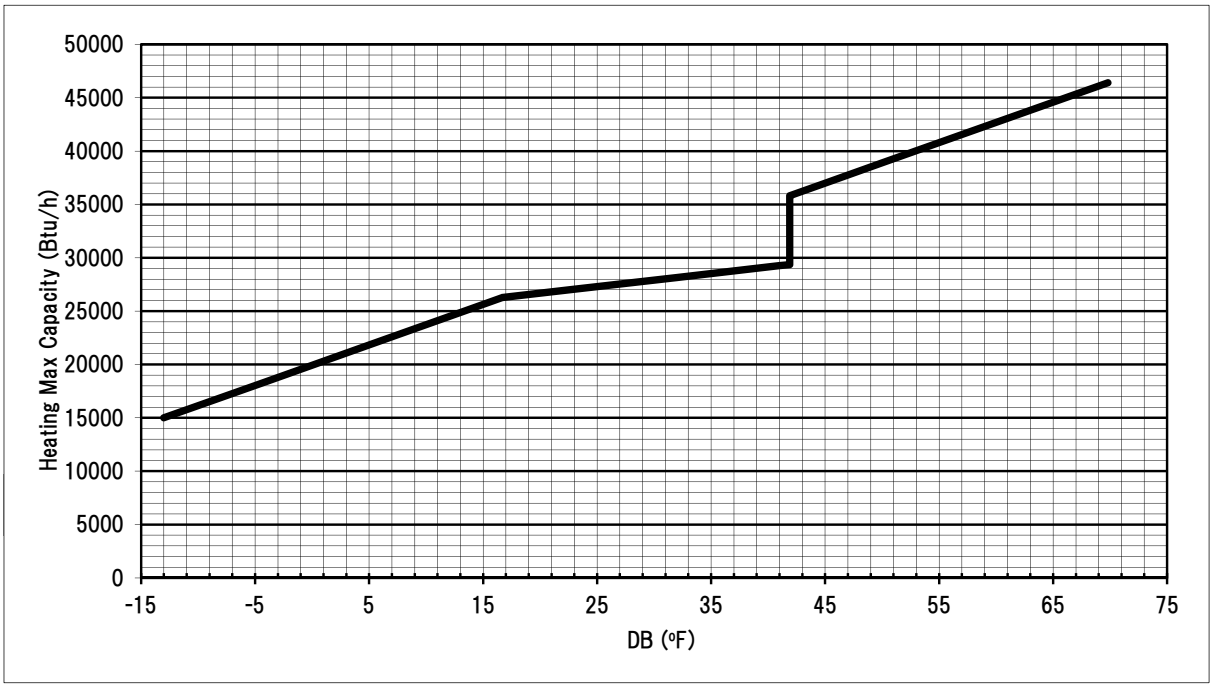
Outdoor Temperature Degrees (°F)	-13.0	-4.0	5.0	14.0	23.0	32.0	41.0	50.0	69.8
% Heating Capacity	58%	75%	92%	100%	100%	100%	100%	100%	100%

Due to continuing improvement, above specification may be subject to change without notice.

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3-14. MAXIMUM HEATING CAPACITY IN LOW AMBIENT TEMPERATURE

MUZ-FE18NA



HEATING MAX CAPACITY

DB (°F)	-13.0	-4.0	5.0	14.0	23.0	32.0	41.0	50.0	69.8
Q (Btu/h)	15002	18416	21830	25244	27047	28153	29259	38899	46408
W(kW)	2.85	3.00	3.15	3.25	3.35	3.50	3.60	3.70	3.80
COP	5.26	6.14	6.93	7.77	8.07	8.04	8.13	10.51	12.21

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3-15. 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	
MAC-2310FT-E	Anti-Allergy Enzyme Filter (qty of 2)	FE18
MAC-308FT-E	Platinum Catalyst Deodorizing Filter	FE09,12
MAC-333IF-E	System Control Interface - MA, Contact terminal, and M-NET Control Adapter, Supplemental heat and humidifier adaptor	All Models
MAC-418FT-E	Anti-Allergy Enzyme Filter	FE09,12
MCCH1	Portable Central Controller (PCC) - controls up to 16 RedLINK Zones - requires an MHK1 on each indoor unit	All Models
MHK1	Wireless wall-mounted remote controller (MRCH1) with a signal receiver (MIFH1) and cable (MRC1) all in one kit	
MOS1	Outdoor Air Sensor - reads both outside temperature and humidity displayed on MRCH1 and MCCH1 if installed	
PAC-YT53CRAU	Simple MA Remote Controller (requires MAC-333IF-E interface for MSY/Z and MFZ indoor units)	
PAR-31MAA	Wall mounted, hard wired, multi-functional controller: used specifically for grouping (up to 16 units), twinning, lead/lag, and 7 day programmable applications (requires MAC-333IF-E interface for MSY/Z and MFZ indoor units)	
RCMKP1CB	Lockdown Bracket for wireless, hand-held, remote controllers	

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(1) Indoor Unit cont.

Part Number	Descriptions		Applicable model
SI30-115	Mini-Condensation pump - 115 volt application		All Models
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		
X87-721	Advanced Blue Diamond Mini-Condensation pump w/ Resevoir & Sensor - 208/230 volt application		
MLS143812T-15	Diamondback Linesets	1/4 x 3/8 x 15' / 1/2" Twin-Tube Insulation	FE09,12
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	
MPLS385812T-10		3/8 x 5/8 x 10' / 1/2" Twin-Tube Insulation	FE18
MPLS385812T-15		3/8 x 5/8 x 15' / 1/2" Twin-Tube Insulation	
MPLS385812T-30		3/8 x 5/8 x 30' / 1/2" Twin-Tube Insulation	
MPLS385812T-50		3/8 x 5/8 x 50' / 1/2" Twin-Tube Insulation	
MPLS385812T-65		3/8 x 5/8 x 65' / 1/2" Twin-Tube Insulation	
MPLS385812T-100		3/8 x 5/8 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	
MAC-640BH-U	Outdoor Unit Drain Pan Heater used during defrost cycle	FE09,12
MAC-642BH-U	Outdoor Unit Drain Pan Heater used during defrost cycle	FE18
MAC-860DS	Outdoor drain pan socket - Provides pipe connection to route condensate out of drain pan	FE09,12,18
MAC-886SG-E	Outdoor air outlet guide for directing discharge air away from other outdoor unit	FE18
MAC-889SG	Outdoor air outlet guide for directing discharge air away from other outdoor unit	All Models
ULTRILITE1	Condensing Unit Mounting Pad 16” x 36” x 3”	

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