Revision:
- MUX-10/18/24RV -E1 has been added.
- MXZ-18/32RV -E1 has been added.
- Noise criteria curves has been added.
- Performance data has been added.
- Specification has been partially modified.
- Refrigerant system diagram has been partially modified.
- Please void OB227 REVISED EDITION-A

MITSUBISHI ELECTRIC

SPLIT-TYPE,AIR CONDITIONERS
SPLIT-TYPE,HEAT PUMP AIR CONDITIONERS

No. OB227
REVISED EDITION-B

SERVICE MANUAL

Wireless type
Models

MSC-07RV -E1(WH) · **MU-07RV -E1**
MSC-09RV -E1(WH) · **MU-09RV -E1**
MSC-12RV -E1(WH) · **MU-12RV -E1**

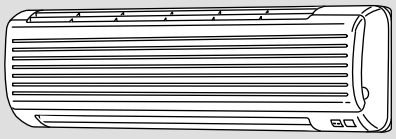
MSC-07RV -E1(WH) · **MUH-07RV -E1**
MSC-09RV -E1(WH) · **MUH-09RV -E1**
MSC-12RV -E1(WH) · **MUH-12RV -E1**

Multi system type

MSC-07RV -E1(WH) · **MUX-10RV -E1**
MSC-09RV -E1(WH) · **MUX-18RV -E1**
MSC-12RV -E1(WH) · **MUX-24RV -E1**

Inverter controlled multi system type

· **MXZ-18RV -E1**
· **MXZ-32RV -E1**



MSC-07RV -E1
MSC-09RV -E1
MSC-12RV -E1

NOTE: (Only MXZ-32RV -E1)
This manual describes technical data of MSC type indoor unit .
For other indoor unit refer to the service manuals No. OB229 REVISED EDITION-A of corresponding models.

CONTENTS

1 TECHNICAL CHANGES

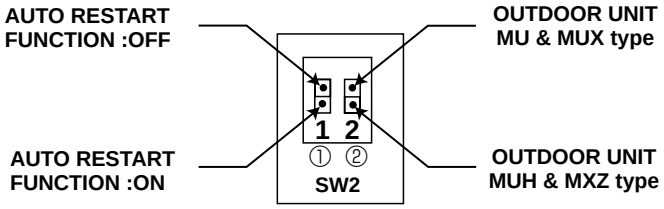
MS-07NVⅡ -E1
MSH-07NVⅡ -E1 } → **MSC-07RV -E1**
MSX-05NV--E1

MS-09NVⅡ -E1
MSH-09NVⅡ -E1 } → **MSC-09RV -E1**
MSX-09NV--E1

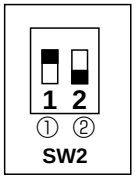
MS-12NVⅡ -E1
MSH-12NVⅡ -E1 } → **MSC-12RV -E1**
MSX-12NV--E1

1. Switch SW2 has added on the indoor electronic control P.C. board.
   • Indoor unit model has changed. Indoor units for COOL only type (MU and MUX) and COOL and HEAT type (MUH and MXZ)are common specifications. Set switch SW2-②
   according to the type of outdoor unit.
   • Change switch SW2-① for setting AUTO RESTART FUNCTION ON/OFF.

Set of switch SW2



When the units are shipped from the factory, switch SW2 is as follows.
SW2-①: AUTO RESTART FUNCTION OFF
SW2-②: MUH type



2. SLEEP MODE function has been removed.
3. ECONO COOL operation has been added.
4. SWING button is removed, but SWING MODE function is available by VANE CONTROL button.

MU-07NV -E2 → MU-07RV -E1
MUH-07NV -E2 → MUH-07RV -E1
MU-09NV -E2 → MU-09RV -E1
MUH-09NV -E2 → MUH-09RV -E1
MU-12NV -E2 → MU-12RV -E1
MUH-12NV -E2 → MUH-12RV -E1

1. Outdoor model has changed.

MUX-10NV -E1 → MUX-10RV -E1

1.Outdoor model name has changed.
2 Refrigerant filling capacity has changed. (1.15kg → 1.0kg)

MUX-18NV -E1 → MUX-18RV -E1

1.Outdoor model name has changed.
2 Capillary tube has changed.
(ϕ3.0×ϕ1.4×1000 → ϕ3.0×ϕ1.4×1100)
(ϕ3.0×ϕ1.4×600 → ϕ3.0×ϕ1.6×1100)
(ϕ3.0×ϕ1.4×150 → ϕ3.0×ϕ1.6×300)

MUX-24NV -E1 → MUX-24RV -E1

1.Outdoor model name has changed.
2 Refrigerant filling capacity has changed. (1.15+1.15kg → 1.0+1.0kg))

MXZ-18NV -E2 → MXZ-18RV -E1

1.Outdoor model name has changed.
2.Possibly connected indoor units combination was changed.
(MSH-09NV(Ⅱ) -E2×2 → MSC-09RV -E1×2)
(MSH-07NV(Ⅱ) -E2 + MSH-12NV(Ⅱ) -E2 → MSC-07RV -E1 + MSC-12RV -E1)

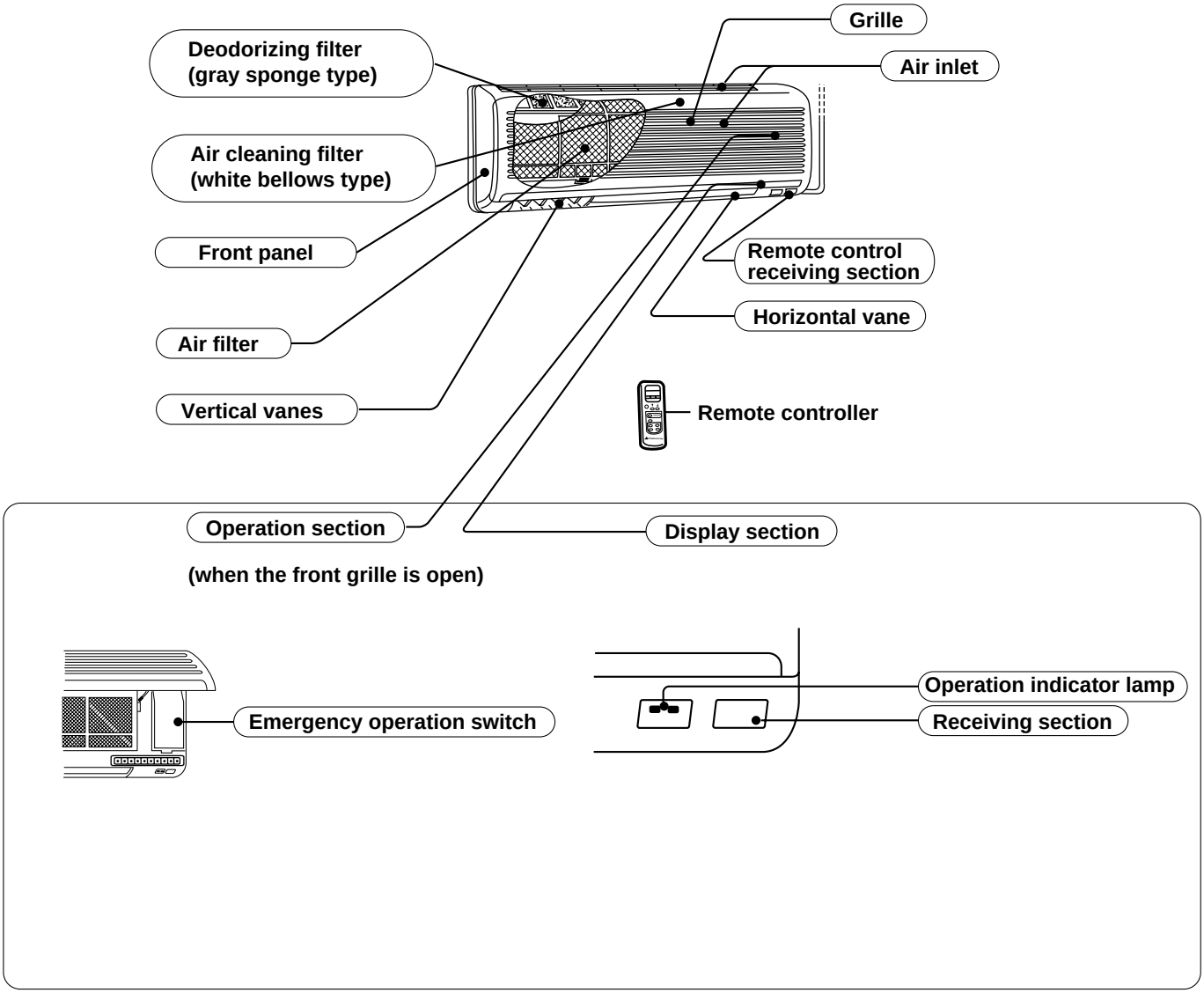
MXZ-32NV -E2 → MXZ-32RV -E1

1.Outdoor model name has changed.
2.Possibly connected indoor units were changed.
(MSH-07NV(Ⅱ) -E2 → MSC-07RV -E1)
(MSH-09NV(Ⅱ) -E2 → MSC-09RV -E1)
(MSH-12NV(Ⅱ) -E2 → MSC-12RV -E1)
(MSH-18NV -E3 → MSH-18NV -E4)
3.Control P.C. board has changed.
4.Compressor frequency controll has partly changed.

2 PART NAMES AND FUNCTIONS

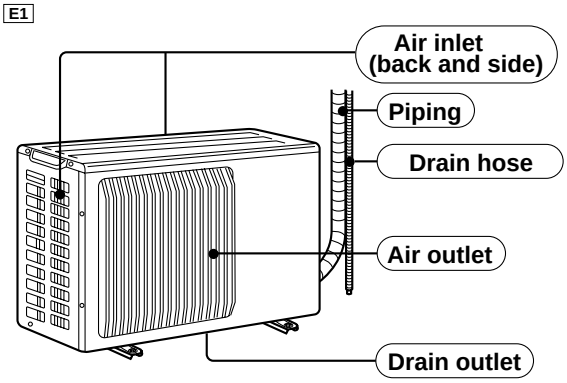
INDOOR UNIT

MSC-07RV - E1
MSC-09RV - E1
MSC-12RV - E1



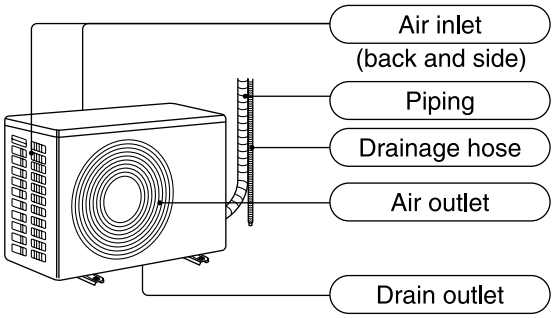
OUTDOOR UNIT

MU-07RV - E1 **MUH-07RV -** E1
MU-09RV - E1 **MUH-09RV -** E1
MU-12RV - E1 **MUH-12RV -** E1

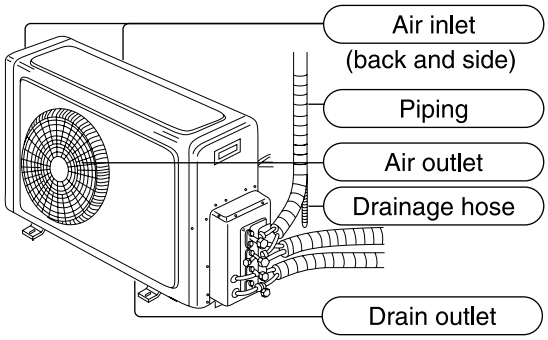


OUTDOOR UNIT

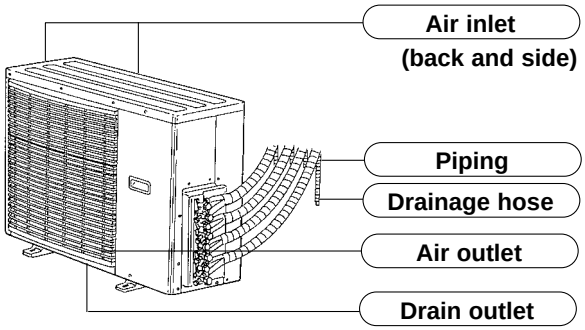
MUX-10RV-E1



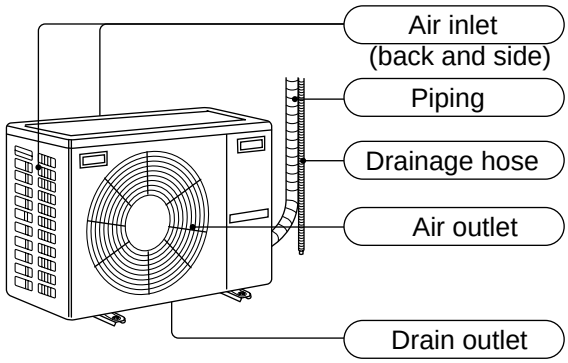
MUX-18RV-E1



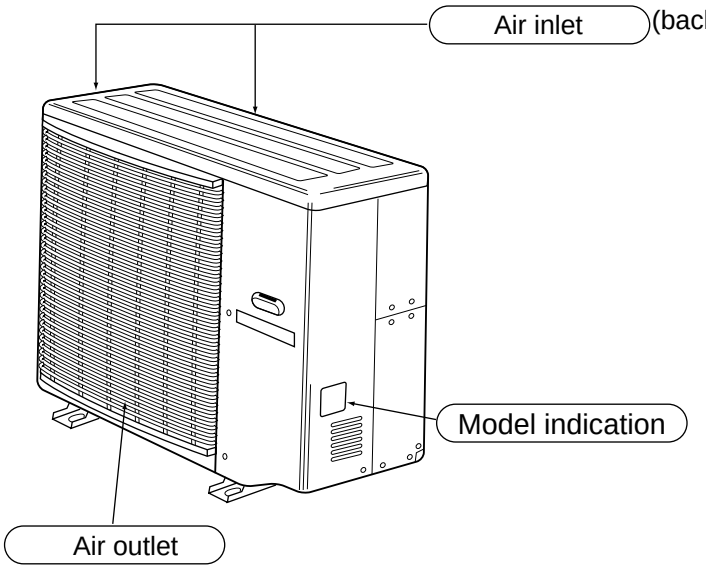
MUX-24RV-E1



MXZ-18RV-E1

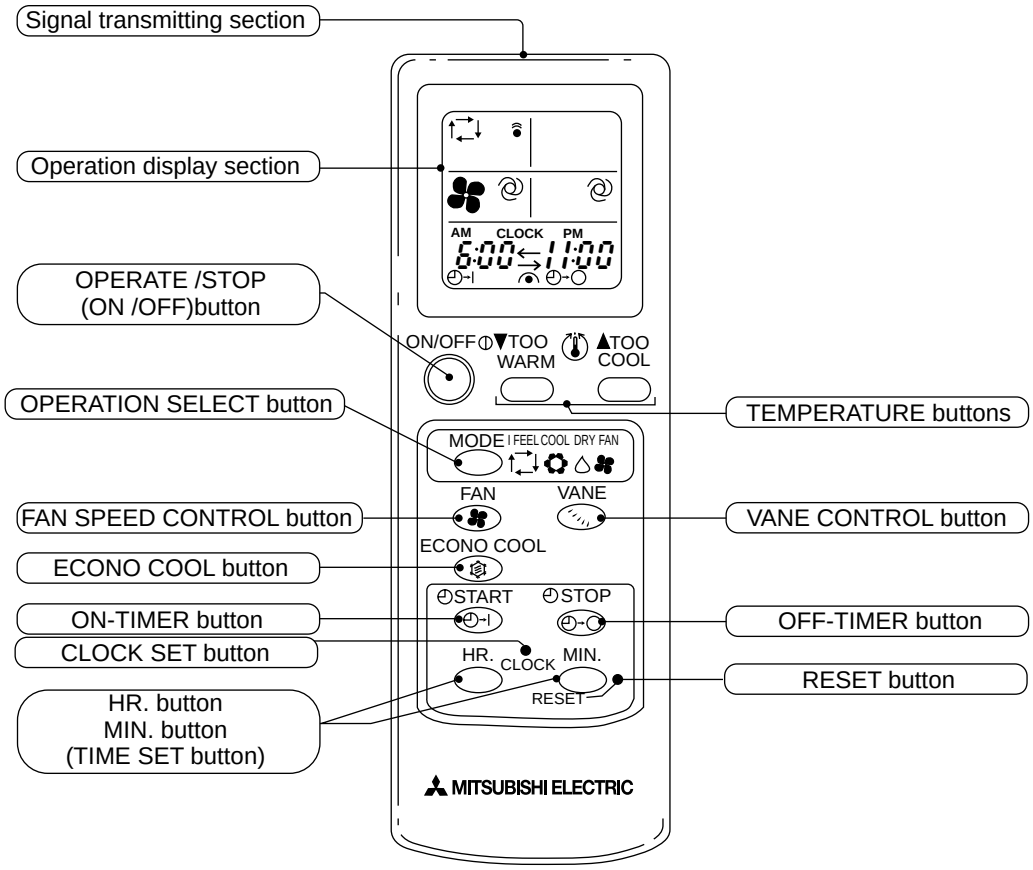


MXZ-32RV-E1



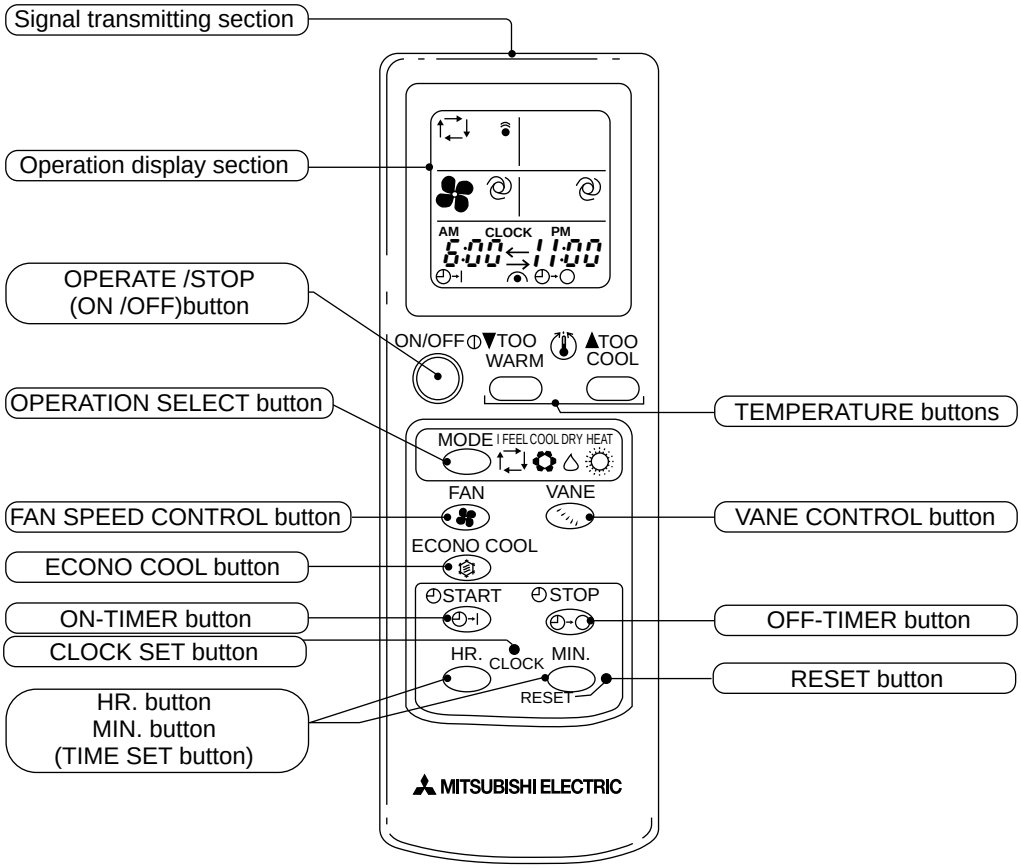
MU-07RV - E1
MU-09RV - E1
MU-12RV - E1
MUX-10RV - E1
MUX-18RV - E1
MUX-24RV - E1

※The remote controller is packed with the outdoor unit (MU& MUH type).



MUH-07RV - E1
MUH-09RV - E1
MUH-12RV - E1
MXZ-18RV - E1
MXZ-32RV - E1

※The remote controller is packed with the outdoor unit (MUH& MXZ type).



3 INDOOR / OUTDOOR CORRESPONDENCE TABLE

MXZ-18RV

	OUTDOOR UNIT
	MXZ-18RV-E1
	09+09
	07+12

MXZ-32RV

	OUTDOOR UNIT
	MXZ-32RV-E1
Combination of the connectable indoor units	07+07+07
	07+07+09
	07+07+(12 or 13)
	07+07+18
	07+09+09
	07+09+(12 or 13)
	07+09+18
	07+(12 or 13)+(12 or 13)
	07+(12 or 13)+18
	07+18+18
	09+09+09
	09+09+(12 or 13)
	09+09+18
	09+(12 or 13)+(12 or 13)
	09+(12 or 13)+18
	09+18+18
	(12 or 13)+(12 or 13)+(12 or 13)
	(12 or 13)+(12 or 13)+18
	07+07+07+07
	07+07+07+09
	07+07+07+(12 or 13)
	07+07+07+18
	07+07+09+09
	07+07+09+(12 or 13)
	07+07+09+18
	07+07+(12 or 13)+(12 or 13)
	07+07+(12 or 13)+18
	07+09+09+09
	07+09+09+(12 or 13)
	07+09+09+18
	07+09+(12 or 13)+(12 or 13)
	09+09+09+09
	09+09+09+(12 or 13)
	09+09+09+18
	09+09+(12 or 13)+(12 or 13)

❋There is no combination other than this table.

4 INDOOR UNITS COMBINATION

MXZ-18RV

NOTE:Electrical data is for outdoor unit only.

Indoor units combination	Cooling capacity (kW)			Outdoor unit power consumption (kW)	Current (A)		Power factor (%)
	Unit A	Unit B	Total		220V	240V	
07	2.3	-	2.3 (1.6 - 2.8)	1.02 (0.855 - 1.33)	5.20	4.72	89 - 90
09	2.5	-	2.5 (1.7 - 3.0)	1.05 (0.855 - 1.36)	5.36	4.86	89 - 90
12	3.4	-	3.4 (1.8 - 3.8)	1.45 (0.855 - 1.63)	7.40	6.71	89 - 90
07+12	2.0	2.5	4.5 (2.0 - 4.5)	2.00 (0.91- 2.00)	10.21	9.26	89 - 90
09+09	2.25	2.25	4.5 (1.9 - 4.5)	2.00 (0.91 - 2.00)	10.21	9.26	89 - 90

Indoor units combination	Heating capacity (kW)			Outdoor unit power consumption (kW)	Current (A)		Power factor (%)
	Unit A	Unit B	Total		220V	240V	
07	3.3	-	3.3 (2.0 - 4.0)	1.45 (0.69 - 1.60)	7.40	6.71	89 - 90
09	3.6	-	3.6 (2.0 - 4.5)	1.47 (0.69 - 1.62)	7.50	6.80	89 - 90
12	4.0	-	4.0 (2.2 - 4.7)	1.63 (0.69 - 1.69)	8.32	7.54	89 - 90
07+12	2.7	3.1	5.8 (2.1 - 5.8)	1.785 (0.69 - 1.785)	9.02	8.26	90 - 90
09+09	2.9	2.9	5.8 (2.0 - 5.8)	1.785 (0.69 - 1.785)	9.02	8.26	90 - 90

MXZ-32RV

NOTE: Electrical data is for outdoor unit only.

Indoor units combination	Cooling capacity (kw)					Outdoor unit power consumption (kw)	Current (A)		Power factor (%)
	Unit A	Unit B	Unit C	Unit D	Total		220V	240V	
07	2.2	-	-	-	2.2 (1.8-2.7)	1.00 (0.96-1.14)	5.05	4.63	90
09	2.8	-	-	-	2.8 (1.8-3.2)	1.77 (0.96-1.36)	5.91	5.42	90
12(13)	4.0	-	-	-	4.0 (2.2-4.5)	1.42 (1.00-1.63)	7.17	6.57	90
18	5.0	-	-	-	5.0 (2.2-5.4)	1.84 (1.00-1.99)	9.29	8.52	90
07+07	2.2	2.2	-	-	4.4 (3.0-5.4)	1.63 (1.30-2.03)	8.23	7.55	90
07+09	2.2	2.8	-	-	5.0 (3.0-6.0)	1.88 (1.30-2.23)	9.49	8.70	90
07+12(13)	2.2	4.0	-	-	6.2 (3.0-7.2)	2.38 (1.30-3.60)	12.02	11.02	90
07+18	2.2	5.0	-	-	7.2 (3.0-7.6)	2.74 (1.30-3.60)	13.84	12.69	90
09+09	2.8	2.8	-	-	5.6 (3.0-6.4)	2.13 (1.30-3.60)	10.76	9.86	90
09+12(13)	2.8	4.0	-	-	6.8 (3.0-7.6)	2.63 (1.30-3.60)	13.28	12.18	90
09+18	2.8	5.0	-	-	7.8 (3.0-8.6)	3.29 (1.30-3.60)	17.07	15.65	90
12(13)+12(13)	4.0	4.0	-	-	8.0 (3.0-8.8)	3.38 (1.30-3.60)	17.07	15.65	90
12(13)+18	3.5	4.5	-	-	8.0 (3.0-8.8)	3.38 (1.30-3.60)	17.07	15.65	90
18+18	4.0	4.0	-	-	8.0 (3.0-8.8)	3.38 (1.30-3.60)	17.07	15.65	90
07+07+07	2.2	2.2	2.2	-	6.6 (3.7-8.1)	3.23 (1.30-3.96)	16.31	14.95	90
07+07+09	2.2	2.2	2.8	-	7.2 (3.7-8.5)	3.23 (1.30-3.96)	16.31	14.95	90
07+07+12(13)	2.1	2.1	3.8	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+07+18	1.9	1.9	4.2	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+09+09	2.2	2.8	2.8	-	7.8 (3.7-8.8)	3.23 (1.30-3.96)	16.31	14.95	90
07+09+12(13)	1.9	2.5	3.6	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+09+18	1.7	2.3	4.0	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+12(13)+12(13)	1.8	3.1	3.1	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+12(13)+18	1.6	2.8	3.6	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+18+18	1.5	3.25	3.25	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90

NOTE: Electrical data is for outdoor unit only.

Indoor units combination	Cooling capacity (kw)					Outdoor unit power consumption (kw)	Current (A)		Power factor (%)
	Unit A	Unit B	Unit C	Unit D	Total		220V	240V	
09+09+09	2.67	2.67	2.67	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.92	90
09+09+12(13)	2.3	2.3	3.4	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
09+09+18	2.1	2.1	3.8	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
09+12(13)+12(13)	2.0	3.0	3.0	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
09+12(13)+18	1.9	2.7	3.4	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
09+18+18	1.8	3.1	3.1	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
12(13)+12(13) +12(13)	2.67	2.67	2.67	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
12(13)+12(13)+18	2.45	2.45	3.1	-	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+07+07+07	2.0	2.0	2.0	2.0	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+07+07+09	1.83	1.83	1.83	2.4	7.9 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+07+07+12(13)	1.7	1.7	1.7	2.9	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+07+07+18	1.5	1.5	1.5	3.5	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+07+09+09	1.8	1.8	2.2	2.2	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+07+09+12(13)	1.6	1.6	2.0	2.8	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+07+09+18	1.5	1.5	1.8	3.2	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+07+12(13) +12(13)	1.4	1.4	2.6	2.6	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+07+12(13)+18	1.3	1.3	2.4	3.0	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+09+09+09	1.7	2.1	2.1	2.1	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+09+09+12(13)	1.5	1.9	1.9	2.7	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+09+09+18	1.4	1.75	1.75	3.1	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
07+09+12(13) +12(13)	1.35	1.75	2.45	2.45	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
09+09+09+09	2.0	2.0	2.0	2.0	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
09+09+09+12(13)	1.8	1.8	1.8	2.6	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
09+09+09+18	1.67	1.67	1.67	3.0	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90
09+09+12(13) +12(13)	1.65	1.65	2.35	2.35	8.0 (3.7-9.0)	3.23 (1.30-3.96)	16.31	14.95	90

NOTE: Electrical data is for outdoor unit only.

Indoor units combination	Heating capacity (kw)					Outdoor unit power consumption (kw)	Current (A)		Power factor (%)
	Unit A	Unit B	Unit C	Unit D	Total		220V	240V	
07	3.4	-	-	-	3.4 (2.1-3.6)	1.20 (0.91-1.28)	6.06	5.55	90
09	4.0	-	-	-	4.0 (2.1-4.2)	1.43 (0.91-1.51)	7.22	6.62	90
12(13)	6.0	-	-	-	6.0 (2.2-6.3)	1.79 (0.94-1.88)	9.04	8.29	90
18	7.1	-	-	-	7.1 (2.2-7.5)	2.10 (0.94-2.21)	10.61	9.72	90
07+07	3.4	3.4	-	-	6.8 (4.1-7.2)	1.98 (1.13-2.18)	10.00	9.17	90
07+09	3.4	4.0	-	-	7.4 (4.1-7.8)	2.23 (1.13-2.33)	11.26	10.32	90
07+12(13)	3.35	5.95	-	-	9.3 (4.1-9.7)	2.82 (1.13-2.96)	14.24	13.05	90
07+18	2.85	6.45	-	-	9.3 (4.1-9.7)	2.82 (1.13-2.96)	14.24	13.05	90
09+09	4.0	4.0	-	-	8.0 (4.1-8.4)	2.38 (1.13-2.54)	12.02	11.01	90
09+12(13)	3.7	5.6	-	-	9.3 (4.1-9.7)	2.82 (1.13-2.96)	14.24	13.05	90
09+18	3.35	5.95	-	-	9.3 (4.1-9.7)	2.82 (1.13-2.96)	14.24	13.05	90
12(13)+12(13)	4.65	4.65	-	-	9.3 (4.1-9.7)	2.82 (1.13-2.96)	14.24	13.05	90
12(13)+18	4.3	5.0	-	-	9.3 (4.1-9.7)	2.82 (1.13-2.96)	14.24	13.05	90
18+18	4.65	4.65	-	-	9.3 (4.1-9.7)	2.82 (1.13-2.96)	14.24	13.05	90
07+07+07	3.1	3.1	3.1	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+07+09	2.95	2.95	3.4	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+07+12(13)	2.5	2.5	4.3	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+07+18	2.3	2.3	4.7	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+09+09	2.8	3.25	3.25	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+09+12(13)	2.4	2.8	4.1	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+09+18	2.2	2.6	4.5	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+12(13)+12(13)	2.0	3.65	3.65	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+12(13)+18	1.9	3.4	4.0	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+18+18	1.8	3.75	3.75	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90

NOTE: Electrical data is for outdoor unit only.

Indoor units combination	Heating capacity (kw)					Outdoor unit power consumption (kw)	Current (A)		Power factor (%)
	Unit A	Unit B	Unit C	Unit D	Total		220V	240V	
09+09+09	3.1	3.1	3.1	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
09+09+12(13)	2.65	2.65	4.0	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
09+09+18	2.45	2.45	4.4	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
09+12(13)+12(13)	2.3	3.5	3.5	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
09+12(13)+18	2.2	3.3	3.8	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
09+18+18	2.0	3.65	3.65	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
12(13)+12(13) +12(13)	3.1	3.1	3.1	-	9.3 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
12(13)+12(13)+18	2.9	2.9	3.4	-	9.2 (5.2-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+07+07+07	2.32	2.32	2.32	2.32	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+07+07+09	2.2	2.2	2.2	2.7	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+07+07+12(13)	2.0	2.0	2.0	3.3	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+07+07+18	1.9	1.9	1.9	3.6	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+07+09+09	2.15	2.15	2.5	2.5	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+07+09+12(13)	1.9	1.9	2.2	3.3	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+07+09+18	1.75	1.75	2.1	3.7	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+07+12(13) +12(13)	1.7	1.7	2.95	2.95	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+07+12(13)+18	1.6	1.6	2.8	3.3	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+09+09+09	2.1	2.4	2.4	2.4	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+09+09+12(13)	1.8	2.15	2.15	3.2	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+09+09+18	1.7	2.0	2.0	3.6	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
07+09+12(13) +12(13)	1.6	1.9	2.9	2.9	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
09+09+09+09	2.32	2.32	2.32	2.32	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
09+09+09+12(13)	2.05	2.05	2.05	3.15	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
09+09+09+18	1.95	1.95	1.95	3.45	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90
09+09+12(13) +12(13)	1.85	1.85	2.8	2.8	9.3 (6.1-10.6)	2.78 (1.19-2.96)	14.04	12.87	90

5 SPECIFICATION

Indoor model			MSC-07RV - E1	MSC-09RV - E1	MSC-12RV - E1
Function			Cooling	Cooling	Cooling
Indoor unit power supply			Single phase 220-240V,50Hz	Single phase 220-240V,50Hz	Single phase 220-240V,50Hz
Capacity	Air flow (Hi)	m³ /h	474	474	588
Electrical data	Power outlet	A	10	10	10
	Running current	A	0.17	0.17	0.19
	Power input	W	35	35	40
	Power factor	%	93.6-85.8	93.6-85.8	95.7-87.7
	Starting current	A	—	—	—
	Fan motor current	A	0.17	0.17	0.19
Fan motor	Model		RC4V19-BA	RC4V19-BA	RC4V19-BA
	Winding resistance(at20℃)	Ω	WHT-BLK 292 BLK-RED 325	WHT-BLK 292 BLK-RED 325	WHT-BLK 292 BLK-RED 325
	Dimensions W×H×D	mm	850×278×191	850×278×191	850×278×191
	Weight	kg	9	9	10
	Air direction		5	5	5
Special remarks	Sound level (Hi)	dB	36	36	39
	Fan speed (Hi)	rpm	950	950	1020
	Fan speed regulator		3	3	3
	Thermistor RT11(at25℃)	kΩ	10	10	10
	Thermistor RT12(at25℃)	kΩ	10	10	10
Outdoor model			MU-07RV - E1	MU-09RV - E1	MU-12RV - E1
Outdoor unit power supply			Single phase 220-240V,50Hz	Single phase 220-240V,50Hz	Single phase 220-240V,50Hz
Capacity	Capacity	kW	2.2	2.5	3.5
	Dehumidification	ℓ /h	0.8	1.1	1.6
	Outdoor air flow	m³ /h	1620-1752	1620-1752	1848-1980
Electrical data	Power outlet	A	10	10	10
	Running current	A	2.98-2.93	3.43-3.28	6.01-6.16
	Power input	W	645-675	745-775	1270-1350
	Auxiliary heater	A(kW)	—	—	—
	Power factor	%	98.4-96.0	98.7-98.5	96.1-91.3
	Starting current	A	19	20	35
	Compressor motor current	A	2.70-2.64	3.15-2.99	5.65-5.78
	Fan motor current	A	0.28-0.29	0.28-0.29	0.36-0.38
Coefficient of performance(C.O.P)			3.24-3.10	3.21-3.09	2.67-2.52
Compressor	Model		RH-135VGCT	RH-145VGCT	RH-231VHAT
	Output	W	650	700	1100
	Winding resistance(at20℃)	Ω	C-R 4.18 C-S 5.76	C-R 4.03 C-S 5.71	C-R 2.13 C-S 3.91
Fan motor	Model		RA6V23-EB	RA6V23-EB	RA6V33-CB
	Winding resistance(at20℃)	Ω	WHT-BLK 258 BLK-RED 385	WHT-BLK 258 BLK-RED 385	WHT-BLK 176 BLK-RED 413
	Dimensions W×H×D	mm	780×540×255	780×540×255	780×540×255
	Weight	kg	32	32	34
Special remarks	Sound level	dB	44-45	44-45	49
	Fan speed	rpm	620-670	620-670	700-750
	Fan speed regulator		1	1	1
	Refrigerant filling capacity(R-22)	kg	0.80	0.85	0.88
	Refrigerating oil (Model)	cc	300 (MS56)	300 (MS56)	520 (MS56)

NOTE:Test conditions Cooling : Indoor DB27°C / WB19°C
Outdoor DB35°C / WB24°C

Indoor model			MSC-07RV - E1		MSC-09RV - E1		MSC-12RV - E1	
Function			Cooling	Heating	Cooling	Heating	Cooling	Heating
Indoor unit power supply			Single phase 220-240V,50Hz		Single phase 220-240V,50Hz		Single phase 220-240V,50Hz	
Capacity	Air flow(Hi)	m³ /h	474	504	474	504	588	642
Electrical data	Power outlet	A	10		10		10	
	Running current	A	0.17		0.17		0.19	
	Power input	W	35		35		40	
	Power factor	%	93.6-85.8		93.6-85.8		95.7-87.7	
	Starting current	A	—		—		—	
	Fan motor current	A	0.17		0.17		0.19	
Fan motor	Model		RC4V19-BA		RC4V19-BA		RC4V19-BA	
	Winding resistance(at20℃)	Ω	WHT-BLK 292 BLK-RED 325		WHT-BLK 292 BLK-RED 325		WHT-BLK 292 BLK-RED 325	
	Dimensions W×H×D	mm	850×278×191		850×278×191		850×278×191	
	Weight	kg	9		9		10	
	Air direction		5		5		5	
Special remarks	Sound level (Hi)	dB	36	35	36	35	39	39
	Fan speed (Hi)	rpm	950	1000	950	1000	1020	1100
	Fan speed regulator		3		3		3	
	Thermistor RT11(at25℃)	kΩ	10		10		10	
	Thermistor RT12(at25℃)	kΩ	10		10		10	
Outdoor model			MUH-07RV - E1		MUH-09RV - E1		MUH-12RV - E1	
Outdoor unit power supply			Single phase 220-240V,50Hz		Single phase 220-240V,50Hz		Single phase 220-240V,50Hz	
Capacity	Capacity	kW	2.2	2.5	2.5	3.1	3.4	4.0
	Dehumidification	ℓ /h	0.8	—	1.1	—	1.6	—
	Outdoor air flow	m³ /h	1620-1752		1620-1752		1656-1758	
Electrical data	Power outlet	A	10		10		10	
	Running current	A	3.13-3.03	2.98-2.88	3.93-3.83	4.13-3.93	5.56-5.71	5.76-5.91
	Power input	W	675-715	645-685	845-885	885-905	1180-1260	1220-1310
	Auxiliary heater	A(kW)	—		—		—	
	Power factor	%	98.0-98.3	98.4-99.1	97.7-96.3	97.4-95.9	96.5-91.9	96.3-92.4
	Starting current	A	25		25		35	
	Compressor motor current	A	2.85-2.74	2.70-2.59	3.65-3.54	3.85-3.64	5.20-5.33	5.40-5.53
	Fan motor current	A	0.28-0.29		0.28-0.29		0.36-0.38	
Coefficient of performance(C.O.P)			3.10-2.93	3.68-3.47	2.84-2.72	3.37-3.30	2.79-2.62	3.17-2.96
Compressor	Model		RH-135VGHT		RH-174VGHT		RH-231VHAT	
	Output	W	650		800		1100	
	Winding resistance(at20℃)	Ω	C-R 4.18 C-S 5.76		C-R 3.30 C-S 5.80		C-R 2.13 C-S 3.91	
Fan motor	Model		RA6V23-EA		RA6V23-EA		RA6V33-CA	
	Winding resistance(at20℃)	Ω	WHT-BLK 258 BLK-RED 385		WHT-BLK 258 BLK-RED 385		WHT-BLK 176 BLK-RED 413	
	Dimensions W×H×D	mm	788×540×255		780×540×255		780×540×255	
	Weight	kg	33		33		38	
Special remarks	Sound level	dB	47		47		49	
	Fan speed	rpm	620-670		620-670		700-740	
	Fan speed regulator		1		1		1	
	Refrigerant filling capacity(R-22)	kg	0.80		0.80		1.19	
	Refrigerating oil (Model)	cc	300 (MS56)		300 (MS56)		520 (MS56)	
	Thermistor RT61(at0℃)	kΩ	33.18		33.18		33.18	

NOTE:Test conditions Cooling : Indoor DB27°C / WB19°C
Outdoor DB35°C / WB24°C
Heating : Indoor DB20°C
Outdoor DB 7°C / WB 6°C

Indoor model			MSC-07RV - E1		MSC-09RV - E1			
Function			Cooling		Cooling			
Indoor unit power supply			Single phase 220-240V,50Hz		Single phase 220-240V,50Hz			
Capacity	Air flow(Hi)	m³ /h	474		474			
Electrical data	Power outlet	A	10		10			
	Running current	A	0.17		0.17			
	Power input	W	35		35			
	Power factor	%	94-86		94-86			
	Starting current	A	—		—			
	Fan motor current	A	0.17		0.17			
Fan motor	Model		RC4V19-BA		RC4V19-BA			
	Winding resistance(at20℃)	Ω	WHT-BLK 292 BLK-RED 325		WHT-BLK 292 BLK-RED 325			
	Dimensions W×H×D	mm	850×278×191		850×278×191			
	Weight	kg	9		9			
	Air direction		5		5			
Special remarks	Sound level (Hi)	dB	36		36			
	Fan speed (Hi)	rpm	950		950			
	Fan speed regulator		3		3			
	Thermistor RT11(at25℃)	kΩ	10		10			
	Thermistor RT12(at25℃)	kΩ	10		10			
Outdoor model			MUX-10RV - E1		MUX-18RV - E1			
Outdoor unit power supply			Single phase 220-240V,50Hz		Single phase 220-240V,50Hz			
Indoor unit No.			Single A or B	Double A+B	Single A or B or C	Double A+B or A+C	Double B+C	Triple A+B+C
Capacity	Capacity	kW	2.2	1.3×2	2.3	2.1×2	1.3×2	2.1+1.3×2
	Dehumidification	ℓ /h	0.8	0.2×2	0.9	0.8×2	0.2×2	0.8+0.2×2
	Outdoor air flow	m³ /h	1560		1320	1980	1320	1980
Electrical data	Power outlet	A	10		15			
	Running current	A	3.33-3.43	3.36-3.46	3.63-3.73	7.06-7.16	3.66-3.76	7.09-7.19
	Power input	W	705-755	720-760	755-795	1500-1580	760-810	1495-1585
	Auxiliary heater	A(kW)	—		—			
	Power factor	%	96.0-92.0	97.0-92.0	95.0-89.0	97.0-92.0	94.0-90.0	96.0-92.0
	Starting current	A	17		17	17×2	17	17×2
	Compressor motor current	A	3.06-3.16	3.09-3.19	3.31-3.41	6.69-6.79	3.34-3.44	6.72-6.82
	Fan motor current	A	0.27		0.32	0.37	0.32	0.37
Coefficient of performance(C.O.P)			2.97-2.78	3.29-3.13	2.91-2.77	2.68-2.55	3.13-2.95	2.94-2.78
Compressor	Model		KH-134VLL		KH-134VLL×2			
	Output	W	650		650×2			
	Winding resistance(at20℃)	Ω	C-R 4.66 C-S 8.20		C-R 4.66 C-S 8.20			
Fan motor	Model		RA6V22-□□		RA6V50-□□			
	Winding resistance(at20℃)	Ω	WHT-BLK 325.0 BLK-RED 393.3		WHT-BLK 117.3 BLK-YLW 65.0 YLW-RED 49.6			
	Dimensions W×H×D	mm	760×540×230		850×605×290			
	Weight	kg	31		54			
Special remarks	Sound level	dB	46-47		53 (Hi)			
	Fan speed	rpm	700		830-860 (Hi)			
	Fan speed regulator		1		2			
	Refrigerant filling capacity(R-22)	kg	1.0		0.75+0.75			
	Refrigerating oil (Model)	cc	270 (MS56)		MC1: 270 (MS56) MC2: 270 (MS56)			

NOTE:Test conditions Cooling : Indoor DB27°C / WB19°C Outdoor DB35°C / WB24°C

Indoor model			MSC-09RV - E1 (Unit C ,D)	MSC-12RV - E1 (Unit A ,B)
Function			Cooling	Cooling
Indoor unit power supply			Single phase 220-240V,50Hz	Single phase 220-240V,50Hz
Capacity	Air flow(Hi)	m³ /h	474	588
Electrical data	Power outlet	A	10	10
	Running current	A	0.17	0.19
	Power input	W	35	40
	Power factor	%	94-86	96-88
	Starting current	A	—	—
	Fan motor current	A	0.17	0.19
Fan motor	Model		RC4V19-BA	RC4V19-BA
	Winding resistance(at20℃)	Ω	WHT-BLK 292 BLK-RED 325	WHT-BLK 292 BLK-RED 325
Dimensions W×H×D		mm	850×278×191	850×278×191
Weight		kg	9	10
Air direction			5	5
Special remarks	Sound level (Hi)	dB	36	39
	Fan speed (Hi)	rpm	950	1020
	Fan speed regulator		3	3
	Thermistor RT11(at25℃)	kΩ	10	10
	Thermistor RT12(at25℃)	kΩ	10	10

Outdoor model			MUX-24RV - E1							
Outdoor unit power supply			Single phase 220-240V,50Hz							
Indoor unit No.			Single A or B	Single C or D	Double A+B	Double C+D	Double A+C or A+D B+C or B+D	Triple A+B+C or A+B+D	Triple A+C+D or B+C+D	Four A+B+C+D
Capacity	Capacity	kW	3.4	2.6	2.0×2	1.7×2	3.1+2.3	1.95×2+2.2	2.9+1.55×2	1.95×2+1.55×2
	Dehumidification	ℓ /h	1.6	1.2	0.5×2	0.3×2	1.4+0.8	0.5×2+0.8	1.3+0.3×2	0.5×2+0.3×2
	Outdoor air flow	m³ /h	2400-2640							
Electrical data	Power outlet	A	25							
	Running current	A	6.18-5.98	4.40-4.30	6.46-6.46	4.60-4.40	10.78-10.38	11.06-10.56	11.08-10.58	11.46-10.86
	Power input	kW	1.32-1.38	0.94-0.98	1.38-1.48	0.98-1.02	2.33-2.40	2.36-2.44	2.37-2.45	2.44-2.49
	Auxiliary heater	A(kW)	—							
	Power factor	%	97.0-96.0	97.0-95.0	97.0-95.0	97.0-97.0	98.0-96.0	97.0-96.0	97.0-96.0	97.0-96.0
	Starting current	A	48							
	Compressor motor current	A	5.90-5.67	4.12-3.99	6.18-6.15	4.32-4.09	10.50-10.07	10.78-10.25	10.80-10.27	11.18-10.55
	Fan motor current	A	0.28-0.31							
Coefficient of performance(C.O.P)			2.51-2.40	2.67-2.56	2.74-2.56	3.24-3.12	2.25-2.19	2.46-2.39	2.42-2.35	2.70-2.65
Compressor	Model		MC1: RH-231VHA MC2: RH-174VGH							
	Output	W	RH-231VHA: 1100 RH-174VGH: 800							
	Winding resistance(at20℃)	Ω	RH-231VHA: C-R 2.13 C-S 3.91 RH-174VGH: C-R 3.30 C-S 5.80							
Fan motor	Model		RA6V25-□□							
	Winding resistance(at20℃)	Ω	WHT-BLK 142.0 BLK-RED 135.0							
Dimensions W×H×D		mm	900×750×330							
Weight		kg	71							
Special remarks	Sound level	dB	49							
	Fan speed	rpm	530-570							
	Fan speed regulator		1							
	Refrigerant filling capacity(R-22)	kg	1.0+1.0							
	Refrigerating oil (Model)	cc	MC1: 520 (MS56) MC2: 300 (MS56)							

NOTE:Test conditions

Cooling : Indoor DB27°C / WB19°C Outdoor DB35°C / WB24°C

For inverter multi system

Indoor model			※ MSC-07RV - E1		※ MSC-09RV - E1		※ MSC-12RV - E1	
Function			Cooling	Heating	Cooling	Heating	Cooling	Heating
Indoor unit power supply			Single phase 220-240V,50Hz		Single phase 220-240V,50Hz		Single phase 220-240V,50Hz	
Capacity	Air flow(Hi)		474	504	474	504	588	642
Electrical data	Power outlet		10		10		10	
	Running current		0.17		0.17		0.19	
	Power input		35		35		40	
	Power factor		94.0-86.0		94.0-86.0		96.0-88.0	
	Starting current		—		—		—	
	Fan motor current		0.17		0.17		0.19	
Fan motor	Model		RC4V19-BA		RC4V19-BA		RC4V19-BA	
	Winding resistance(at20℃)		WHT-BLK 292 BLK-RED 325		WHT-BLK 292 BLK-RED 325		WHT-BLK 292 BLK-RED 325	
	Dimensions W×H×D		850×278×191		850×278×191		850×278×191	
	Weight		9		9		10	
	Air direction		5		5		5	
Special remarks	Sound level (Hi)		36	35	36	35	39	39
	Fan speed (Hi)		950	1000	950	1000	1020	1100
	Fan speed regulator		3		3		3	
	Thermistor RT11(at25℃)		10		10		10	
	Thermistor RT12(at25℃)		10		10		10	

NOTE:Test conditions Cooling : Indoor DB27°C / WB19°C Heating : Indoor DB20°C
Outdoor DB35°C / WB24°C Outdoor DB 7°C / WB 6°C

※ Refer to the above specification when MSC-07RV -E1 ,MSC-09RV-E1 and MSC-12RV-E1 is connected with MXZ-18RV-E1 and MXZ-32RV-E1 as inverter controlled multi system units.

Outdoor model			**MXZ-18RV -** E1		**MXZ-32RV -** E1	
Outdoor unit power supply			Single phase 220-240V,50Hz		Single phase 220-240V,50Hz	
Indoor unit number			2		3 or 4	
Function			Cooling	Heating	Cooling	Heating
Capacity	Capacity	kW	4.5 (1.6~4.5)	5.8 (2.0~5.8)	8.0 (1.8~9.0)	9.3 (2.1~10.6)
	Dehumidification	ℓ /h	—	—	—	—
	Outdoor air flow	m³ /h	2460-2580		2400-2640	
Electrical data	Power outlet	A	25		25	
	Running current	A	10.21-9.26	9.02-8.26	16.31-14.95	14.04-12.87
	Power input	W	2000(855~2000)	1785(690~1785)	3230(960~3960)	2780(910~2960)
	Auxiliary heater	A(kW)	—		—	
	Crankcase heater	W	—		25	
	Power factor	%	89.0-90.0	90.0-90.0	90.0	
	Starting current	A	10.21-9.26		16.31-14.95	
	Compressor motor current	A	9.81-8.86	8.62-7.86	15.71-14.35	13.44-12.27
	Fan motor current	A	0.4		0.6	
Coefficient of performance(C.O.P)			2.25	3.25	2.48	3.35
Compressor	Model		RHV-207FEM (ROTARY)		CHV-253FAA (SCROLL)	
	Output	W	1100		2000	
	Winding resistance(at20℃)	Ω	U-V 1.195 V-W 1.195 W-U 1.195		U-V 0.54 V-W 0.54 W-U 0.54	
Fan motor	Model		RA6V50-□□		RA6V60- □□	
	Winding resistance(at20℃)	Ω	WHT-BLK 154.0 BLK-YLW 68.0 YLW-RED 35.0		WHT-BLK 78.7 BLK-YLW 26.9 YLW-BLU 11.7 BLU-RED 83.6	
Dimensions W×H×D		mm	870×650×295 (+30)		900×900×320 (+35)	
Weight		kg	56		84	
Special remarks	Sound level (Hi)	dB	45	46	45-47	46-48
	Fan speed (Hi)	rpm	630-670		630-675	
	Fan speed regulator		2		3	
	Refrigerant filling capacity(R-22)	kg	1.3		4.2	
	Refrigerating oil (Model)	cc	570 (MS56)		1070 (MS-56)	
	Thermistor RT61	kΩ	10.0 (at 25℃)		13.4 (at 100℃)	
	Thermistor RT62	kΩ	13.4 (at 100℃)		10.0 (at 25℃)	
	Thermistor RT63	kΩ	7.9 (at 70℃)		17.0 (at 50℃)	
	Thermistor RT64	kΩ	10.0 (at 25℃)		10.0 (at 25℃)	
	Thermistor RT65	kΩ	10.0 (at 25℃)		10.0 (at 25℃)	
	Thermistor RT66,67	kΩ	10.0 (at 25℃)		10.0 (at 25℃)	
	Thermistor RT68,69	kΩ	—		10.0 (at 25℃)	

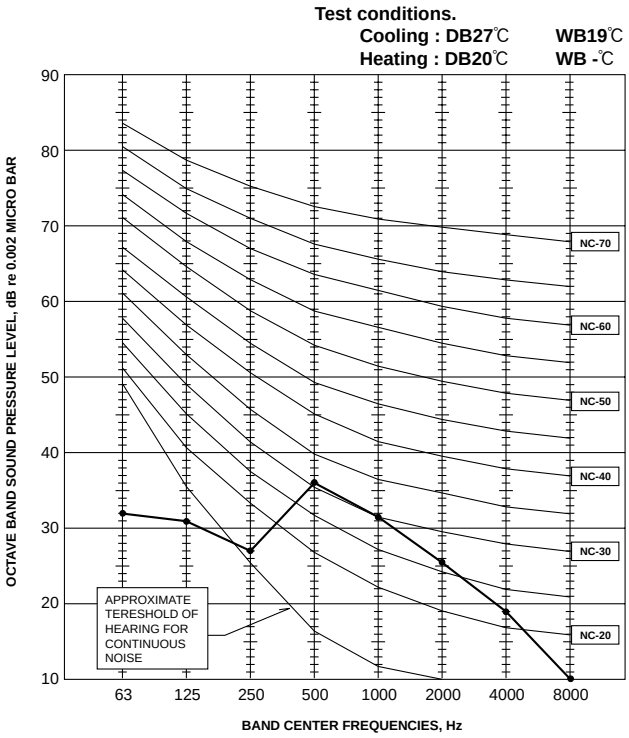
✻1 Electrical data is for only outdoor unit.

TEST CONDITIONS COOLING INDOOR DB27.0°C WB19.0°C
OUTDOOR DB35.0°C WB24.0°C
HEATING INDOOR DB20.0°C
OUTDOOR DB 7.0°C WB 6.0°C

6 NOISE CRITERIA CURVES

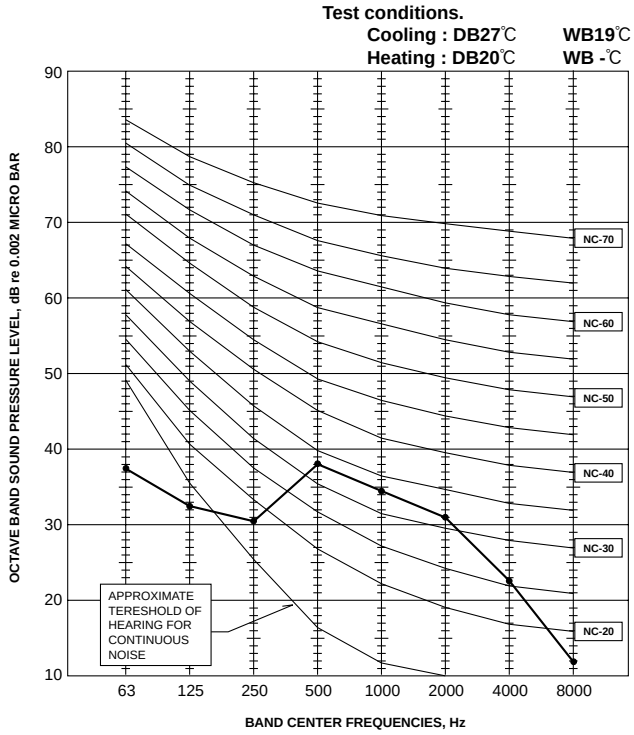
MSC-07/09RV

NOTCH	SPL(dB(A))	LINE
Hi (220/240V)	36	



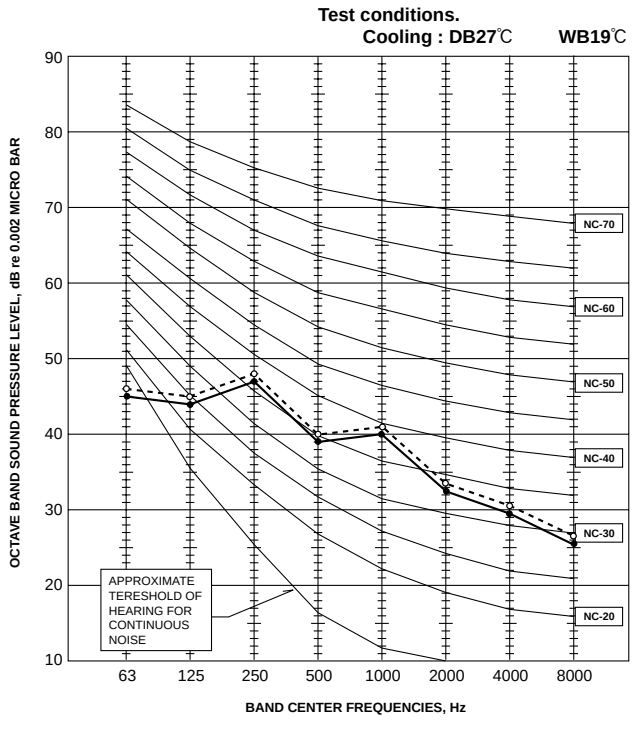
MSC-12RV

NOTCH	SPL(dB(A))	LINE
Hi (220/240V)	39	



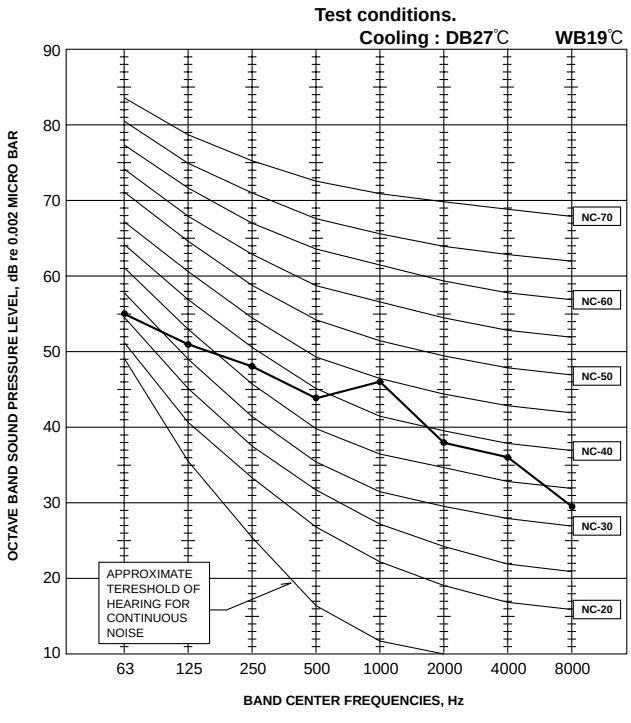
MU-07/09RV

NOTCH	SPL(dB(A))	LINE
HI (220V)	44	
HI (240V)	45	



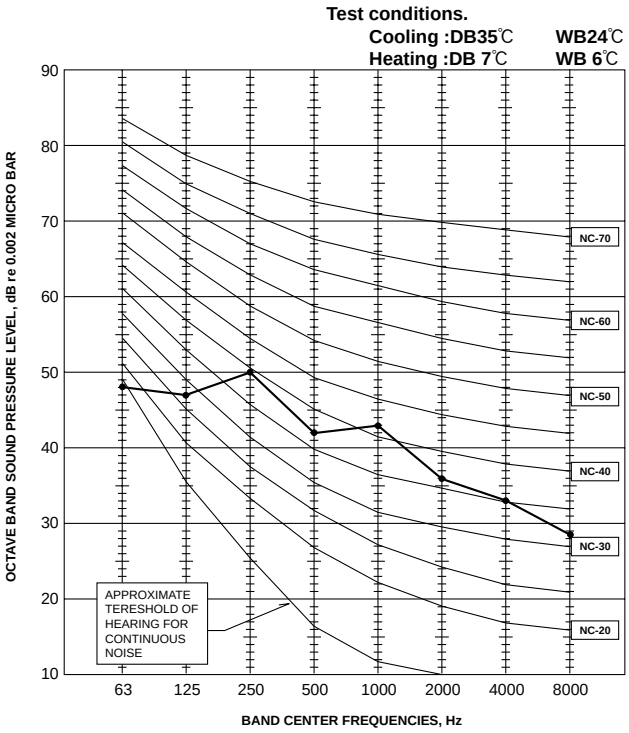
MU-12RV

NOTCH	SPL(dB(A))	LINE
Hi (220/240V)	49	



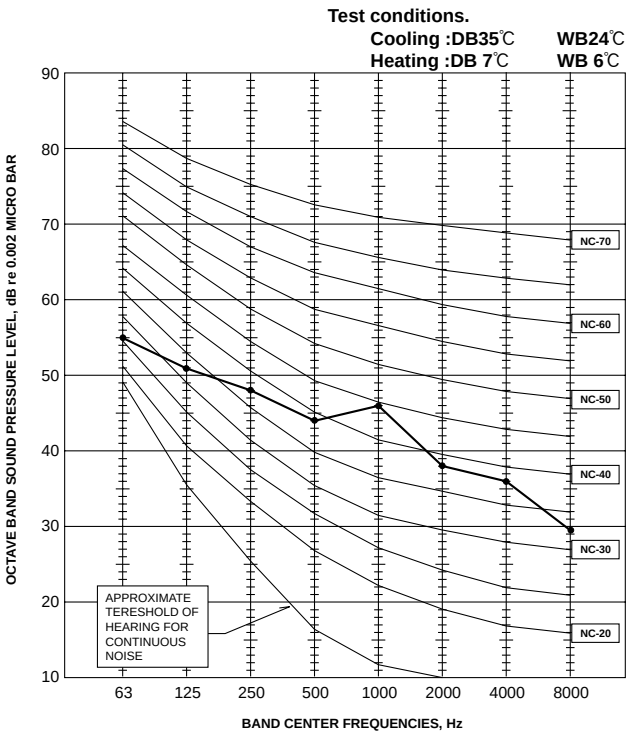
MUH-07/09RV

NOTCH	SPL(dB(A))	LINE
Hi (220/240V)	47	



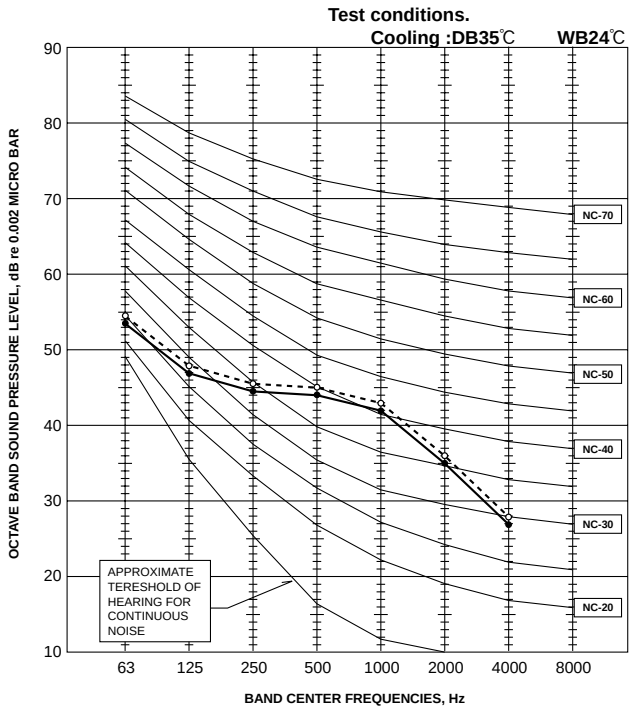
MUH-12RV

NOTCH	SPL(dB(A))	LINE
Hi (220/240V)	49	



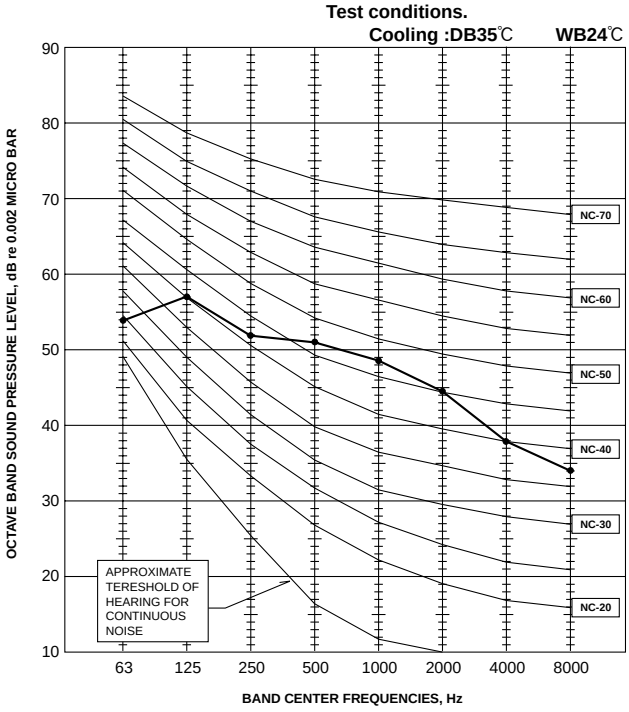
MUX-10RV

NOTCH	SPL(dB(A))	LINE
Hi (220V)	46	
Hi (240V)	47	



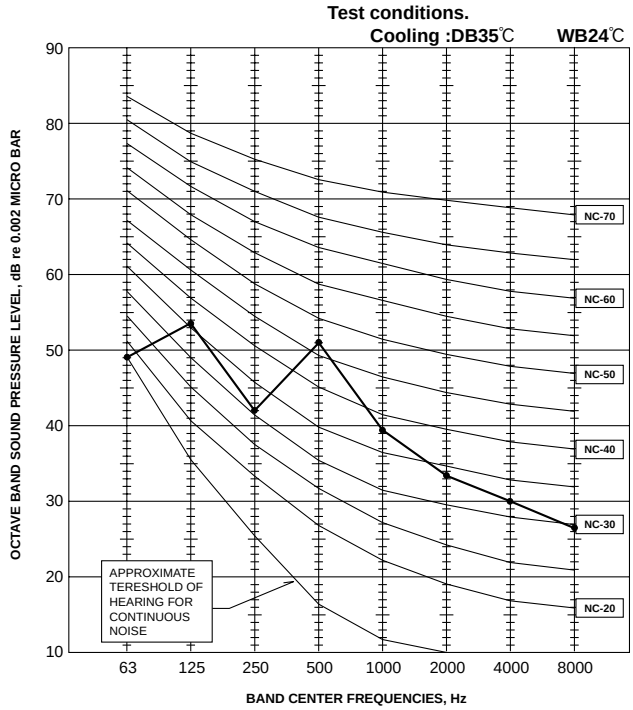
MUX-18RV

NOTCH	SPL(dB(A))	LINE
Hi (220/240V)	53	



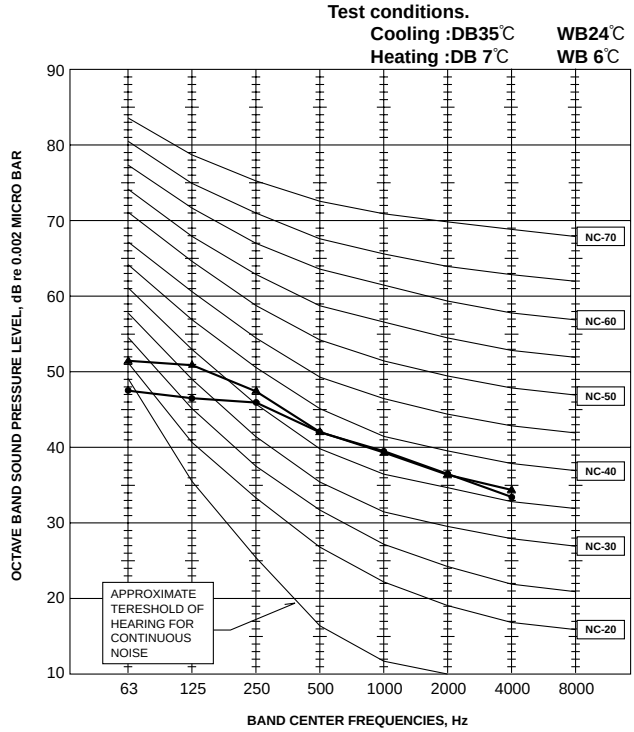
MUX-24RV

NOTCH	SPL(dB(A))	LINE
Hi (220/240V)	49	●—●



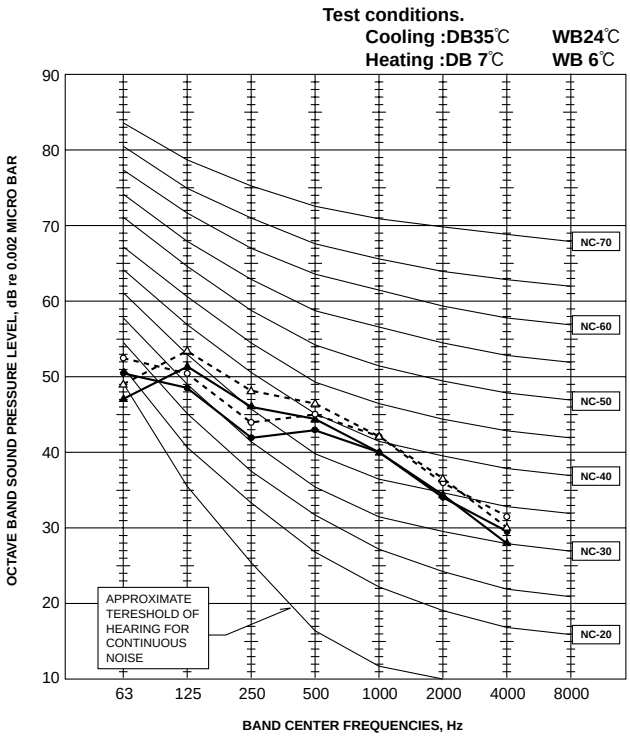
MXZ-18RV

NOTCH	SPL(dB(A))	LINE
COOL	45	●—●
HEAT	46	▲—▲



MXZ-32RV

NOTCH	SPL(dB(A))	LINE
COOL(220V)	45	●—●
COOL(240V)	47	○- - -○
HEAT(220V)	46	▲—▲
HEAT(240V)	48	△- - -△

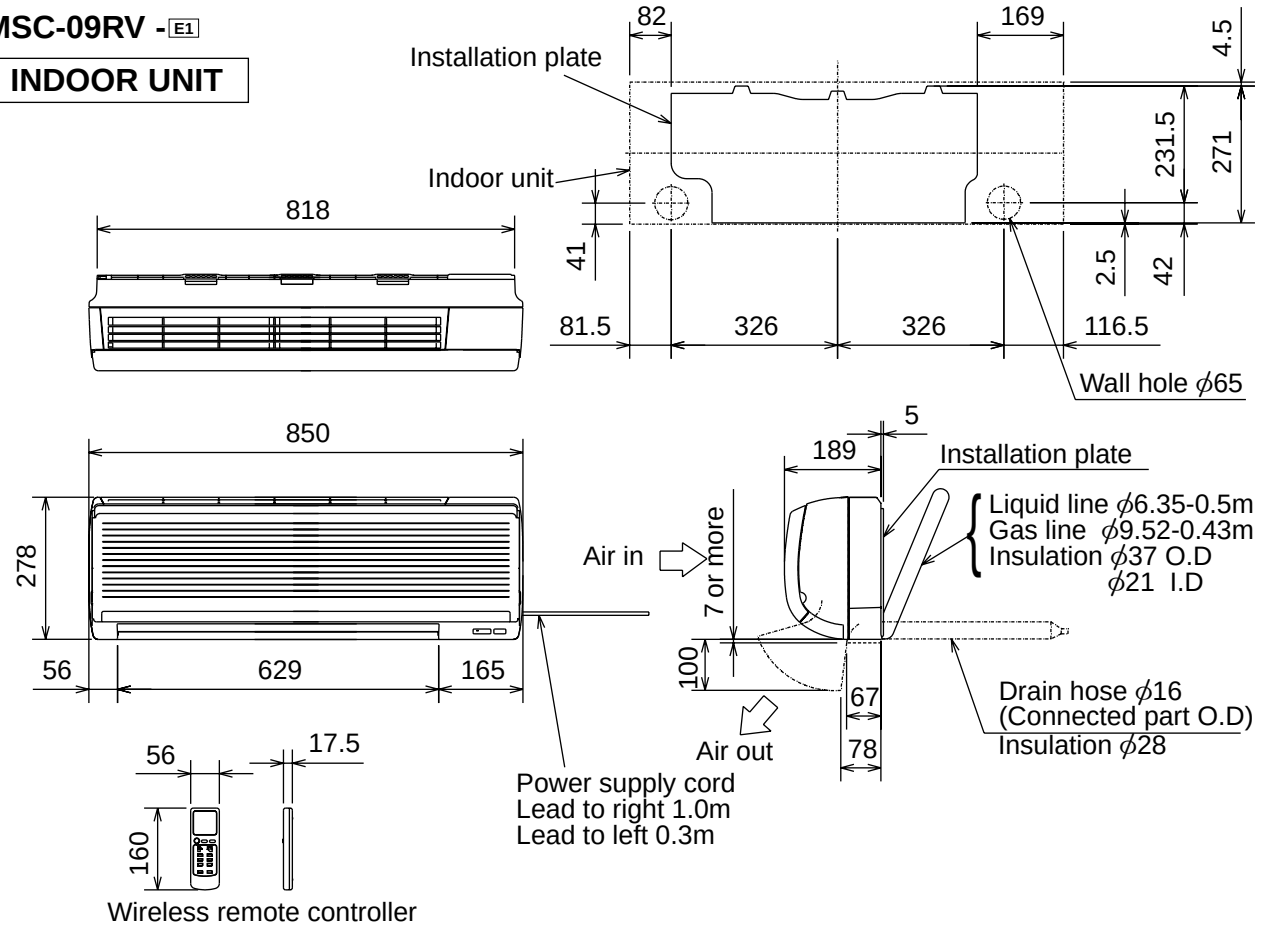


7 OUTLINES AND DIMENSIONS

Unit: mm

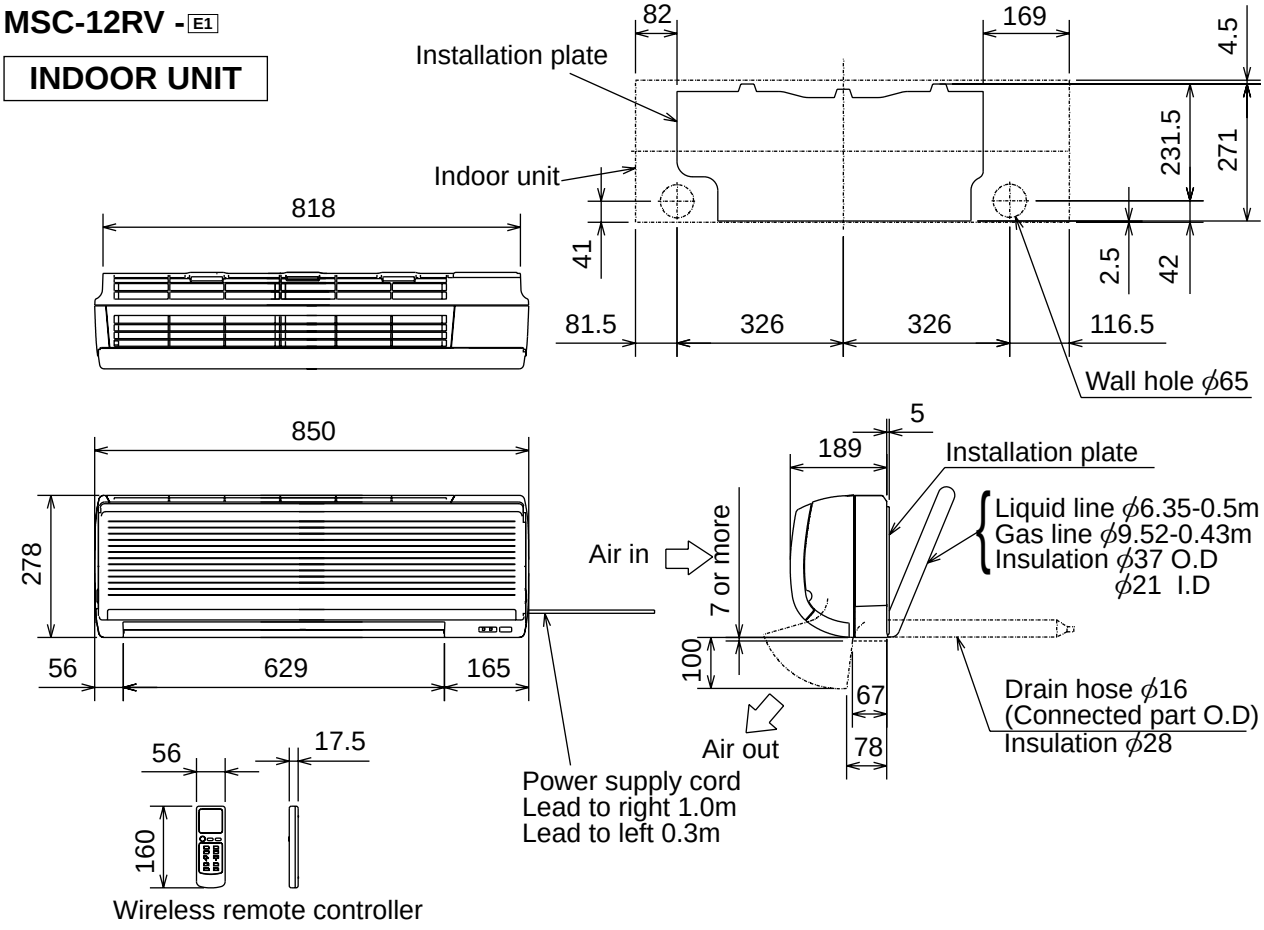
MSC-07RV - E1
MSC-09RV - E1

INDOOR UNIT



MSC-12RV - E1

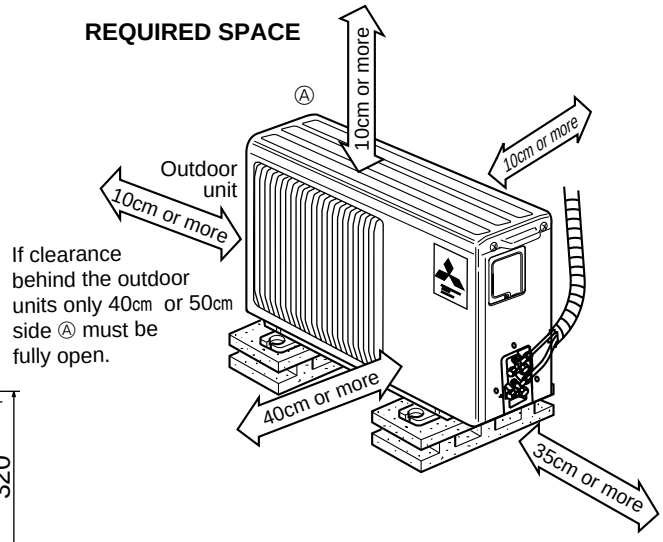
INDOOR UNIT

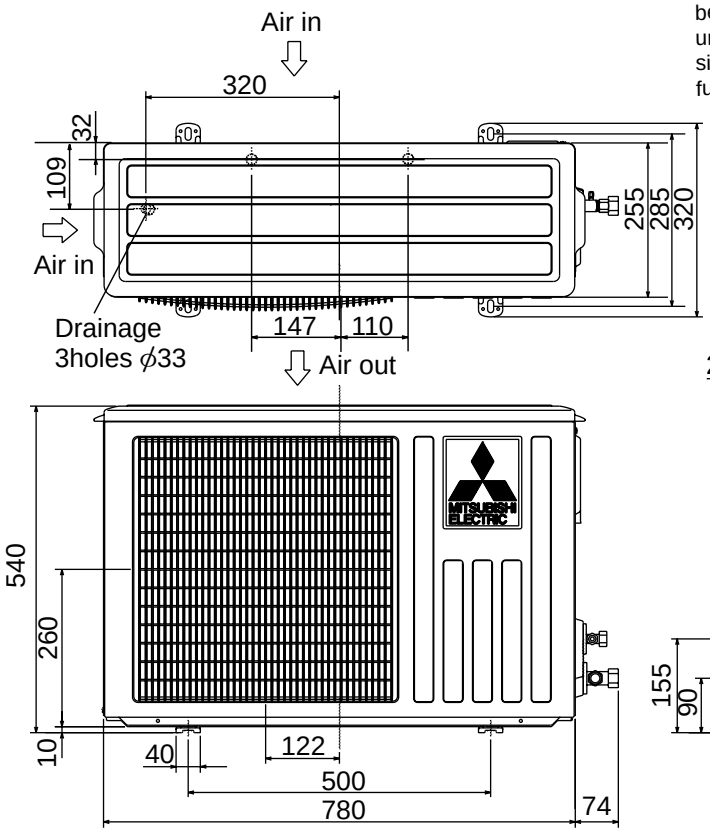


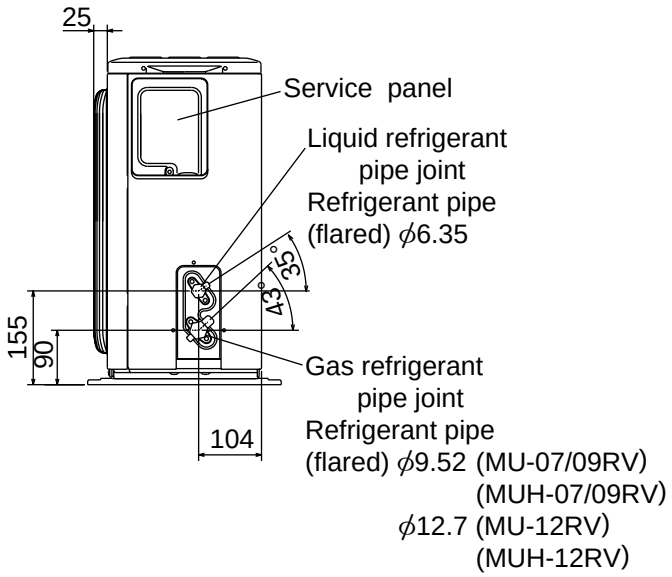
Unit: mm

MU-07RV -E1 MUH-07RV -E1
MU-09RV -E1 MUH-09RV -E1
MU-12RV -E1 MUH-12RV -E1

OUTDOOR UNIT





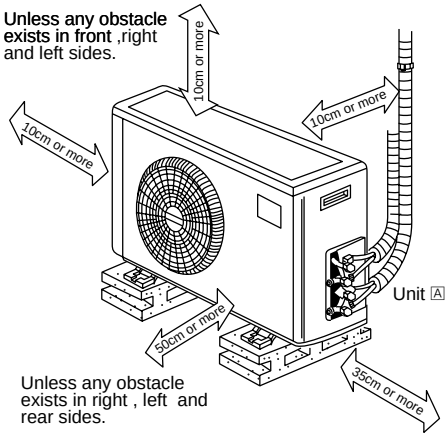


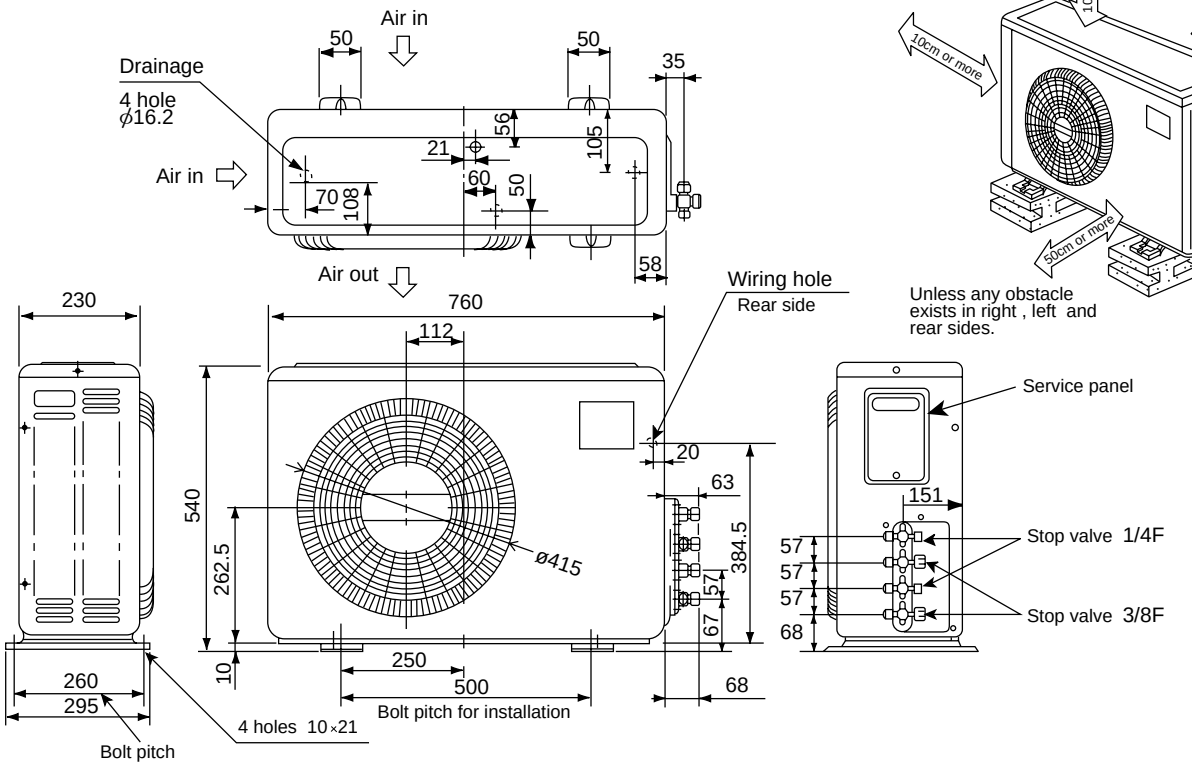
OUTDOOR UNIT

MUX10RV-E1

REQUIRED SPACE

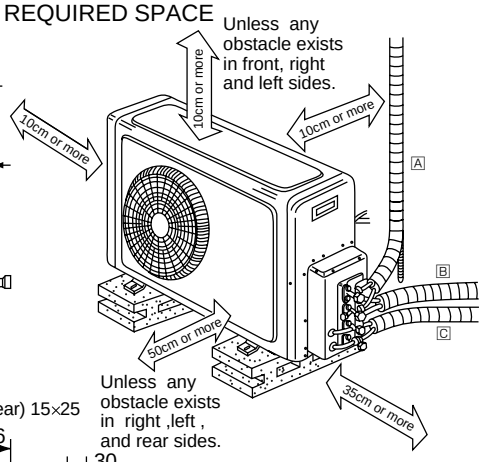
Unit: mm

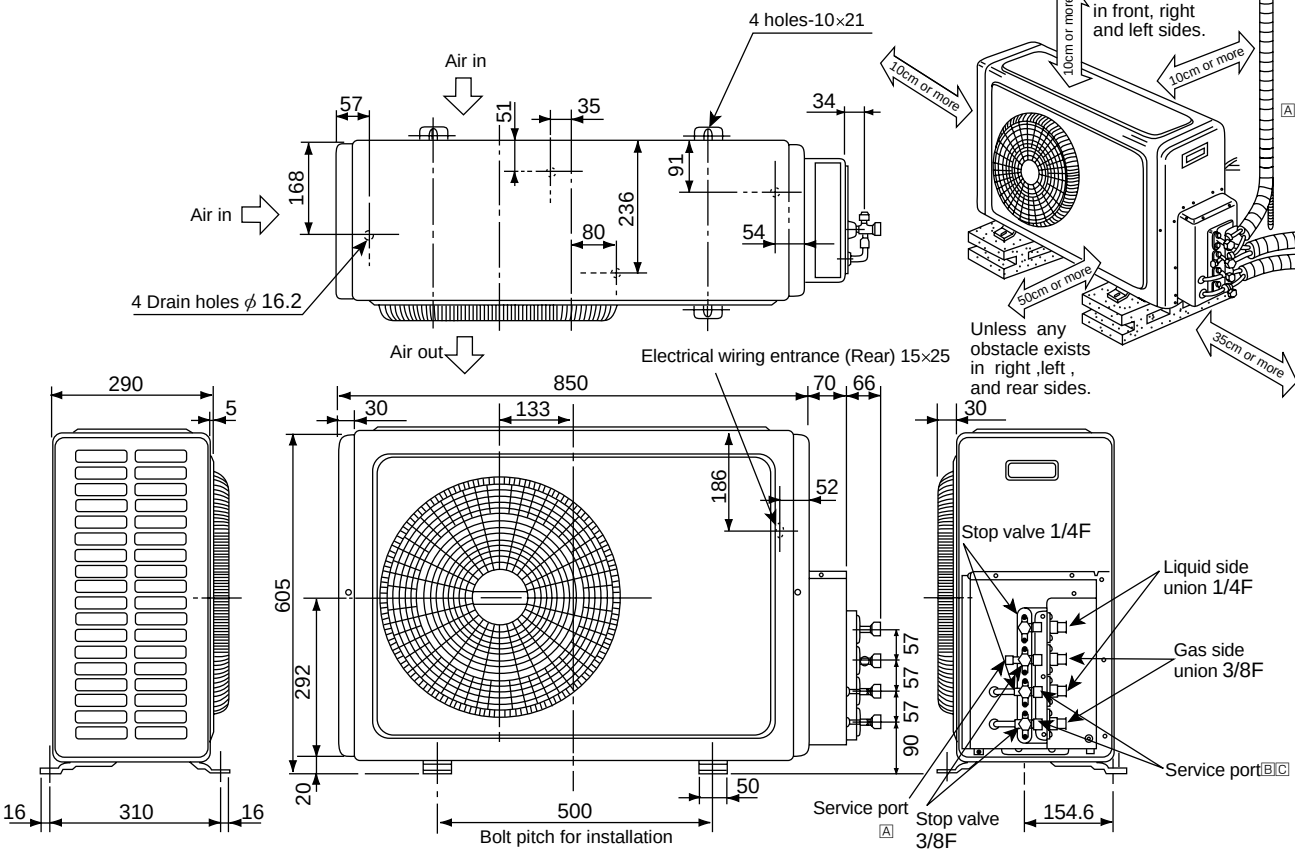




MUX-18RV-E1

REQUIRED SPACE

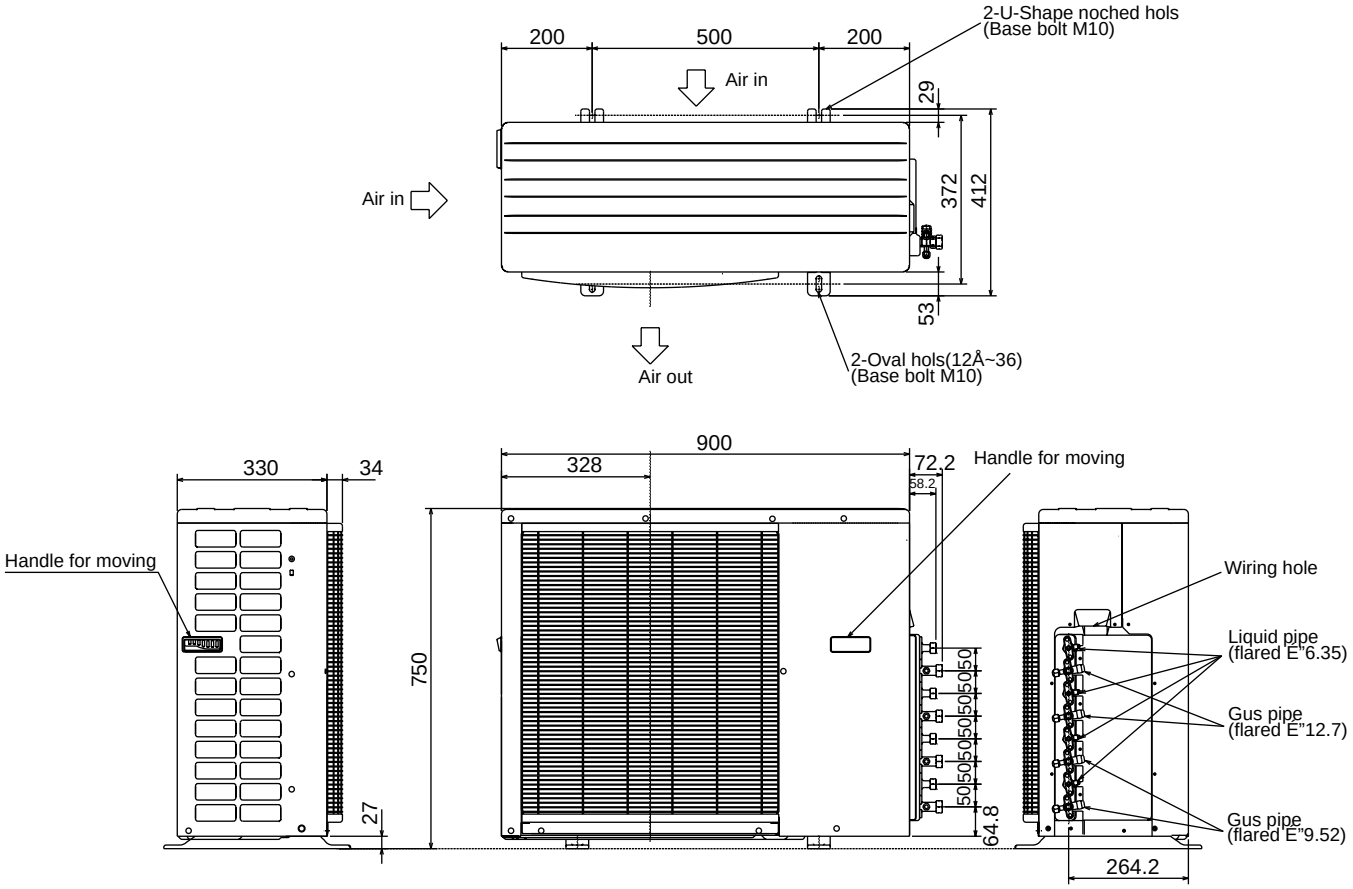




OUTDOOR UNIT

MUX-24RV-E1

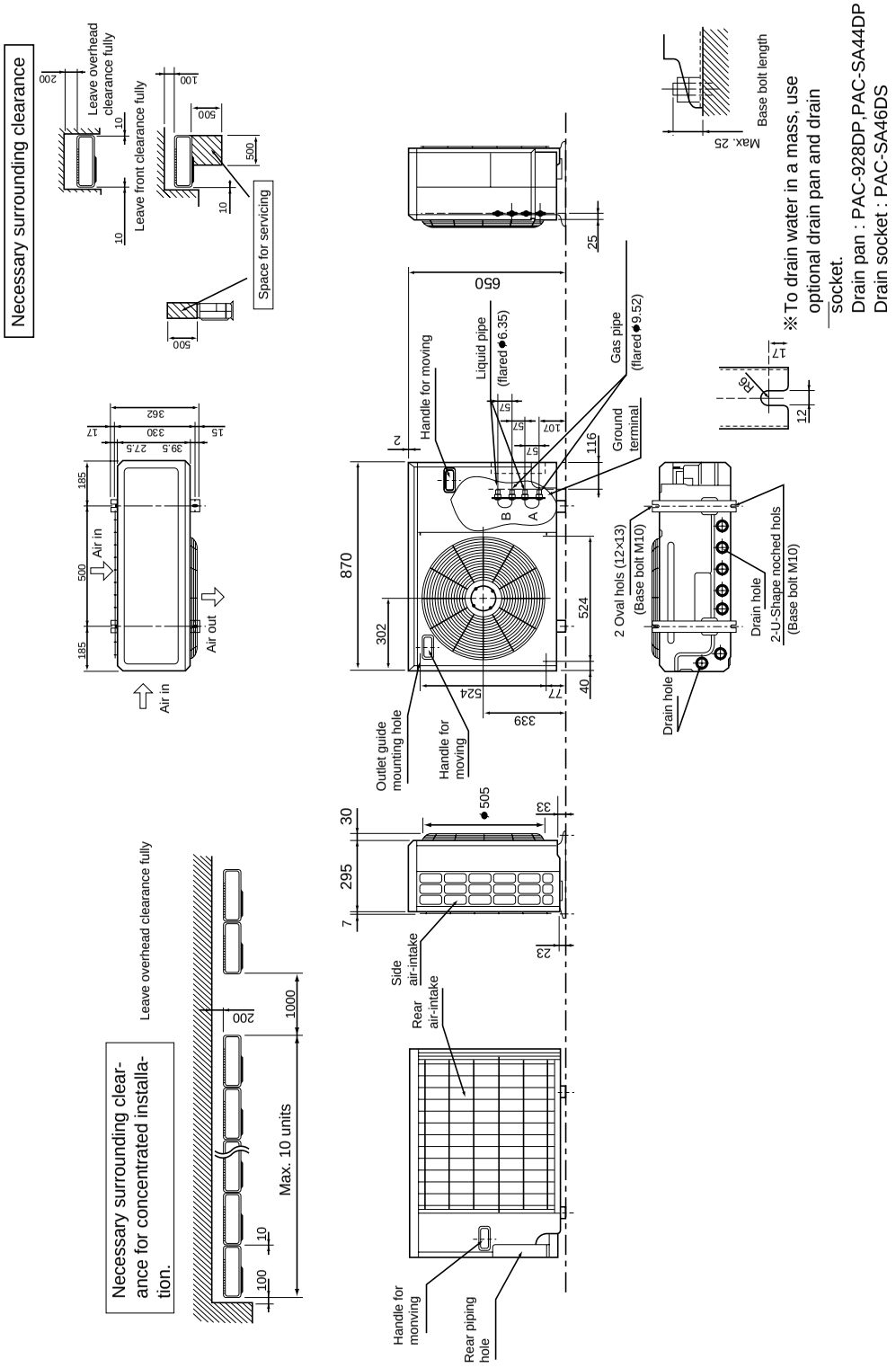
Unit: mm



OUTDOOR UNIT

MXZ-18RV - E1

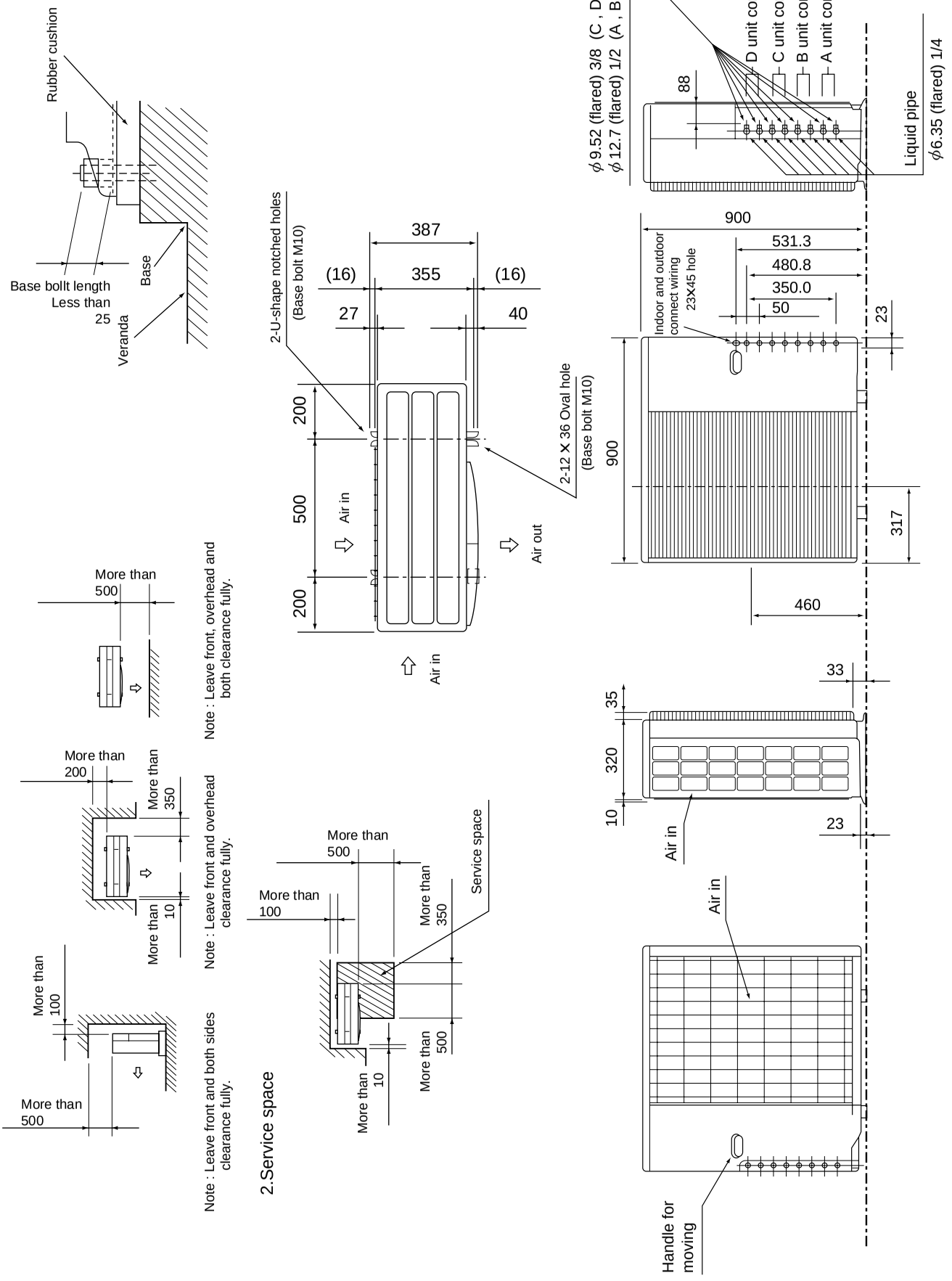
Unit: mm



OUTDOOR UNIT

MXZ-32RV - E1

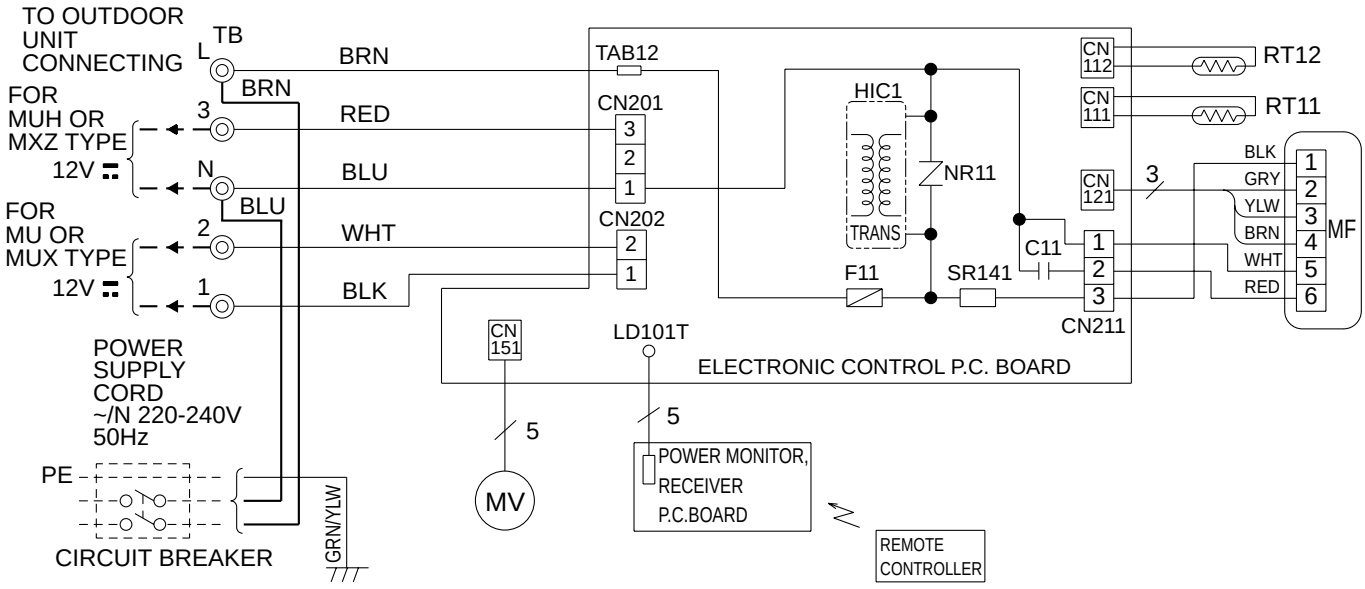
Unit: mm



8 WIRING DIAGRAM

MSC-07RV - E1
MSC-09RV - E1
MSC-12RV - E1 MODELS WIRING DIAGRAM

INDOOR UNIT



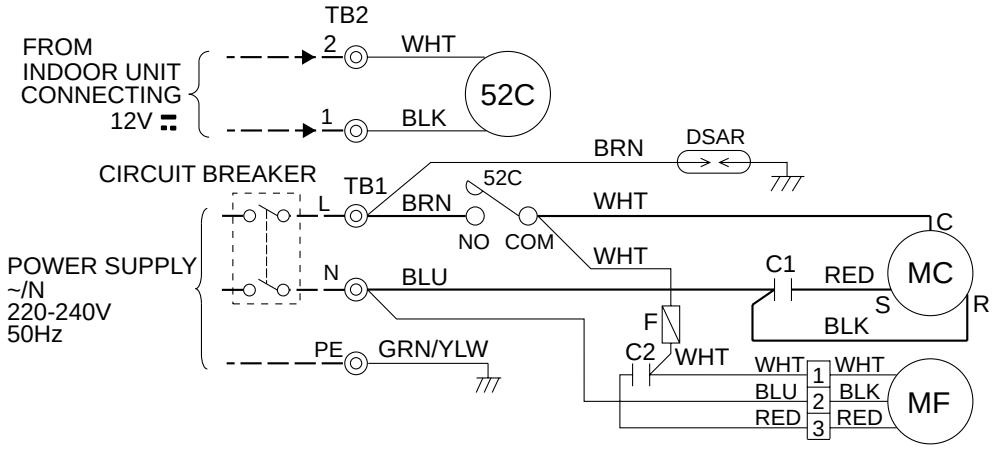
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C11	INDOOR FAN CAPACITOR	MV	VANE MOTOR	SR141	SOLID STATE RELAY
F11	FUSE(3.15A)	NR11	VARISTOR	TB	TERMINAL BLOCK
HIC1	DC/DC CONVERTER	RT11	ROOM TEMPERATURE THERMISTOR		
MF	INDOOR FAN MOTOR	RT12	INDOOR COIL THERMISTOR		

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

MU-07RV -E1
MU-09RV -E1
MU-12RV -E1

MODELS WIRING DIAGRAM

OUTDOOR UNIT



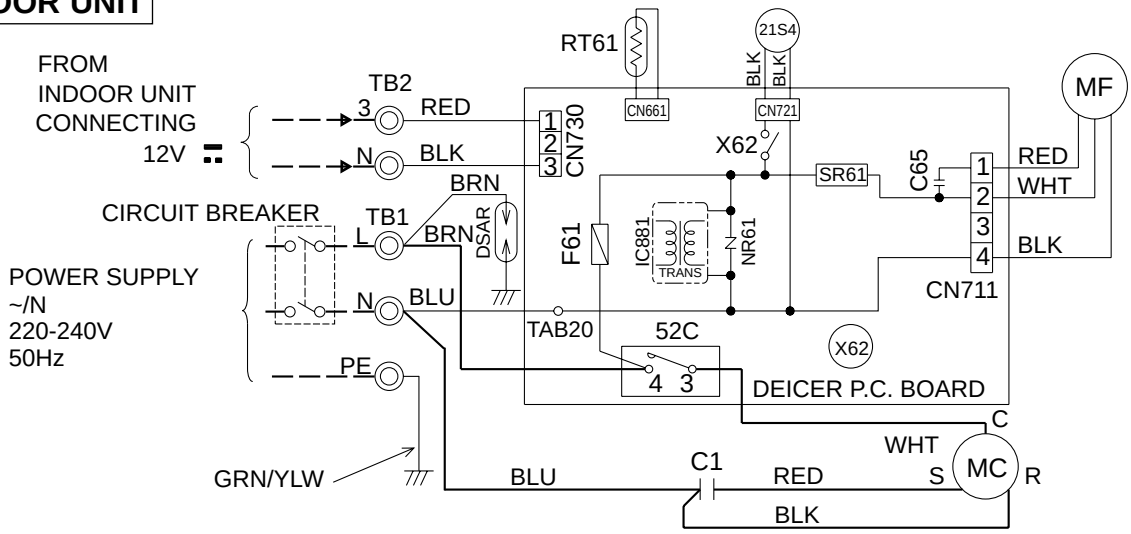
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C1	COMPRESSOR CAPACITOR	F	FUSE(2A)	TB1,TB2	TERMINAL BLOCK
C2	OUTDOOR FAN CAPACITOR	MC	COMPRESSOR(INNER THERMOSTAT)	52C	CONTACTOR
DSAR	SURGE ABSORBER	MF	OUTDOOR FAN MOTOR(INNER THERMOSTAT)		

NOTE: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

MUH-07RV -E1
MUH-09RV -E1
MUH-12RV -E1

MODELS WIRING DIAGRAM

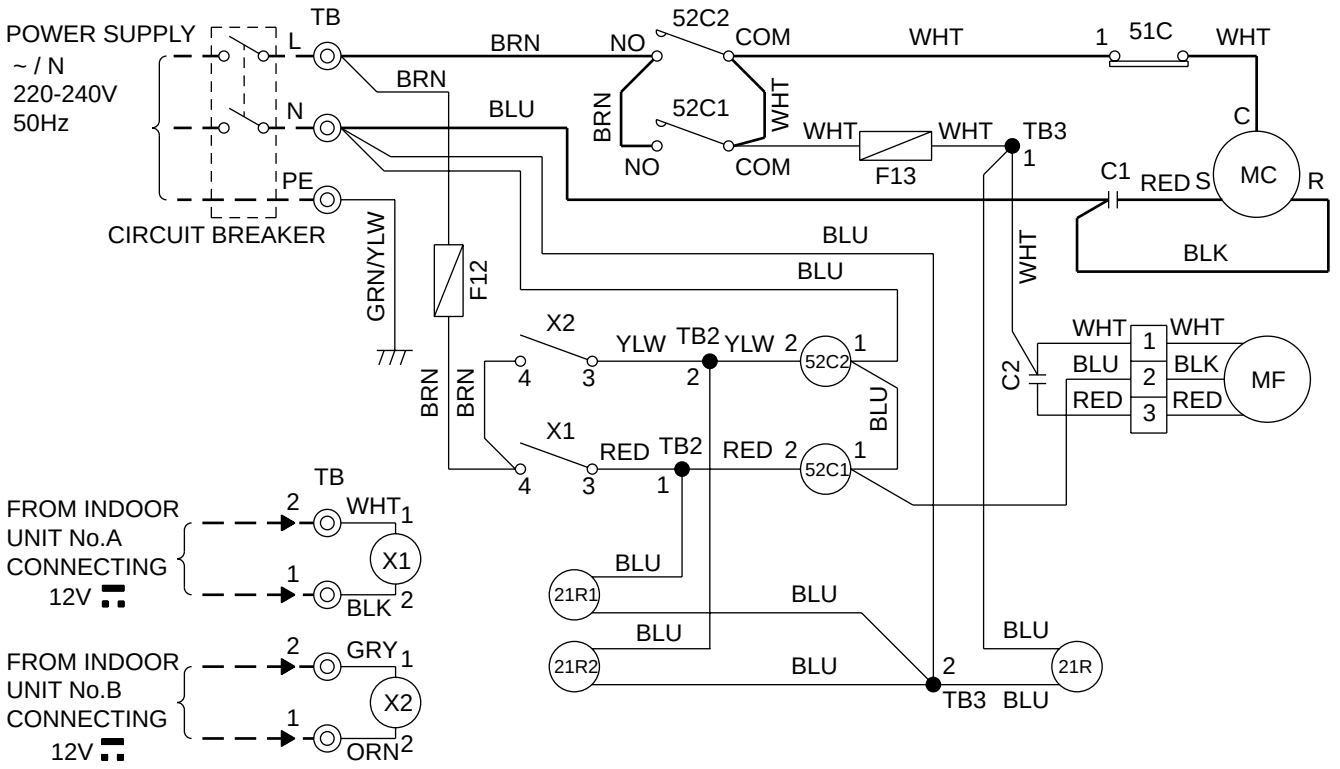
OUTDOOR UNIT



SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C1	COMPRESSOR CAPACITOR	MC	COMPRESSOR(INNER THERMOSTAT)	TB1,TB2	TERMINAL BLOCK
C65	OUTDOOR FAN CAPACITOR	MF	OUTDOOR FAN MOTOR(INNER THERMOSTAT)	X62	REVERSING VALVE COIL RELAY
DSAR	SURGE ABSORBER	NR61	VARISTOR	21S4	REVERSING VALVE COIL
F61	FUSE(2A)	RT61	DEFROST THERMISTOR	52C	CONTACTOR
IC881	DC/DC CONVERTER	SR61	SOLID STATE RELAY		

NOTE: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

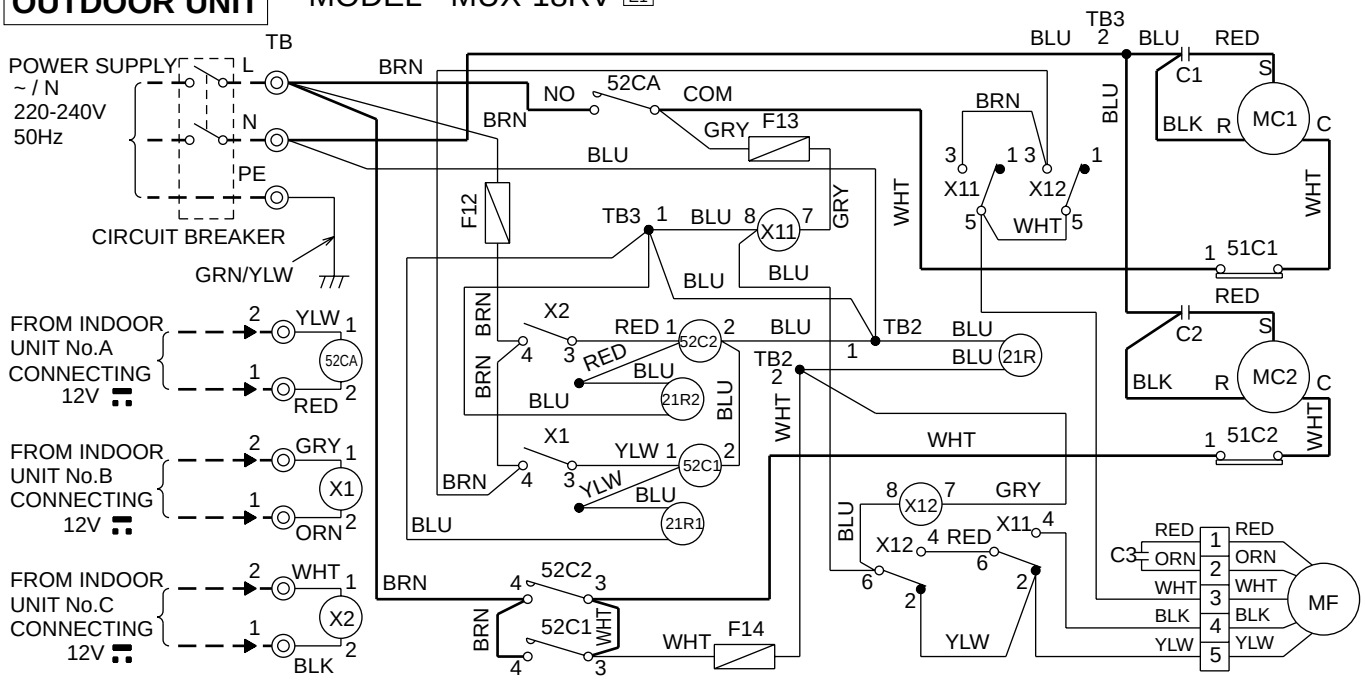
OUTDOOR UNIT MODEL MUX-10RV-E1



SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C1	COMPRESSOR CAPACITOR	TB1,TB2,TB3	TERMINAL BLOCK	51C	OVERCURRENT RELAY (INNER THERMOSTAT)
C2	OUTDOOR FAN CAPACITOR	X1	RELAY(A)		
F12	FUSE(2A)	X2	RELAY(B)	52C1	COMPRESSOR CONTACTOR(A)
F13	FUSE(2A)	21R	BYPASS VALVE SOLENOID COIL	51C2	COMPRESSOR CONTACTOR(B)
MC	COMPRESSOR	21R1	SOLENOID COIL(A)		
MF	OUTDOOR FAN MOTOR	21R2	SOLENOID COIL(B)		

NOTE: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)

OUTDOOR UNIT MODEL MUX-18RV-E1

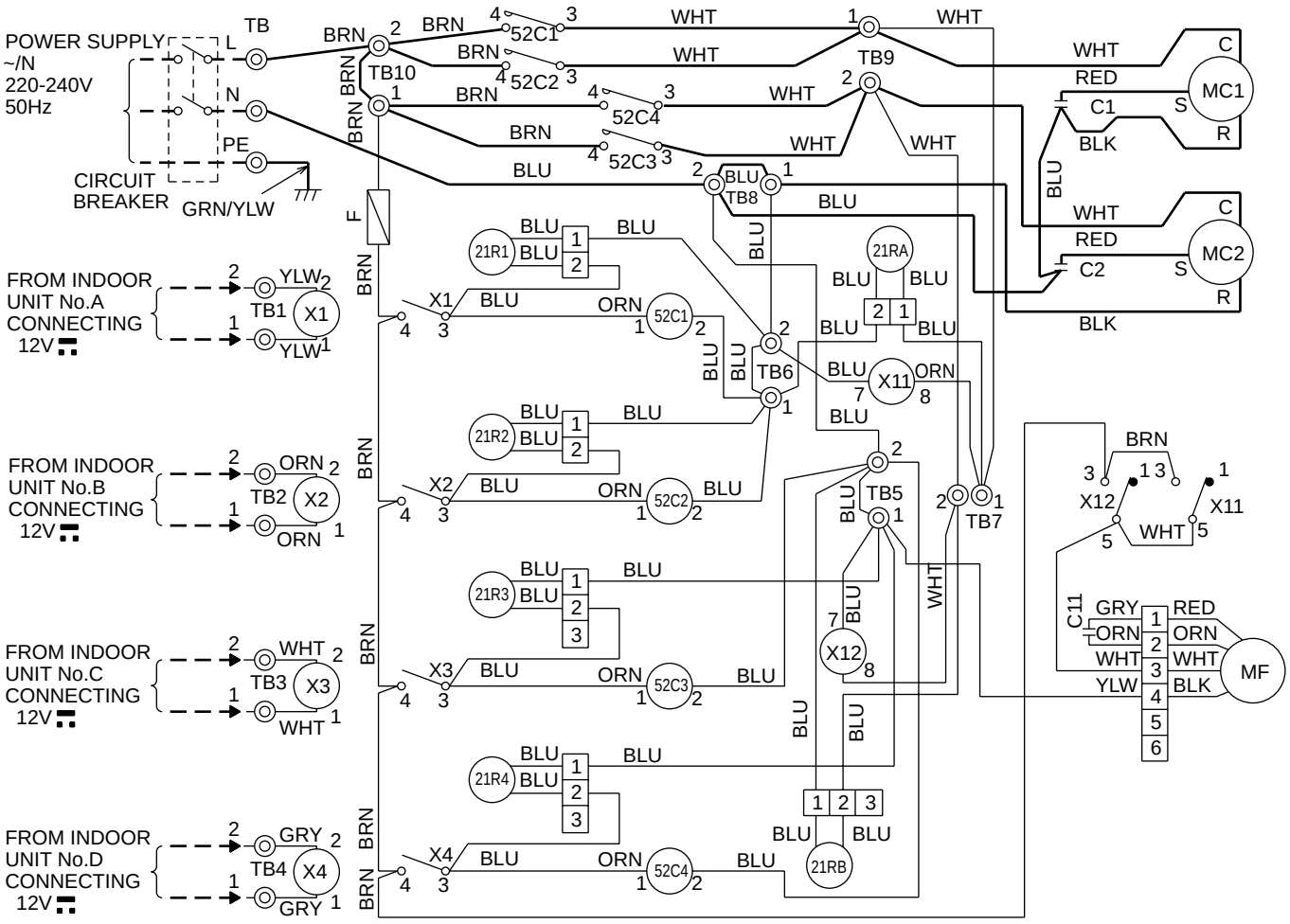


SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C1	COMPRESSOR CAPACITOR(A)	TB	TERMINAL BLOCK	51C1	OVER CURRENT RELAY(A) (INNER THERMOSTAT)
C2	COMPRESSOR CAPACITOR(B,C)	TB2,TB3	TERMINAL BLOCK		
C3	OUTDOOR FAN CAPACITOR	X1	RELAY(B)	51C2	OVER CURRENT RELAY(B,C) (INNER THERMOSTAT)
F12	FUSE(2A)	X11	FAN MOTOR RELAY(A)		
F13	FUSE(2A)	X12	FAN MOTOR RELAY(B,C)	52CA	COMPRESSOR CONTACTOR(A)
F14	FUSE(2A)	X2	RELAY(C)	52C1	COMPRESSOR CONTACTOR(B)
MC1	COMPRESSOR(A)	21R	SOLENOID COIL	52C2	COMPRESSOR CONTACTOR(C)
MC2	COMPRESSOR(B,C)	21R1	SOLENOID COIL(B)		
MF	OUTDOOR FAN MOTOR(INNER THERMOSTAT)	21R2	SOLENOID COIL(C)		

NOTE: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)

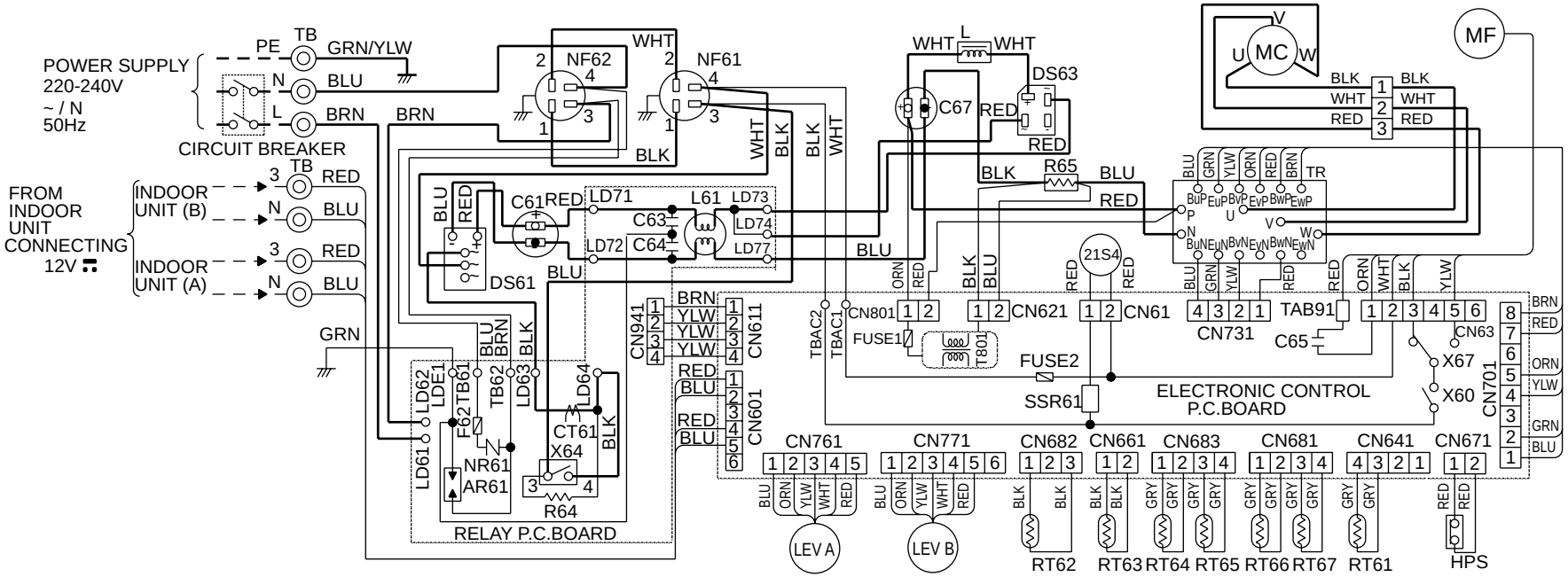
OUTDOOR UNIT

MODEL MUX-24RV-E1



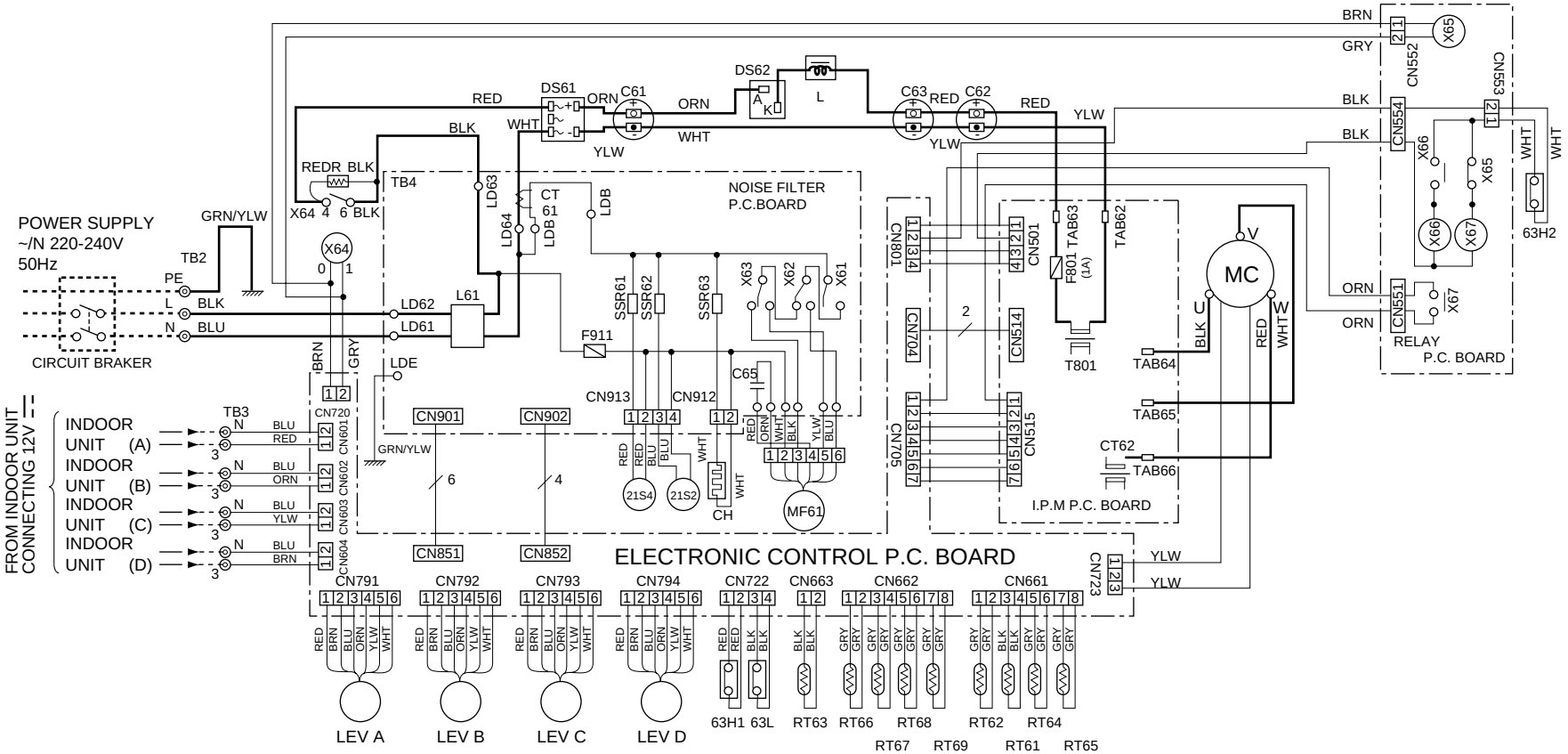
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C1	COMPRESSOR CAPACITOR(A,B)	TB	TERMINAL BLOCK	52C3	COMPRESSOR RELAY(C)
C2	OUTDOOR FAN CAPACITOR(C,D)	TB1~TB10	TERMINAL BLOCK	52C4	COMPRESSOR RELAY(D)
C11	OUTDOOR FAN CAPACITOR	X1	RELAY(A)	21R1	SOLENOID COIL(A)
F	FUSE(3.15A)	X2	RELAY(B)	21R2	SOLENOID COIL(B)
MC1	COMPRESSOR(A,B)	X3	RELAY(C)	21R3	SOLENOID COIL(C)
	(INNER THERMOSTAT)	X4	RELAY(D)	21R4	SOLENOID COIL(D)
MC2	COMPRESSOR(C,D)	X11	FAN MORTOR RELAY(A,B)	21RA	SOLENOID COIL
	(INNER THERMOSTAT)	X12	FAN MORTOR RELAY(B,C)	21RB	SOLENOID COIL
MF	OUTDOOR FAN MOTOR	52C1	COMPRESSOR RELAY(A)		
	(INNER THERMOSTAT)	52C2	COMPRESSOR RELAY(B)		

NOTE: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	SYMBOL	NAME
AR61	SURGE ABSORBER	L	REACTOR	RT63	FIN TEMPERATURE THERMISTOR	R65	CURRENT-DETECTING RESISTOR
CT61	CURRENT TRANSFORMER	LEV A,B	EXPANSION VALVE				
C61	POWER-FACTOR CAPACITOR	L61	CMC COIL	RT64	GAS PIPE TEMPERATURE B. THERMISTOR	SSR61	SOLID STATE RELAY
C63	CERAMIC CAPACITOR	MC	COMPRESSOR			TB	TERMINAL BLOCK
C64	CERAMIC CAPACITOR	MF	INDOOR FAN MOTOR (INNER THERMOSTAT)	RT65	GAS PIPE TEMPERATURE A. THERMISTOR	TR	POWER TRANSISTOR MODULE
C65	INDOOR FAN CAPACITOR						
C67	SMOOTHING CAPACITOR	NF61,62	NOISE FILTER	RT66	SUCTION TEMPERATURE THERMISTOR	T801	TRANSFORMER
DS61,63	DIODE MODULE	NR61	VARISTOR			X60,67	FAN MOTOR RELAY
FUSE1	FUSE(1A)	RT61	DEFROST TEMPERATURE THERMISTOR	RT67	EVAPORATION TEMPERATURE THERMISTOR	X64	RELAY
FUSE2	FUSE(3.15A)					21S4	REVERSING VALVE SOLENOID COIL
F62	FUSE(3.15A)	RT62	DISCHARGE TEMPERATURE THERMISTOR	R64	CURRENT-LIMITING RESISTOR		
HPS	HIGH PRESSURE SWITCH						

NOTE: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	POWER FACTOR CAPACITOR	MC	COMPRESSOR	T801	TRANSFORMER
C62,63	SMOOTHING CAPACITOR	MF61	OUTDOOR FAN MOTOR (INNER FUSE)	TB2,3,4	TERMINAL BLOCK
C65	OUTDOOR FAN CAPACITOR	R	RESISTOR	X61,62,63	FAN MOTOR RELAY
CH	CRANKCASE HEATER	RT61	DISCHARGE TEMPERATURE THERMISTOR	X64,65	RELAY
CT61,62	CURRENT TRANSFORMER	RT62	DEFROST TEMPERATURE THERMISTOR	X66,67	RELAY
DS61	DIODE MODULE	RT63	FIN TEMPERATURE THERMISTOR	21S2	SOLENOID COIL
DS62	DIODE STACK	RT64	EVAPORATION TEMPERATURE THERMISTOR	21S4	R.V. COIL
F801	FUSE (1A)	RT65	SUCTION TEMPERATURE THERMISTOR	63H1	HIGH PRESSURE SWITCH
F911	FUSE (1A)	RT66,67	GUS PIPE TEMPERATURE THERMISTOR	63H2	HIGH PRESSURE SWITCH
L	REACTOR	RT68,69	GUS PIPE TEMPERATURE THERMISTOR	63L	LOW PRESSURE SWITCH
L61	COMMON MODE CHOKE COIL	SSR61,62	SOLENOID COIL RELAY		
LEV A~D	EXPANSION VALVE	SSR63	CRANKCASE HEATER RELAY		

NOTE: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)

9 REFRIGERANT SYSTEM DIAGRAM

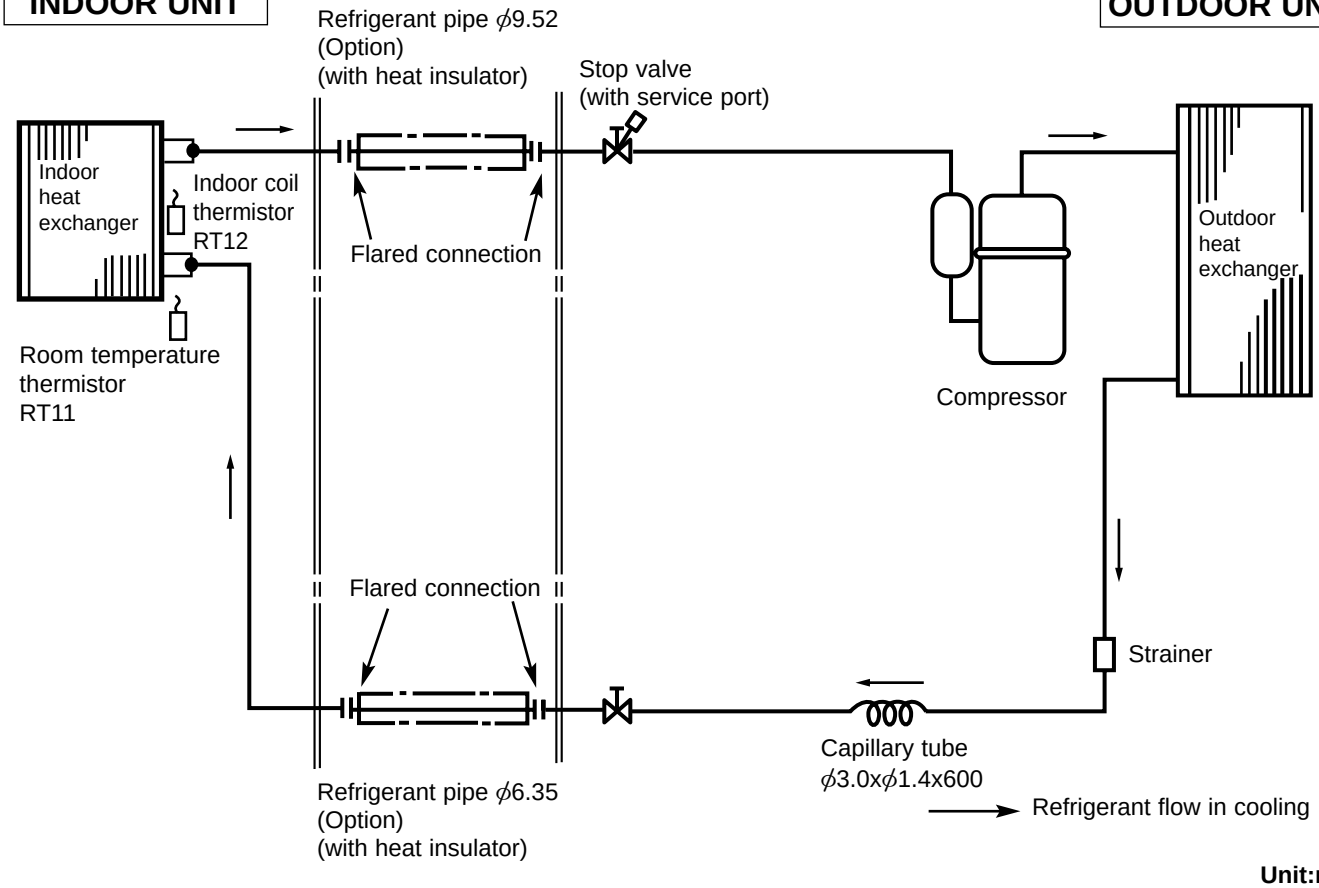
Unit:mm

MSC-07RV - E1
MSC-09RV - E1

INDOOR UNIT

MU-07RV - E1
MU-09RV - E1

OUTDOOR UNIT



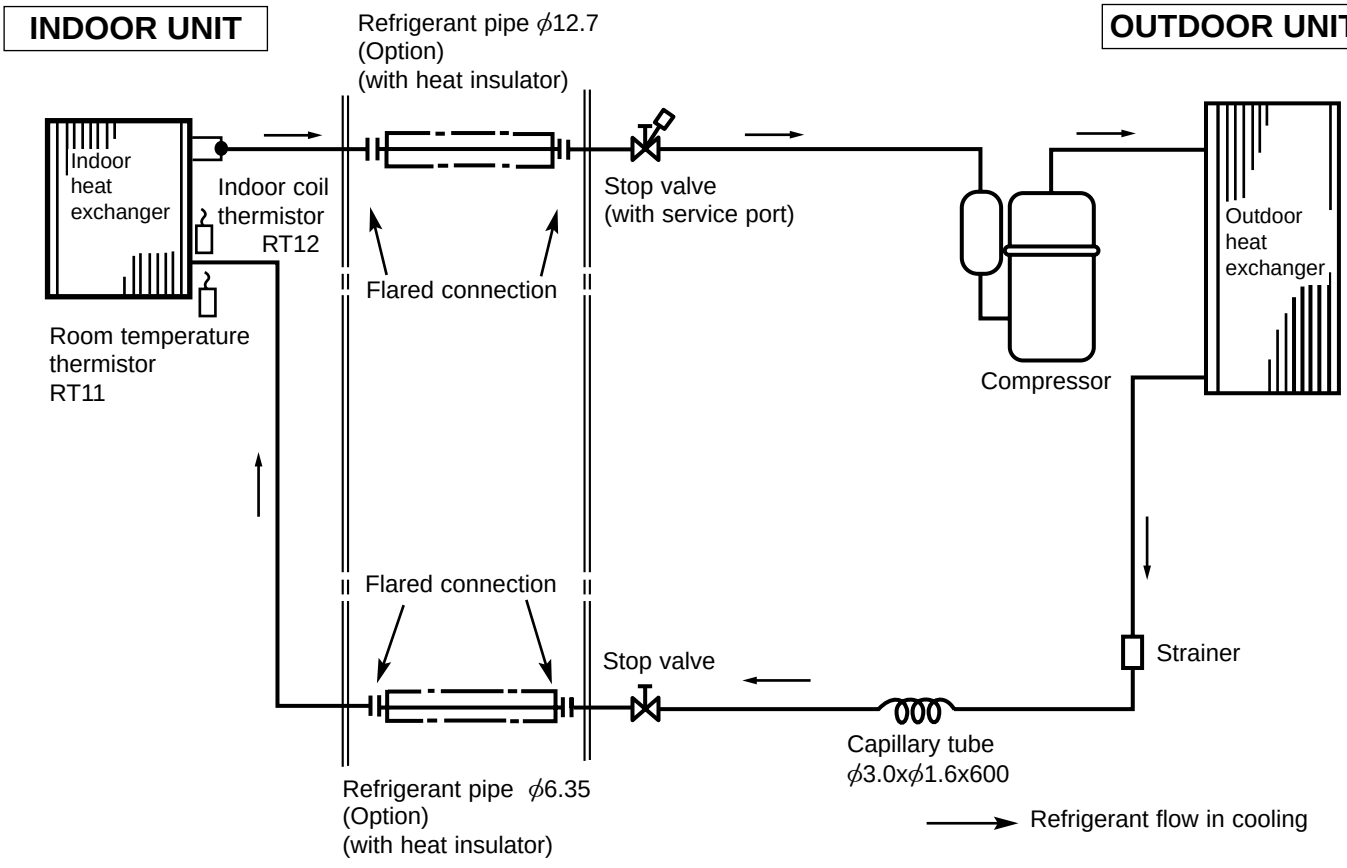
Unit:mm

MSC-12RV - E1

INDOOR UNIT

MU-12RV - E1

OUTDOOR UNIT



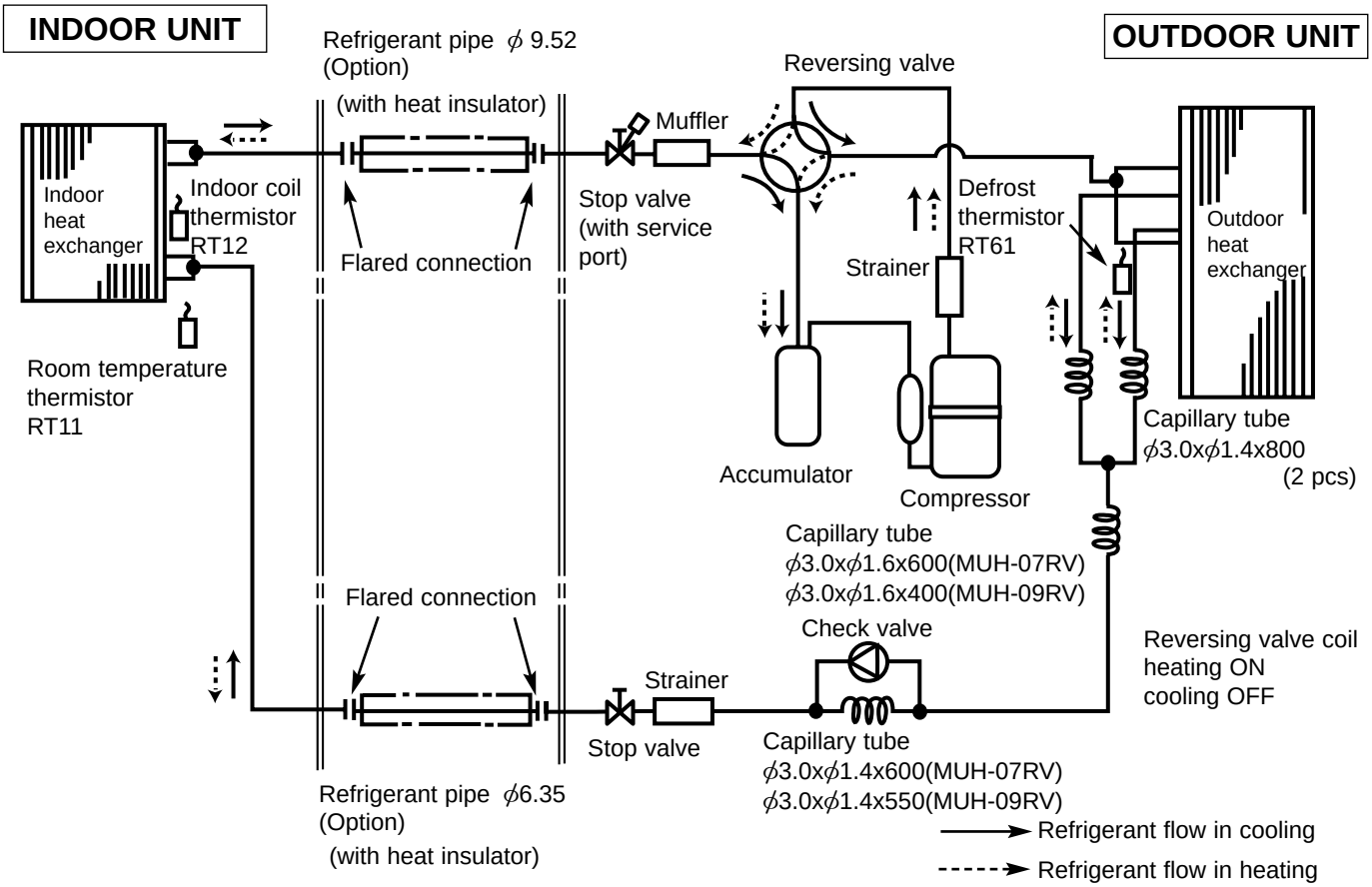
Unit:mm

MSC-07RV - E1
MSC-09RV - E1

INDOOR UNIT

MUH-07RV - E1
MUH-09RV - E1

OUTDOOR UNIT



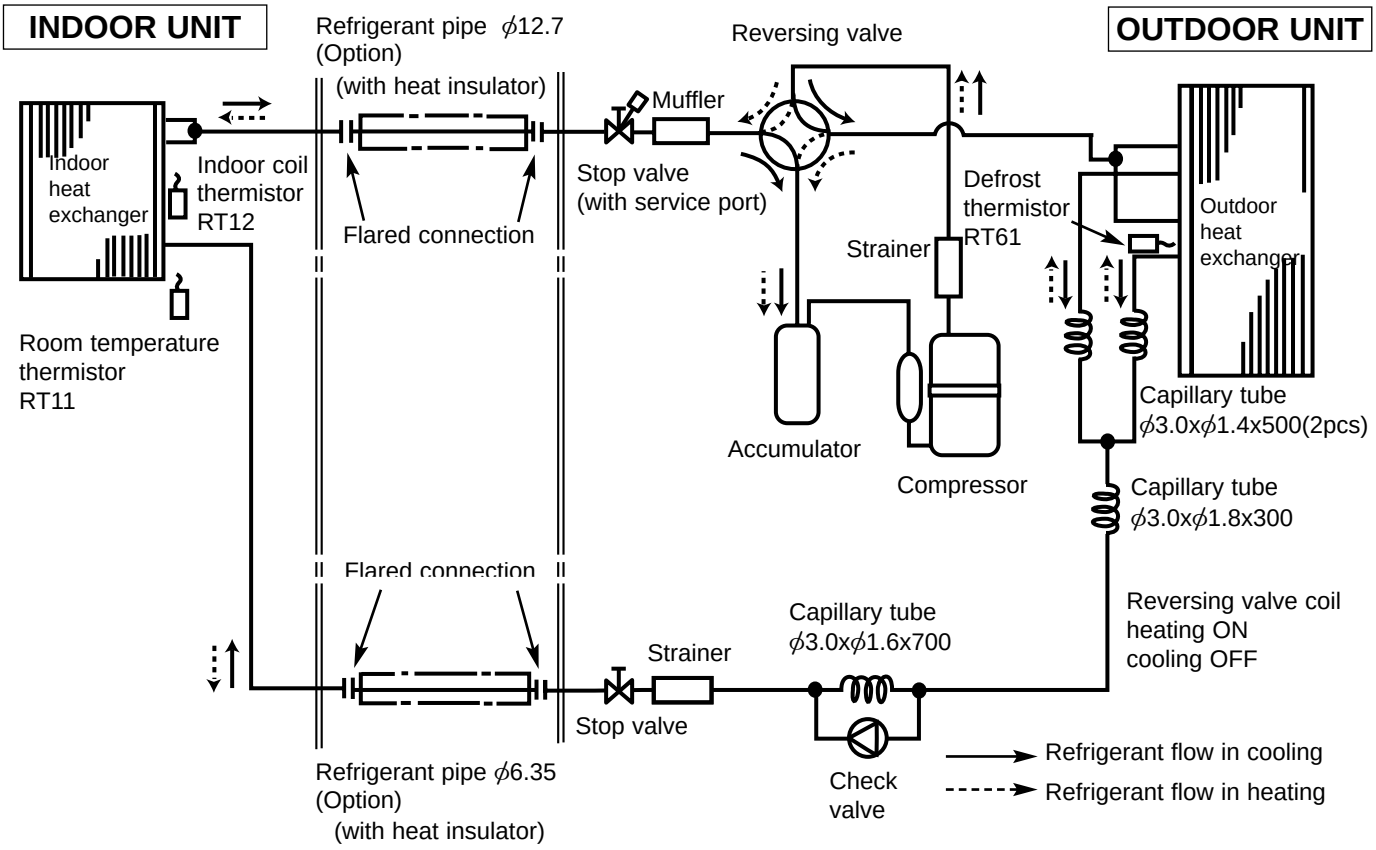
Unit:mm

MSC-12RV - E1

INDOOR UNIT

MUH-12RV - E1

OUTDOOR UNIT



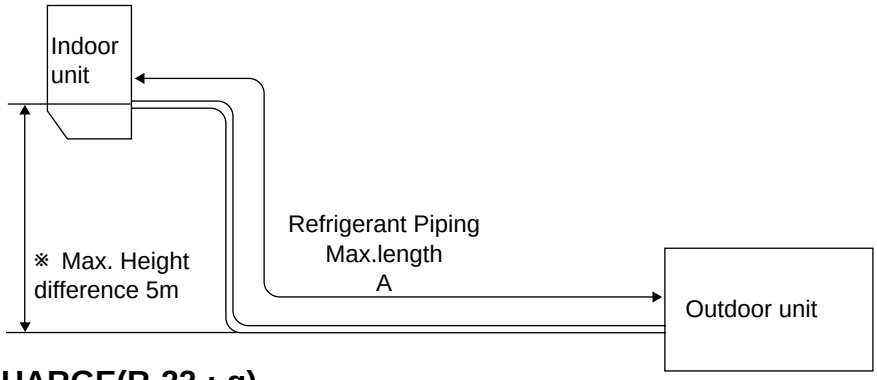
MAX. REFRIGERANT PIPING LENGTH

Models	Refrigerant piping Max. length : m A	Piping size O.D : mm		Length of connecting pipe : m	
		Gas	Liquid	Indoor unit	Outdoor unit
MSC-07RV - E1 MU-07RV - E1 MSC-09RV - E1 MU-09RV - E1	10	9.52	6.35	Gas 0.43 Liquid 0.5	Gas 0 Liquid 0
MSC-12RV - E1 MU-12RV - E1	15	12.7			

Models	Refrigerant piping Max. length : m A	Piping size O.D : mm		Length of connecting pipe : m	
		Gas	Liquid	Indoor unit	Outdoor unit
MSC-07RV - E1 MUH-07RV - E1 MSC-09RV - E1 MUH-09RV - E1	10	9.52	6.35	Gas 0.43 Liquid 0.5	Gas 0 Liquid 0
MSC-12RV - E1 MUH-12RV - E1	15	12.7			

MAX. HEIGHT DIFFERENCE

Height difference should be within 5m regardless of which unit, indoor or outdoor position is high.



ADDITIONAL REFRIGERANT CHARGE(R-22 : g)

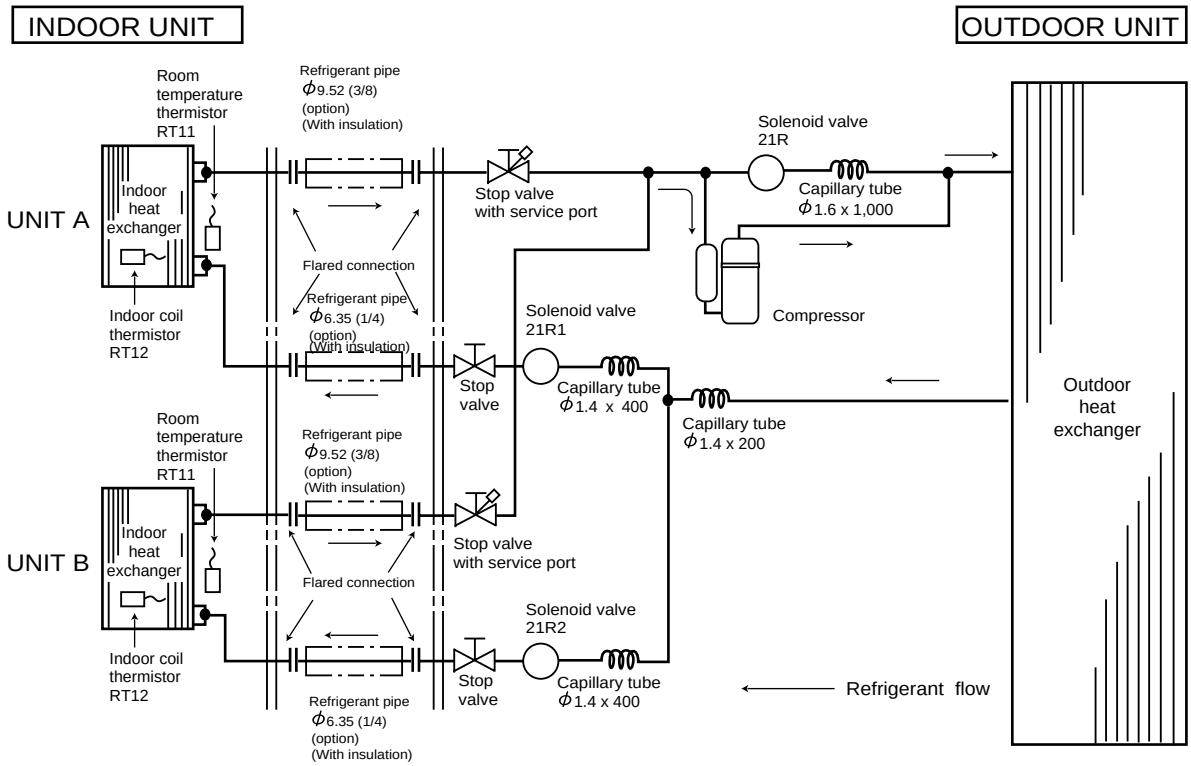
Models	Outdoor unit precharged	Refrigerant piping length (one way)		
		7m	10m	15m
MSC-07RV - E1 MU-07RV - E1	800	0	45	
MSC-09RV - E1 MU-09RV - E1	850			
MSC-12RV - E1 MU-12RV - E1	880			120

Calculation : Xg=15g/m x(A-7)m

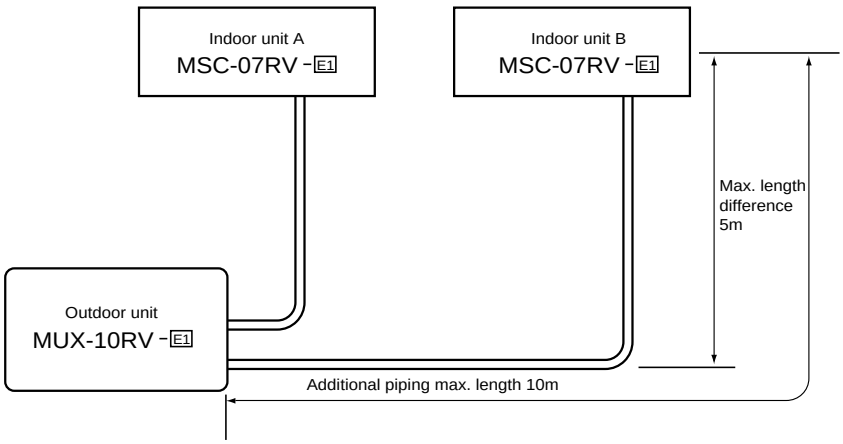
Models	Outdoor unit precharged	Refrigerant piping length (one way)		
		7m	10m	15m
MSC-07RV - E1 MUH-07RV - E1 MSC-09RV - E1 MUH-09RV - E1	800	0	150	
MSC-12RV - E1 MUH-12RV - E1	1190			400

Calculation : Xg=50g/m 5 x(A-7)m

MSC-07RV-E1 **MUX-10RV-E1** **Unit : mm**



MAX. REFRIGERANT PIPING LENGTH & MAX. HEIGHT DIFFERENCE



ADDITIONAL REFRIGERANT CHARGE (R-22:g)

MSX-10RV-E1	Outdoor unit precharged (g)	refrigerant piping length (one way,2unit total)								
		7m	8m	9m	10m	11m	12m	13m	14m	15m
A unit+B unit	1000g	0	10	20	30	40	50	60	70	80

PIPING PREPARATION

① Table below shows the specifications of pipes commercially available.

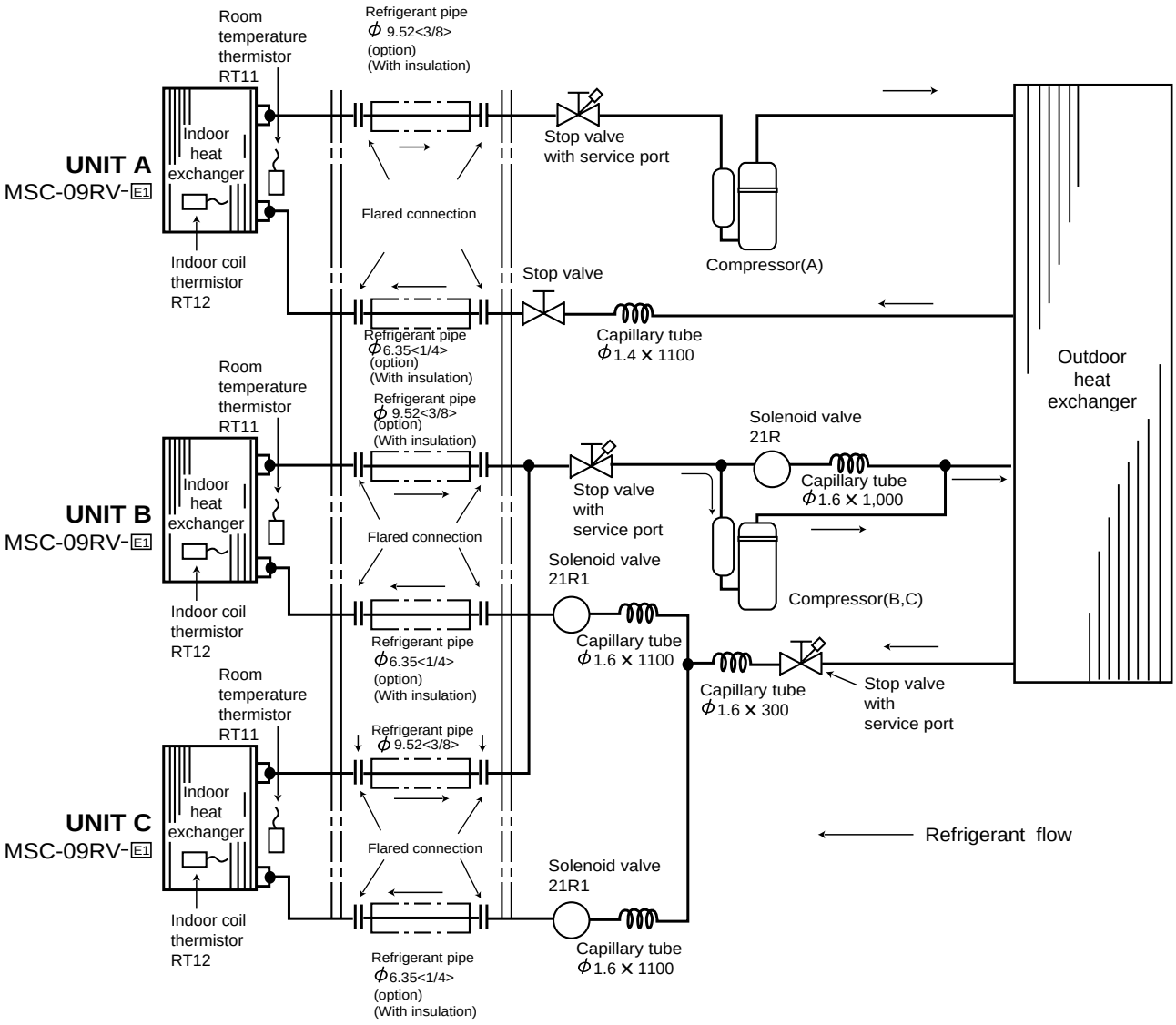
UNIT No.	Pipe	Outside diameter		Insulation thickness	Insulation material
		mm	inch		
A and B UNIT	For liquid	6.35	1/4	8 mm	Heat resisting foam plastic 0.045 specific gravity
	For gas	9.52	3/8	8 mm	

② Ensure that the 2 refrigerant pipes are well insulated to prevent condensation.
③ Refrigerant bending radius must be 10cm or more.

Unit : mm

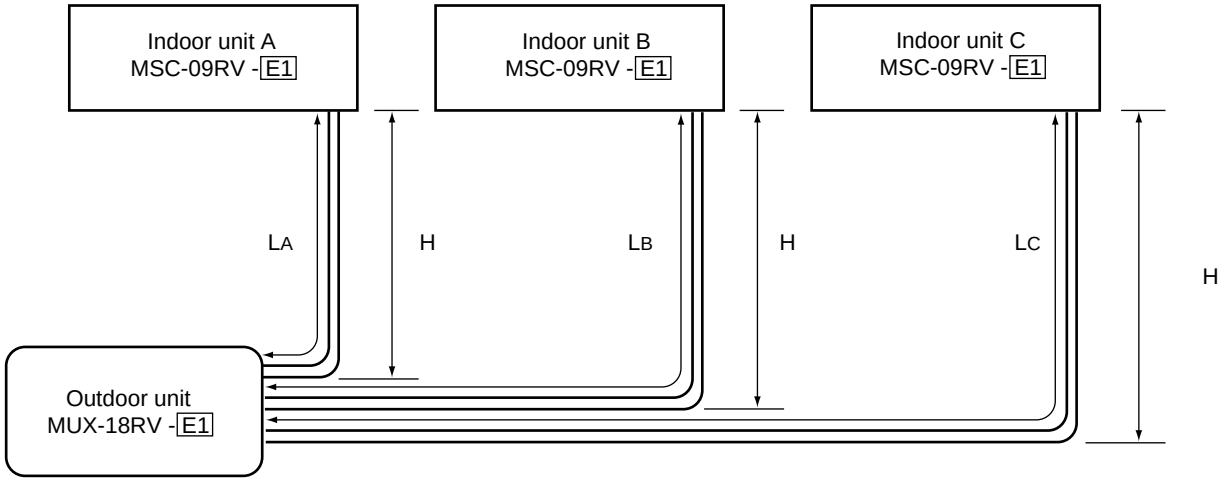
MSC-09RV-E1 **MUX-18RV-E1**

INDOOR UNIT **OUTDOOR UNIT**



MSX-18RV-E1

MAX.REFRIGERANT PIPING LENGTH & MAX. HEIGHT DIFFERENCE



	UNIT No.	Pipe length				Height difference (H)	No. of bends	
Max. limits	A	LA	10m			5m	10	
	B	LB	10m	LB + LC	Total 15m	5m	10	Total 15
	C	LC	10m			5m	10	

Note: The length of piping to individual units (A,B,C) should not exceed 10 meters.
If units B and C are linked, the maximum combined length of piping should not exceed 15 meters.

ADDITIONAL REFRIGERANT CHARGE (R-22:g)

A unit	Outdoor unit precharged	Refrigerant piping length (one way)							
		7m		8m		9m		10m	
	750g	0		15		30		45	
B unit + C unit	Outdoor unit precharged	Refrigerant piping length (one way,2 unit total)							
		7m	8m	9m	10m	11m	12m	13m	14m	15m
	750g	0	15	30	45	60	75	90	105	120

PIPING PREPARATION

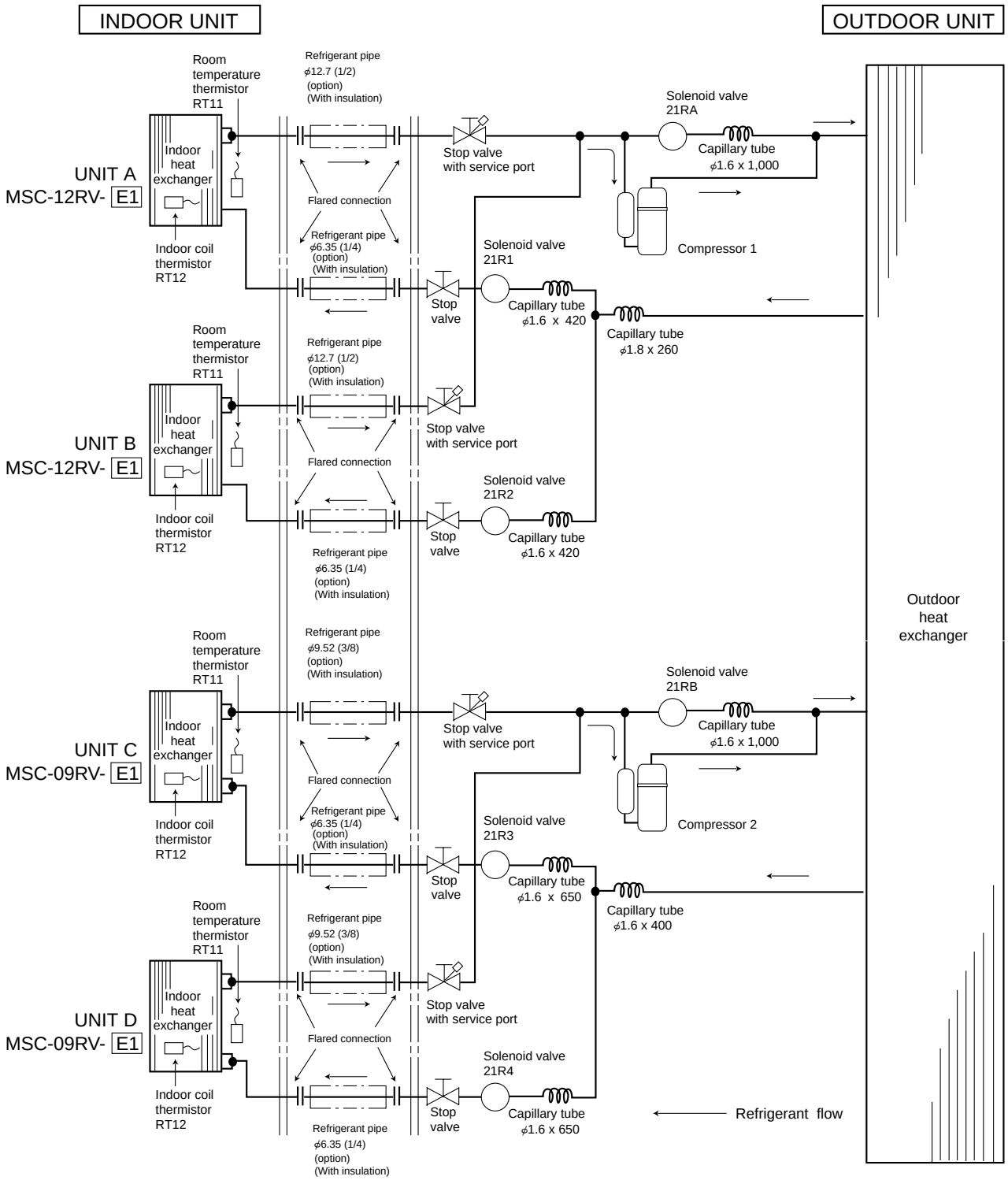
①Table below shows the specifications of pipes commercially available.

UNIT No.	Pipe	Outside diameter		Insulation thickness	Insulation material
		mm	inch		
A , B and C unit	For liquid	6.35	1/4	8mm	Heat resisting foam plastic 0.045 specific gravity
	For gas	9.52	3/8	8mm	

②Ensure that the 2 refrigerant pipes are well insulated to prevent condensation.
③Refrigerant bending radius must be 10cm or more.

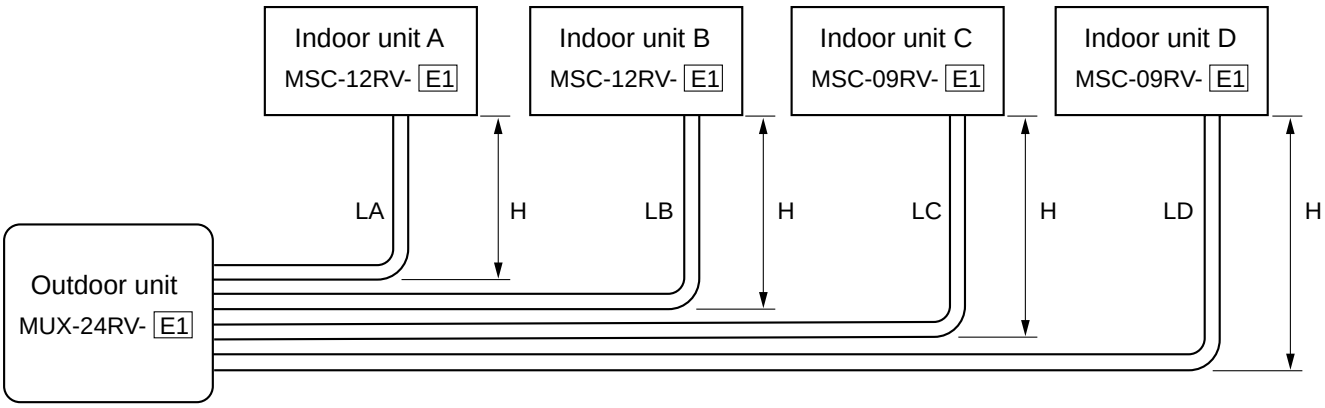
MSC-09RV- E1
MSC-12RV- E1

MUX-24RV- E1 **Unit : mm**



MSX-24RV-E1

MAX.REFRIGERANT PIPING LENGTH & MAX. HEIGHT DIFFERENCE



	UNIT No.	Pipe length				Height difference (H)	No. of bends	
Max. limits	A	LA	20m	LA + LB	Total 30m	10m	10	Total 15
	B	LB	20m			10m	10	
	C	LC	20m	LC + LD	Total 30m	10m	10	Total 15
	D	LD	20m			10m	10	

Note: The length of individual units (A,B,C,D) should not exceed 20 meters.
If units A and B or C and D are linked, the maximum combined length of piping should not exceed 30 meters.

ADDITIONAL REFRIGERANT CHARGE (R-22g)

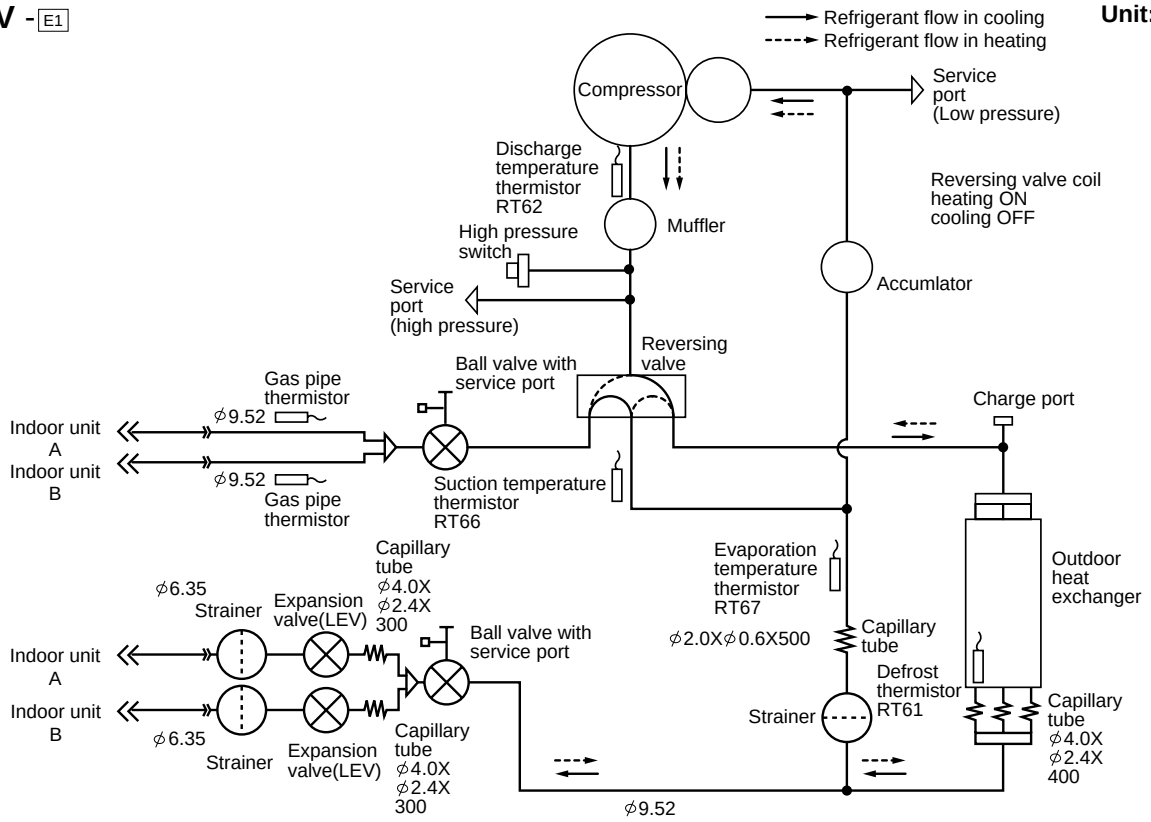
UNIT No.	Outdoor unit precharged (g)	Refrigerant piping length (one way, 2 unit total)																				
		10 m	11 m	12 m	13 m	14 m	15 m	16 m	17 m	18 m	19 m	20 m	21 m	22 m	23 m	24 m	25 m	26 m	27 m	28 m	29 m	30 m
A unit + B unit	1000g	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
C unit + D unit	1000g	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200

PIPING PREPARATION

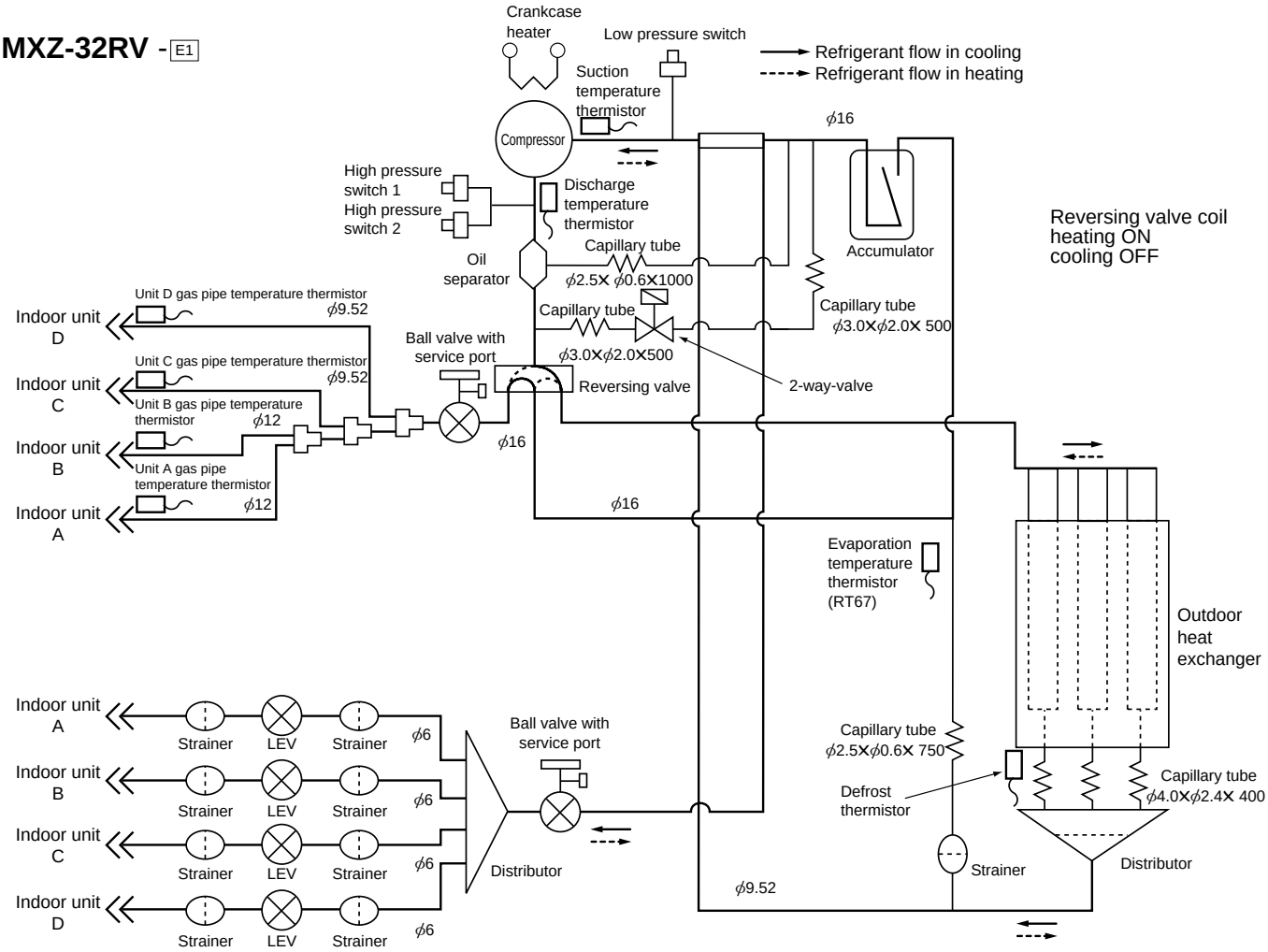
UNIT No.	Pipe	Outside diameter		Insulation thickness	Insulation material
		mm	inch		
A and B unit	For liquid	6.35	1/4	8mm	Heat resisting foam plastic 0.045 specific gravity
	For gas	12.7	1/2	8mm	
C and D unit	For liquid	6.35	1/4	8mm	
	For gas	9.52	3/8	8mm	

MXZ-18RV - E1

Unit:mm

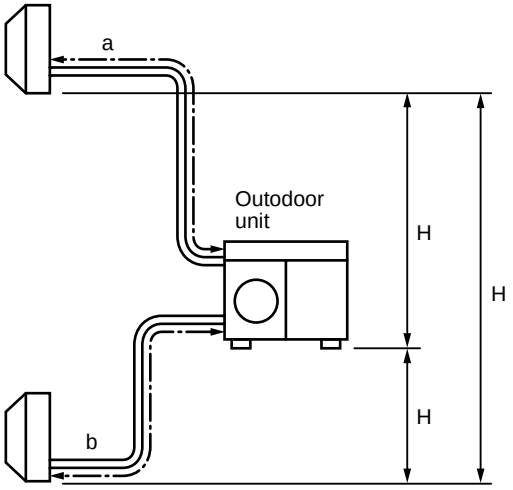


MXZ-32RV - E1



MAX REFRIGERANT PIPING LENGTH

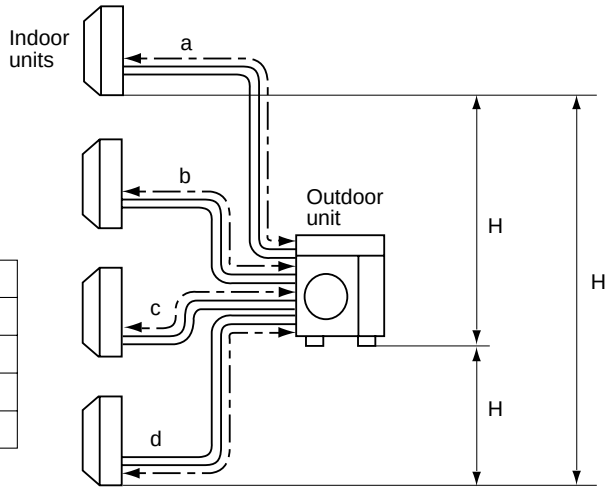
MXZ-18RV - E1



Piping length for each indoor unit (a,b)	20m
Total piping length (a+b)	30m
Height difference between units (H)	7m
Bending point for each unit	15
Total bending point	30

❋ It does not matter which unit is higher

MXZ-32RV - E1



Piping length each indoor unit (a, b, c, d)	25m
Total piping length (a+b+c+d)	60m
Height difference between units (H)	10m
Bending point for each unit	25
Total bending point	60

❋It does not matter which unit is higher.

PIPE SIZE SELECTION

MXZ-18RV -E1

- Refrigerant pipe diameter is different according to indoor unit to be connected. When using extension pipes, refer to the table below.
- When diameter of refrigerant pipe is different from that of outdoor unit union, use optional L-joint. For further information on L-joint, see page BACK COVER.

Unit : mm (inch)

	Indoor unit		Extention pipe diameter	
class	Pipe diameter			
07/09	Liquid	6.35(1/4)	Liquid	6.35(1/4)
	Gas	9.52(3/8)	Gas	9.52(3/8)
12	Liquid	6.35(1/4)	Liquid	6.35(1/4)
	Gas	12.7(1/2)	Gas	12.7(1/2)

Outdoor unit union diameter		
For		
Indoor unit A	Liquid	6.35(1/4)
	Gas	9.52(3/8)
Indoor unit B	Liquid	6.35(1/4)
	Gas	9.52(3/8)

MXZ-32RV -E1

- Refrigerant pipe diameter is different according to indoor unit to be connected. When using extention pipes,refer to the tables below.
- When diameter of refrigerant pipe is different from that of outdoor unit union, use optional Different-diameter pipe. For further information on Different-diameter pipe,see page BACK COVER.

Unit : mm (inch)

	Indoor unit		Extention pipe diameter	
class	Pipe diameter			
07/09	Liquid	6.35(1/4)	Liquid	6.35(1/4)
	Gas	9.52(3/8)	Gas	9.52(3/8)
12(13)	Liquid	6.35(1/4)	Liquid	6.35(1/4)
	Gas	12.7(1/2)	Gas	12.7(1/2)
18	Liquid	6.35(1/4)	Liquid	6.35(1/4)
	Gas	15.88(5/8)	Gas	15.88(5/8)

Outdoor unit union diameter		
For		
Indoor unit A	Liquid	6.35(1/4)
	Gas	12.7(1/2)
Indoor unit B	Liquid	6.35(1/4)
	Gas	12.7(1/2)
Indoor unit C	Liquid	6.35(1/4)
	Gas	9.52(3/8)
Indoor unit D	Liquid	6.35(1/4)
	Gas	9.52(3/8)

10 PERFORMANCE CURVES

MSC-07RV -E1 MU-07RV -E1 MUH-07RV -E1
MSC-09RV -E1 MU-09RV -E1 MUH-09RV -E1
MSC-12RV -E1 MU-12RV -E1 MUH-12RV -E1

The standard data contained in these specifications apply only to the operation of the air conditioner under normal conditions, since operating conditions vary according to the areas where these units are installed. The following information has been provided to clarify the operating characteristics of the air conditioner under the conditions indicated by the performance curve.

(1) GUARANTEED VOLTAGE

Rated voltage : ±10% (198 ~ 264V),50Hz

(2) AIR FLOW

Air flow should be set at MAX.

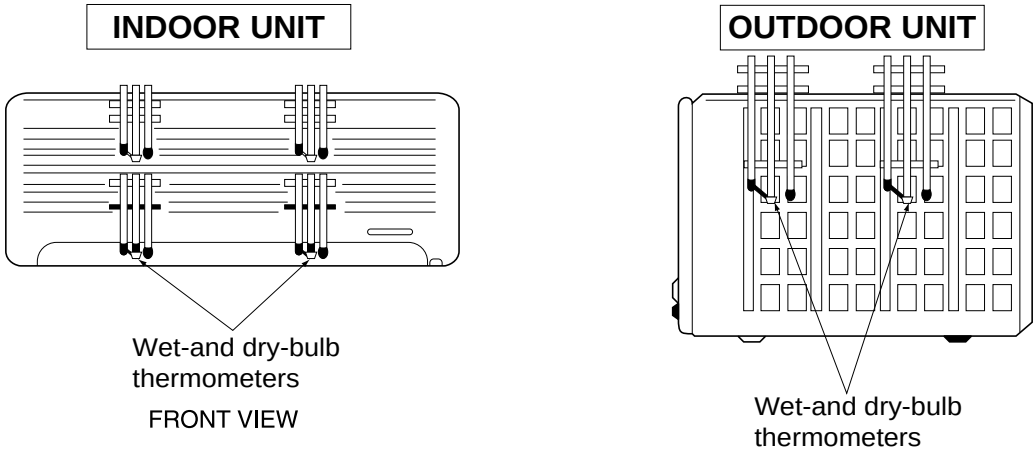
(3) MAIN READINGS

(1) Indoor intake air wet-bulb temperature :	°CWB	Cooling
(2) Indoor outlet air wet-bulb temperature :	°CWB	
(3) Outdoor intake air dry-bulb temperature :	°CDB	
(4) Total input:	W	
(5) Indoor intake air dry-bulb temperature :	°CDB	Heating **<MUH-07/09/12RV>**
(6) Outdoor intake air wet-bulb temperature :	°CWB	
(7) Total input :	W	

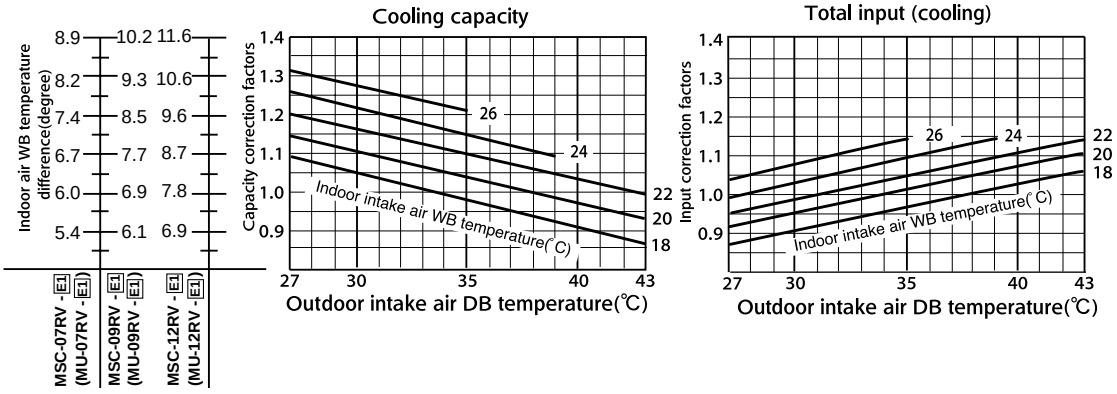
Indoor air wet/dry-bulb temperature difference on the left side of the chart on page 14 and 15 shows the difference between the indoor intake air wet/dry-bulb temperature and the indoor outlet air wet/dry-bulb temperature for your reference at service.

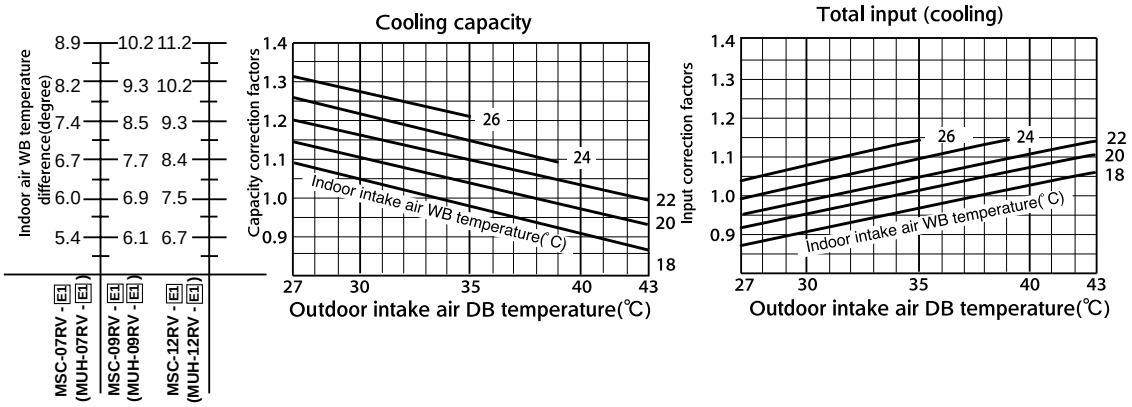
How to measure the indoor air wet-bulb/dry-bulb temperature difference

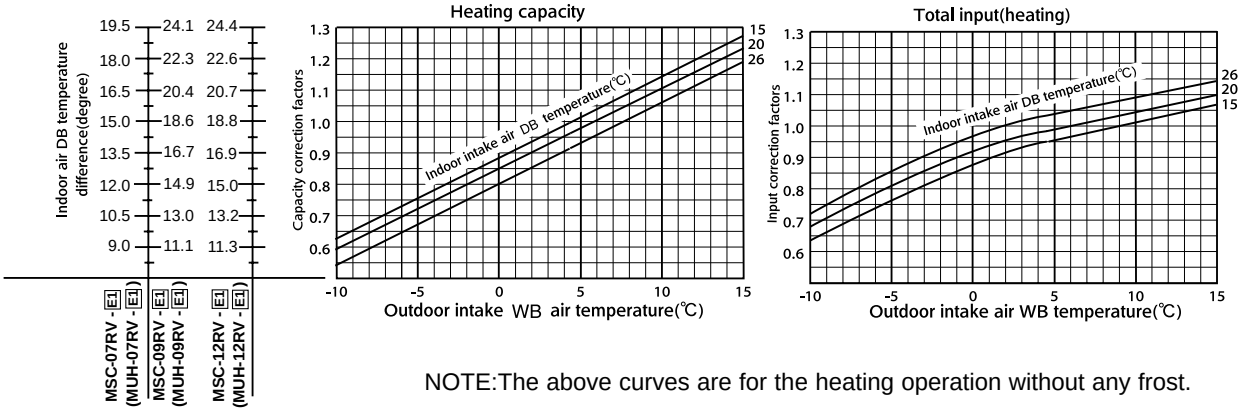
1. Attach at least 2 sets of wet-and dry-bulb thermometers to the indoor air intake as shown in the figure, and at least 2 sets of wet-and dry-bulb thermometers to the indoor air outlet. The thermometers must be attached to the position where air speed is high.
2. Attach at least 2 sets of wet-and dry-bulb thermometers to the outdoor air intake. Cover the thermometers to prevent direct rays of the sun.
3. Check that the air filter is cleaned.
4. Open windows and doors of room.
5. Press the EMERGENCY OPERATION switch once(twice) to start the EMERGENCY COOL(HEAT**<MUH-07/09/12RV>**) MODE.
6. When system stabilizes after more than 15 minutes, measure temperature and take an average temperature.
7. 10 minutes later, measure temperature again and check that the temperature does not change.



10-1-1.CAPACITY AND THE INPUT CURVES







NOTE:The above curves are for the heating operation without any frost.

10-1-2.OUTDOOR LOW PRESSURE AND OUTDOOR UNIT CURRENT

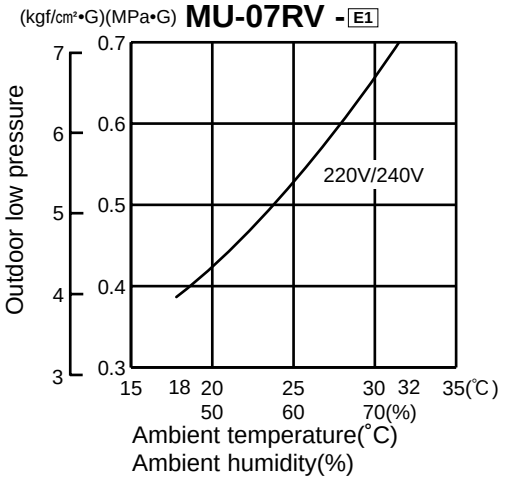
COOL operation

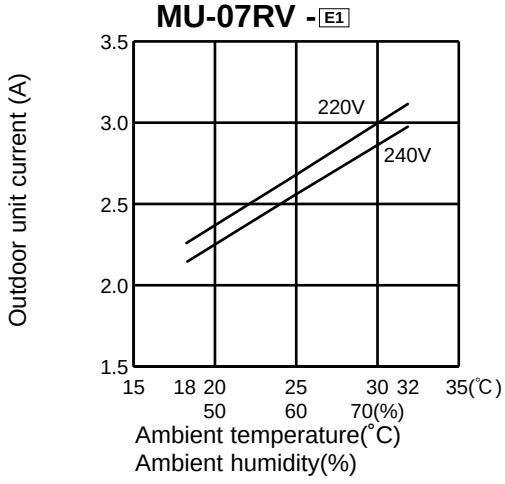
① Both indoor and outdoor unit are under the same temperature/humidity condition.

Dry-bulb temperature	Relative humidity(%)
20	50
25	60
30	70

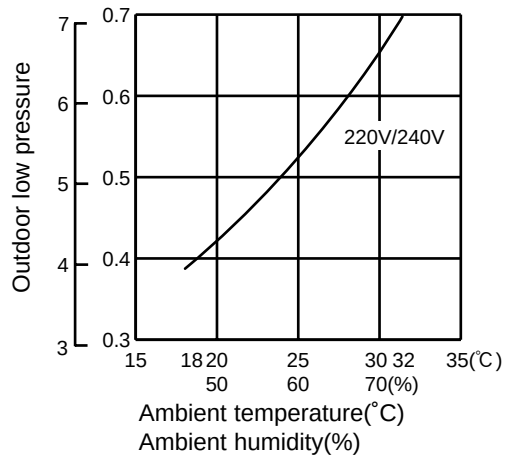
② Air flow should be set at MAX.

③ The unit of pressure has been changed to MPa on the international system of units(SI unit system).
The conversion factor is : **1(MPa • G) =10.2(kgf/㎠ • G)**

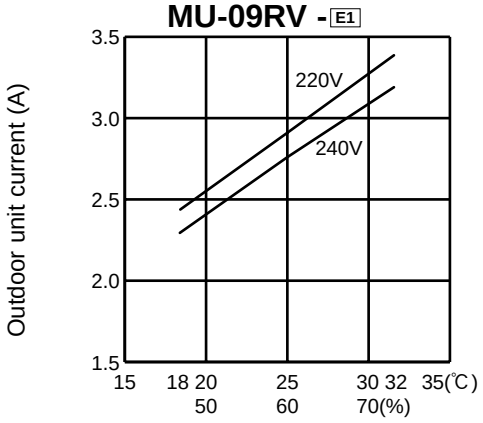




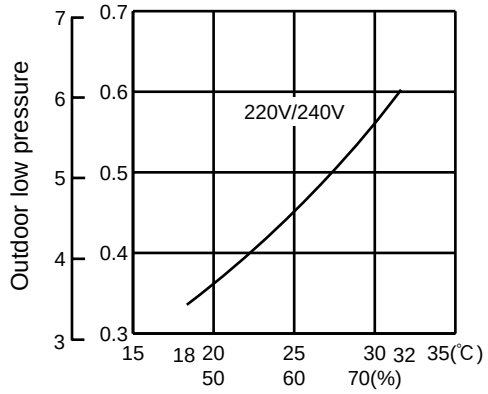
(kgf/㎠•G)(MPa•G) **MU-09RV - E1**



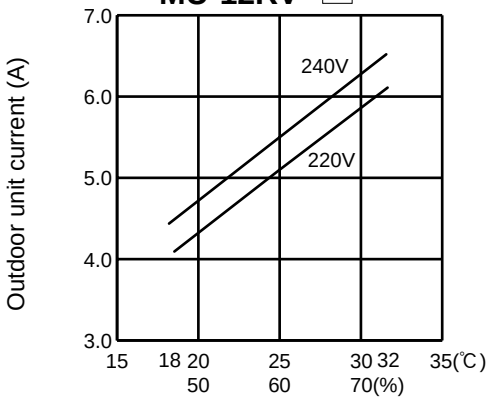
MU-09RV - E1



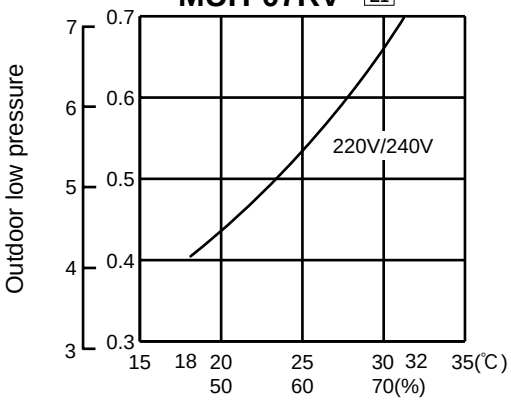
(kgf/㎠•G)(MPa•G) **MU-12RV - E1**



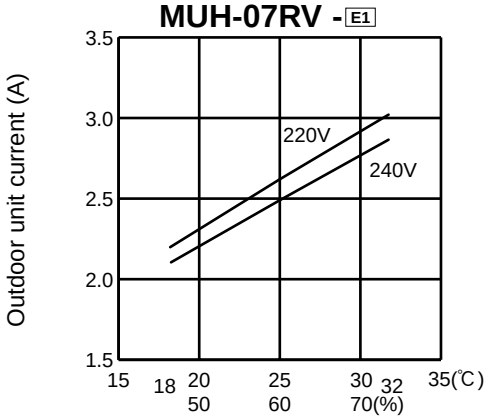
MU-12RV - E1



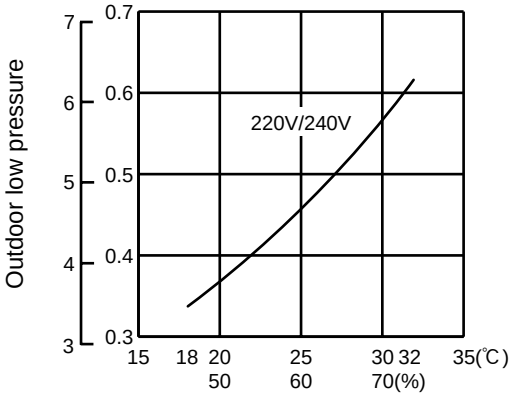
(kgf/㎠•G)(MPa•G) **MUH-07RV - E1**



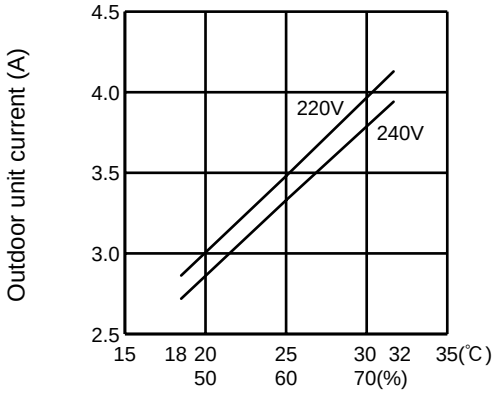
MUH-07RV - E1

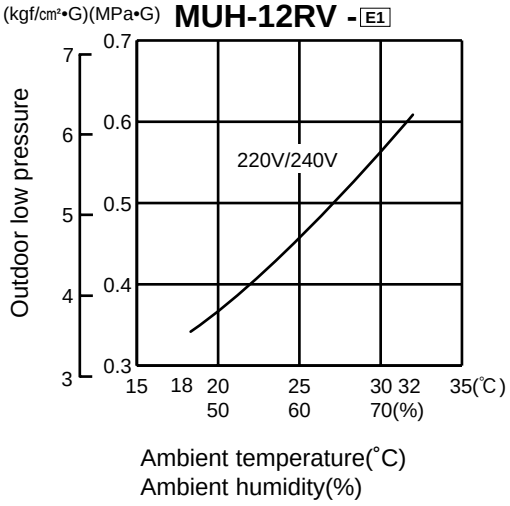


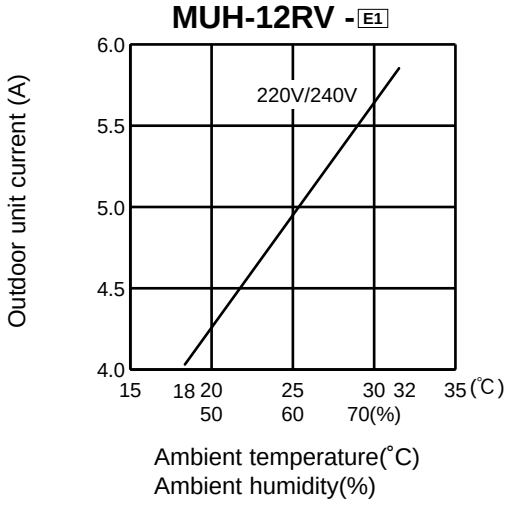
(kgf/㎠•G)(MPa•G) **MUH-09RV - E1**



MUH-09RV - E1



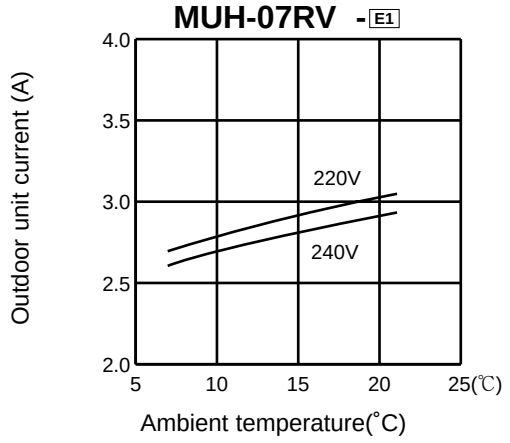


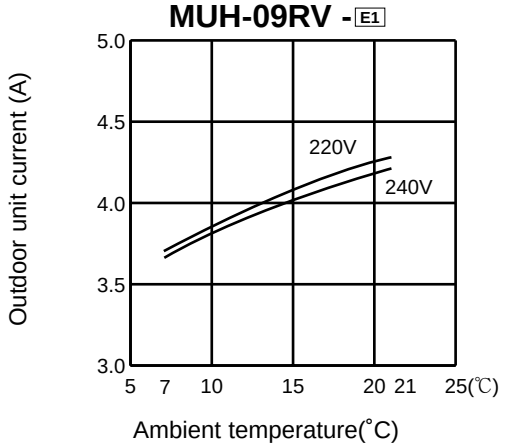


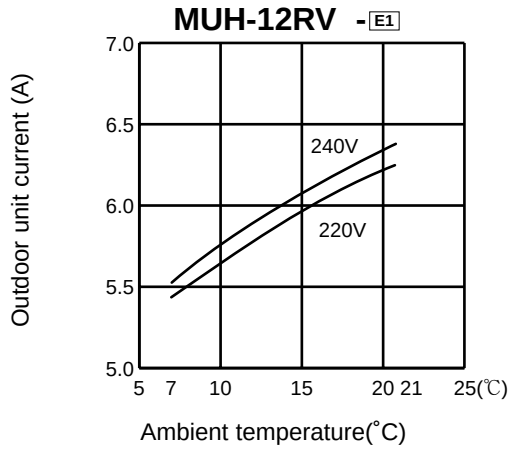
HEAT operation

Condition indoor:Dry bulb temperature 20.0°C
Wet bulb temperature 14.5°C

Outdoor:Dry bulb temperature 7,15,20°C
Wet bulb temperature 6,12,14.5°C

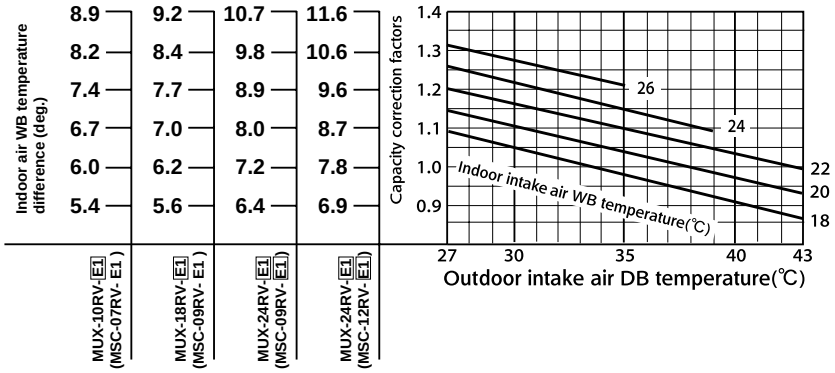


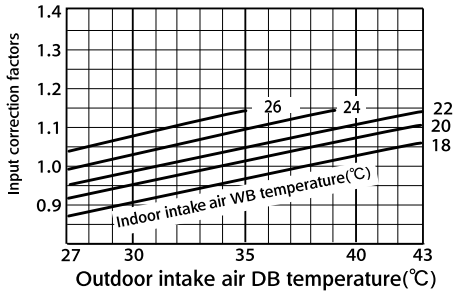




MSC-07RV -E1 MUX-10RV -E1
MSC-09RV -E1 MUX-18RV -E1
MSC-12RV -E1 MUX-24RV -E1

10-2-1.CAPACITY AND THE INPUT CURVES (ONE INDOOR UNIT WITH ONE OUTDOOR UNIT)





10-2-2.OUTDOOR LOW PRESSURE AND OUTDOOR UNIT CURRENT

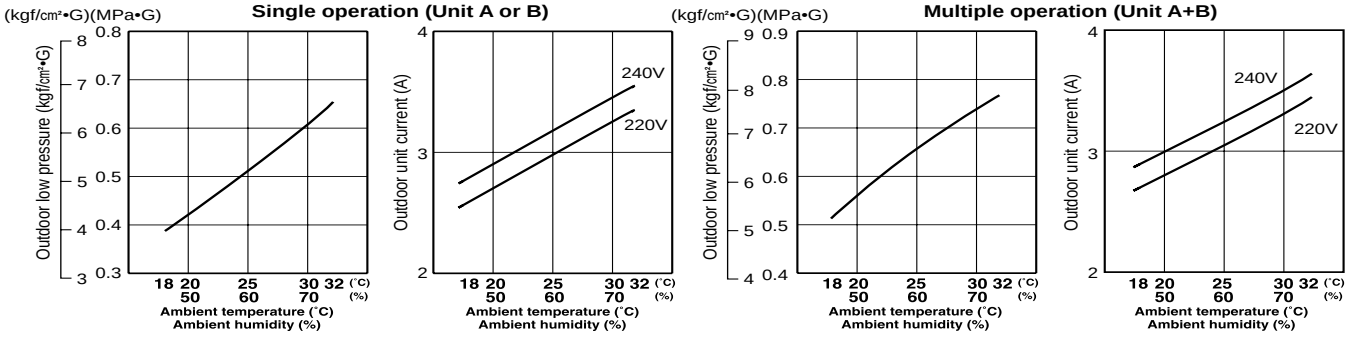
COOL operation

① Both indoor and outdoor unit are under same temperature/humidity condition.

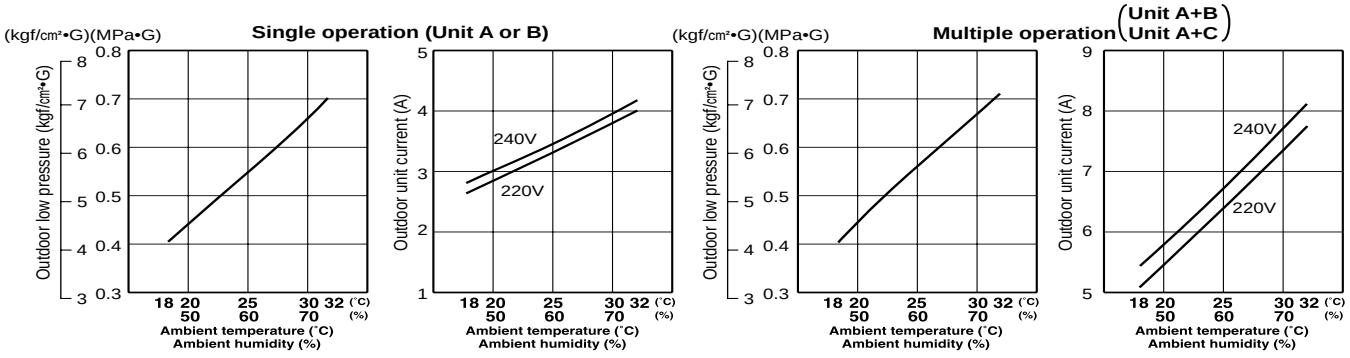
Dry-bulb temperature	Relative humidity (%)
20	50
25	60
30	70

② Air flow should be set at MAX.

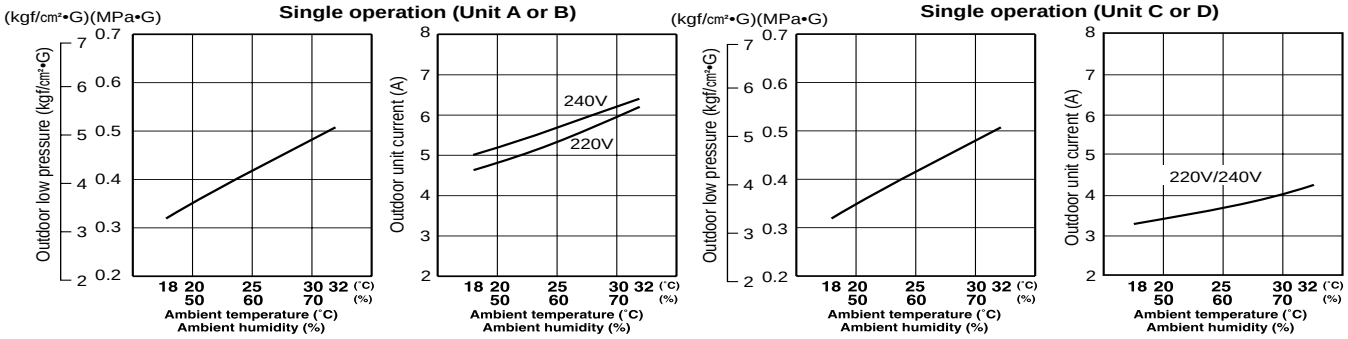
MUX-10RV-E1

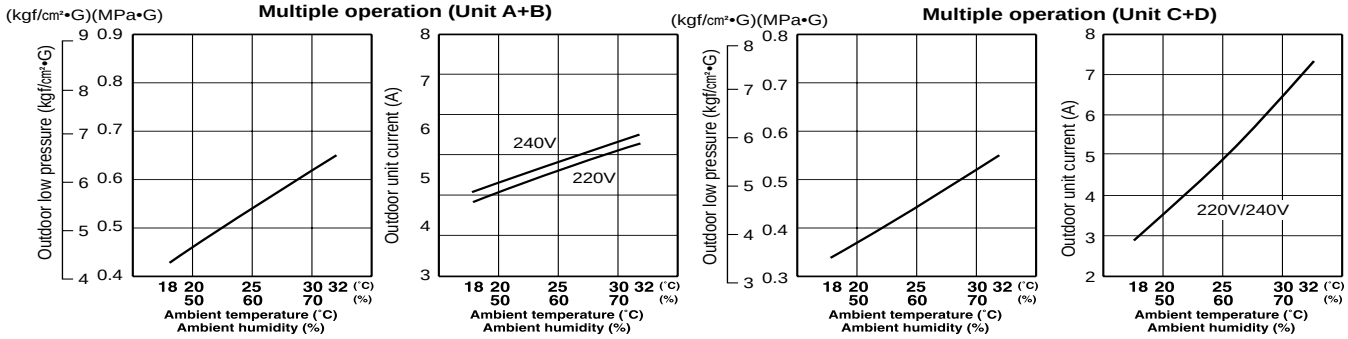


MUX-18RV-E1



MUX-24RV-E1


(kgf/cm²•G)(MPa•G)
Single operation (Unit A or B)
Outdoor low pressure (kgf/cm²•G)
Outdoor unit current (A)
240V
220V
Ambient temperature (˚C)
Ambient humidity (%)
(kgf/cm²•G)(MPa•G)
Single operation (Unit C or D)
Outdoor low pressure (kgf/cm²•G)
Outdoor unit current (A)
220V/240V
Ambient temperature (˚C)
Ambient humidity (%)


(kgf/cm²•G)(MPa•G)
Multiple operation (Unit A+B)
Outdoor low pressure (kgf/cm²•G)
Outdoor unit current (A)
240V
220V
Ambient temperature (˚C)
Ambient humidity (%)
(kgf/cm²•G)(MPa•G)
Multiple operation (Unit C+D)
Outdoor low pressure (kgf/cm²•G)
Outdoor unit current (A)
220V/240V
Ambient temperature (˚C)
Ambient humidity (%)

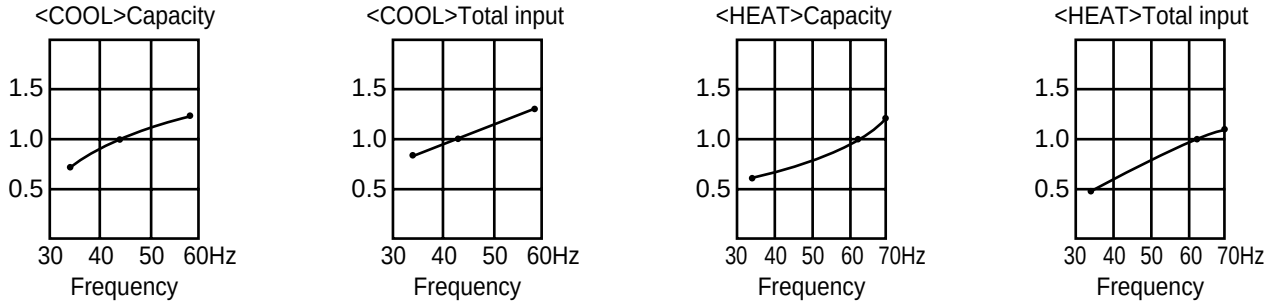
MSC-07RV -E1 MXZ-18RV -E1
MSC-09RV -E1 MXZ-32RV -E1
MSC-12RV -E1

10-3-1.Capacity and input correction by inverter output frequency (OUTDOOR UNIT:MXZ-18RV)

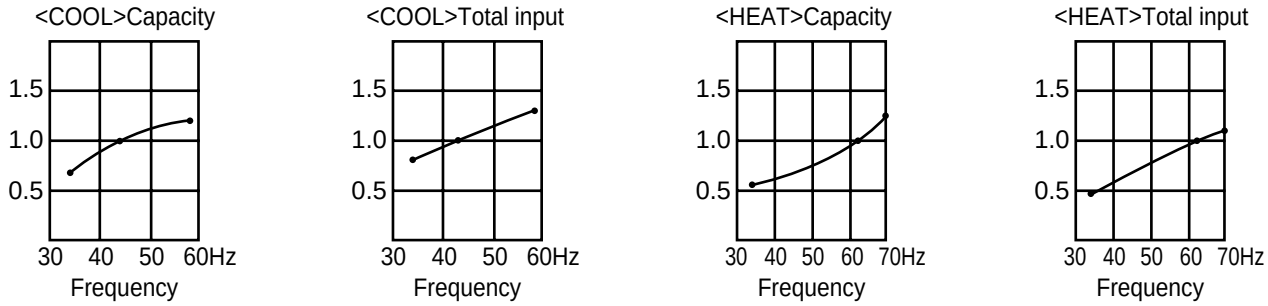
NOTE 1 : Inverter output frequency : COOL 58Hz,HEAT 58Hz

NOTE 2 : The dotted line on graphs connects the frequency range in normal operation shown by the full line and the frequency in test run shown by the point.

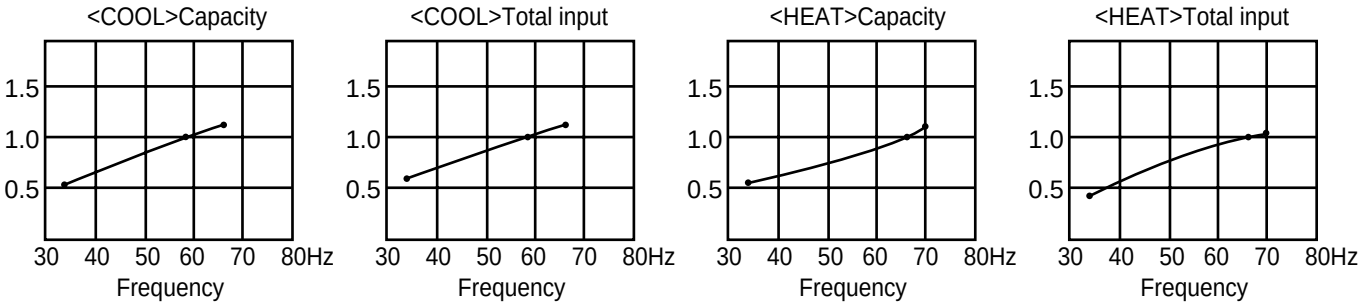
1.07-class unit in single operation



2.09-class unit in single operation



3.12-class unit in single operation



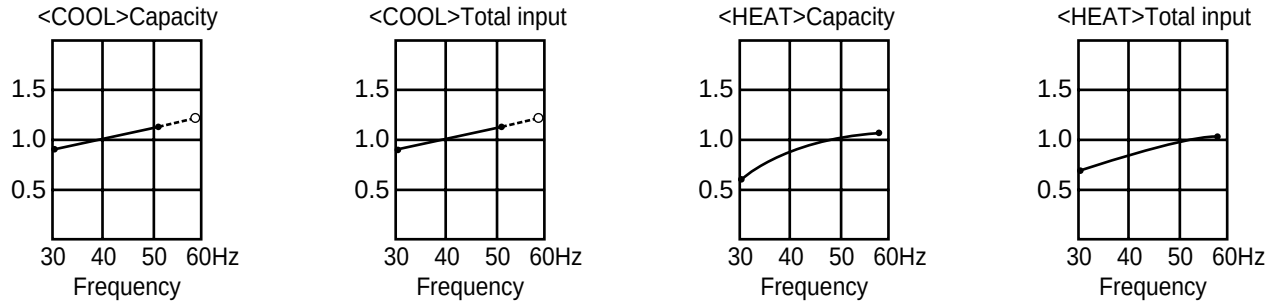
10-3-.2.Capacity and input correction by inverter output frequency

(OUTDOOR UNIT:MXZ-32RV)

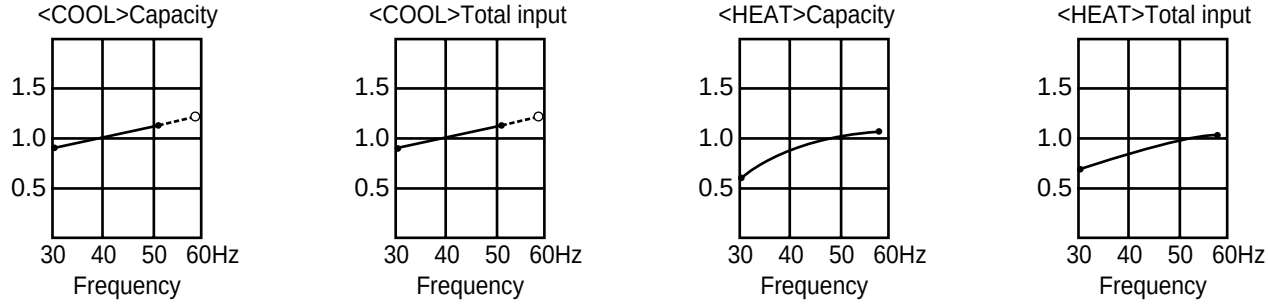
NOTE 1 : Inverter output frequency : COOL 58Hz,HEAT 40Hz

NOTE 2 : The dotted line on graphs connects the frequency range in normal operation shown by the full line and the frequency in test run shown by the point.

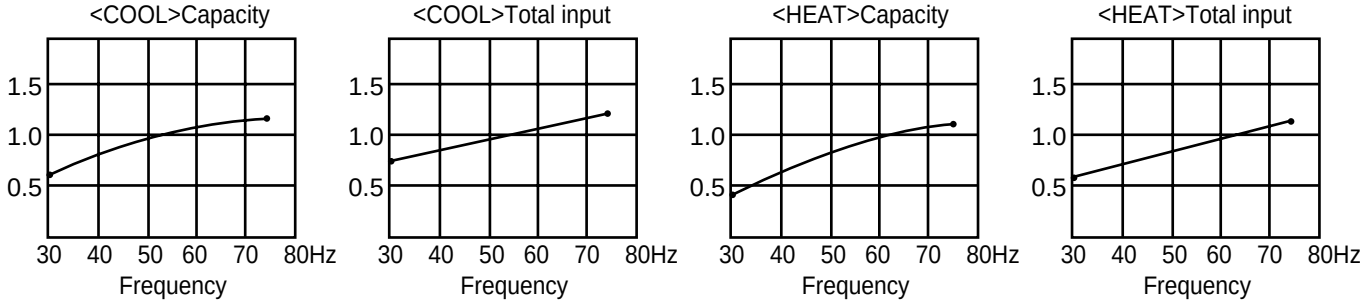
1.07-class unit in single operation



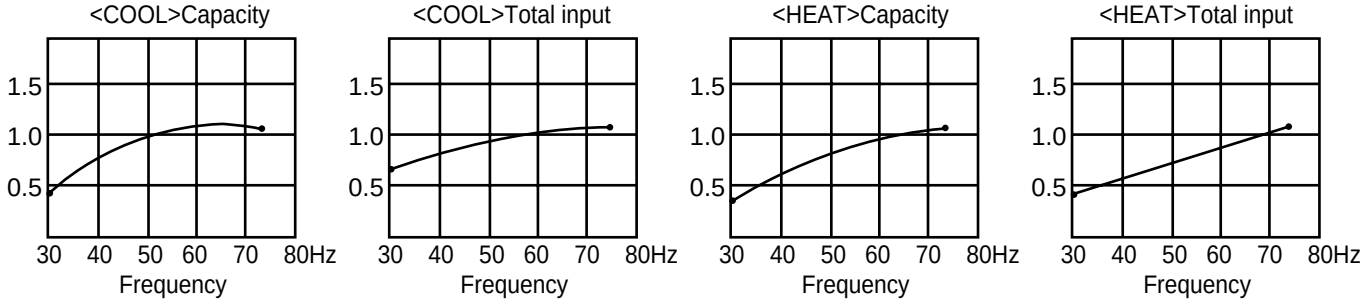
2.09-class unit in single operation



3.12-class unit in single operation



4.18-class unit in single operation



10-3-3.Outdoor low pressure and outdoor unit current

1.07-class unit in single operation(OUTDOOR UNIT : MXZ-18RV)

NOTE: The unit of pressure has been changed to MPa on the international system of units(SI unit system).
The converted score against the traditional unit system can be gotten according to the formula below.

1(MPa • G) =10.2(kgf/㎠ • G)

(1) COOL operation

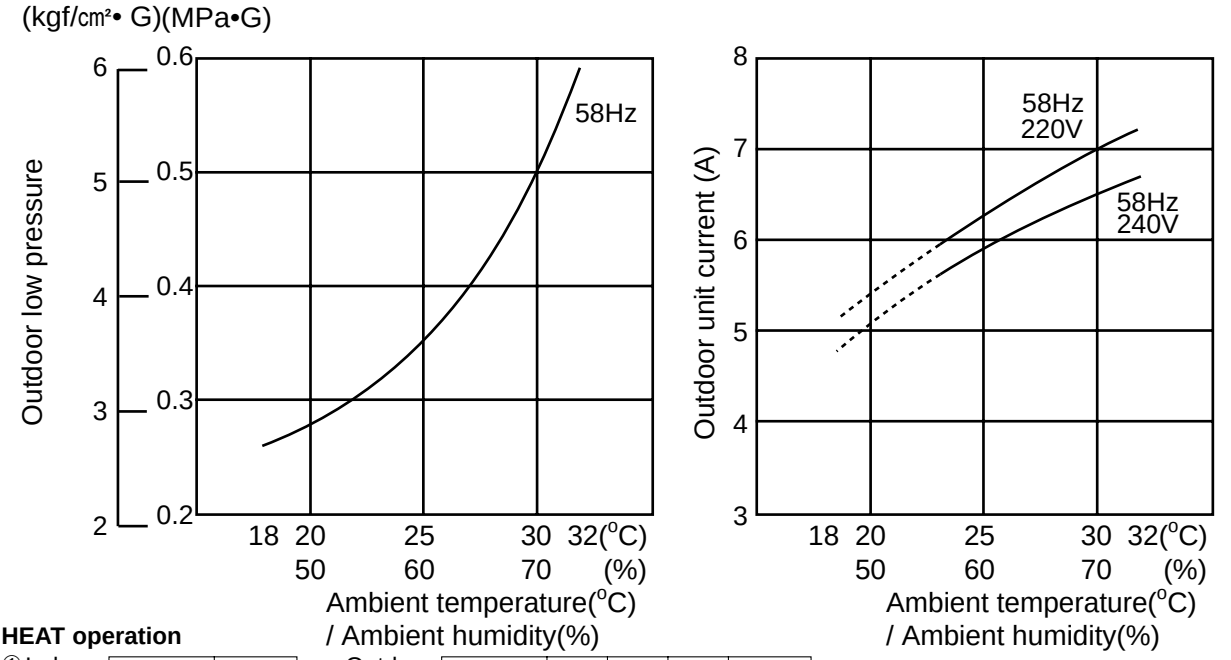
①Both indoor and outdoor units are under the same temperature/humidity condition.

Dry-bulb temperature(°C)	Relative humidity(%)
20	50
25	60
30	70

②Air flow speed : HI

③Inverter output frequency : 58Hz

<How to work fixed-frequency operation>
1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 58Hz (COOL / HEAT).
4.Indoor fan runs at HI speed and continues for 30 minutes.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

① Indoor

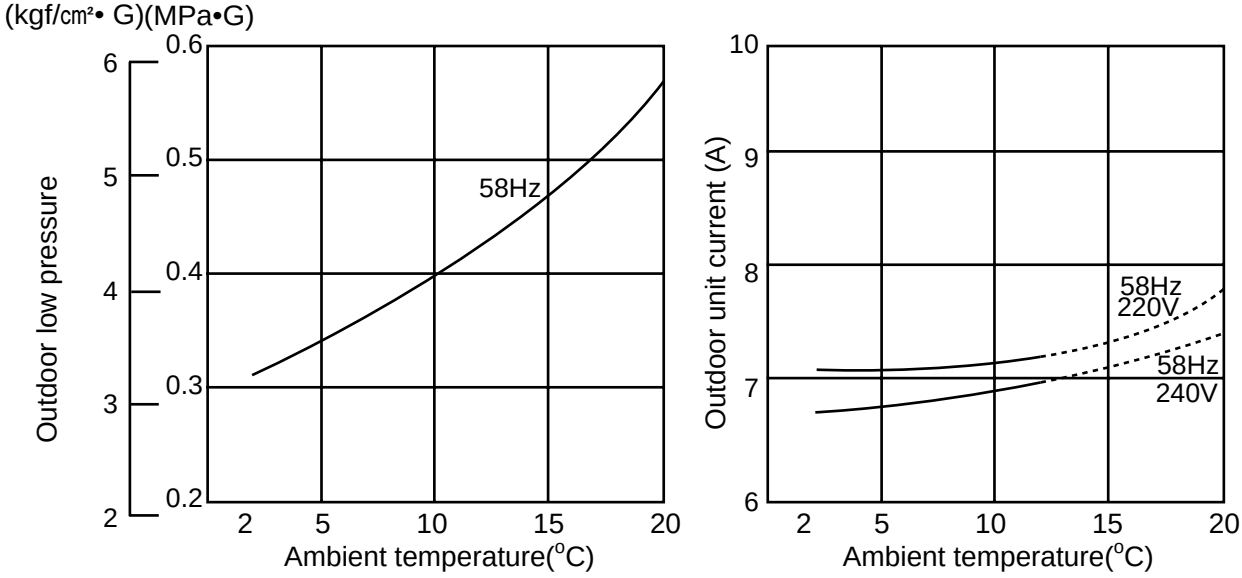
DB(°C)	20.0
WB(°C)	14.5

Outdoor

DB(°C)	2	7	15	20.0
WB(°C)	1	6	12	14.5

② Set air flow to Hi speed.

③ Inverter output frequency is 58Hz.



2.09-class unit in single operation (OUTDOOR UNIT : MXZ-18RV)

NOTE: The unit of pressure has been changed to MPa on the international system of units(SI unit system).
The converted score against the traditional unit system can be gotten according to the formula below.

1(MPa • G) =10.2(kgf/㎠ • G)

(1) COOL operation

①Both indoor and outdoor units are under the same temperature/humidity condition.

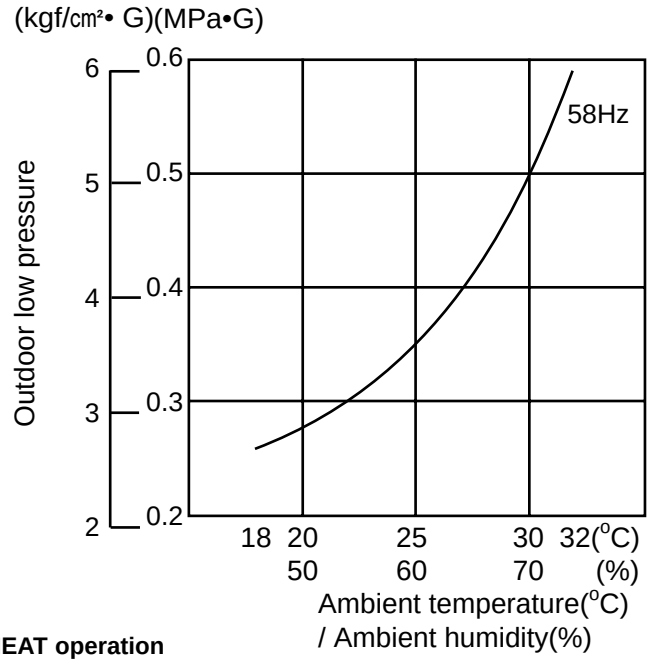
Dry-bulb temperature(°C)	Relative humidity(%)
20	50
25	60
30	70

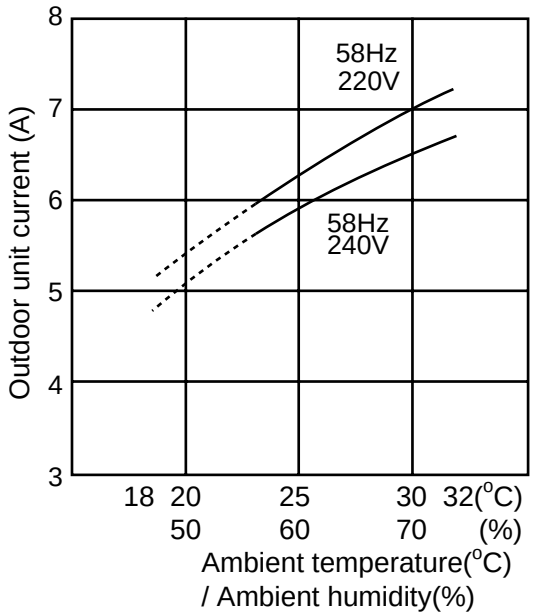
②Air flow speed : HI

③Inverter output frequency : 58Hz

<How to work fixed-frequency operation>

1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 58Hz (COOL / HEAT).
4.Indoor fan runs at HI speed and continues for 30 minutes.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.





(2) HEAT operation

① Indoor

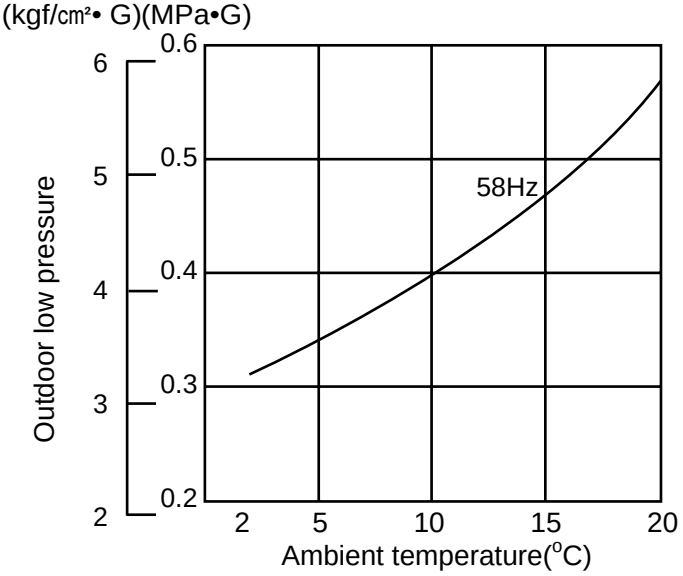
DB(°C)	20.0
WB(°C)	14.5

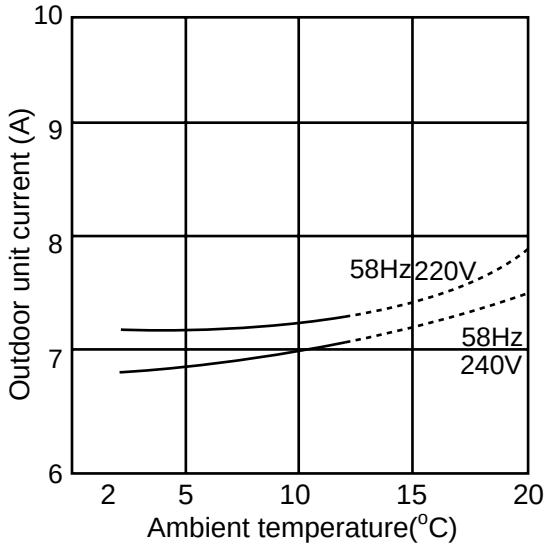
Outdoor

DB(°C)	2	7	15	20.0
WB(°C)	1	6	12	14.5

② Set air flow to Hi speed.

③ Inverter output frequency is 58Hz.





3. 12-class unit in single operation (OUTDOOR UNIT : MXZ-18RV)

NOTE: The unit of pressure has been changed to MPa on the international system of units(SI unit system).
The converted score against the traditional unit system can be gotten according to the formula below.

1(MPa • G) =10.2(kgf/㎠ • G)

(1) COOL operation

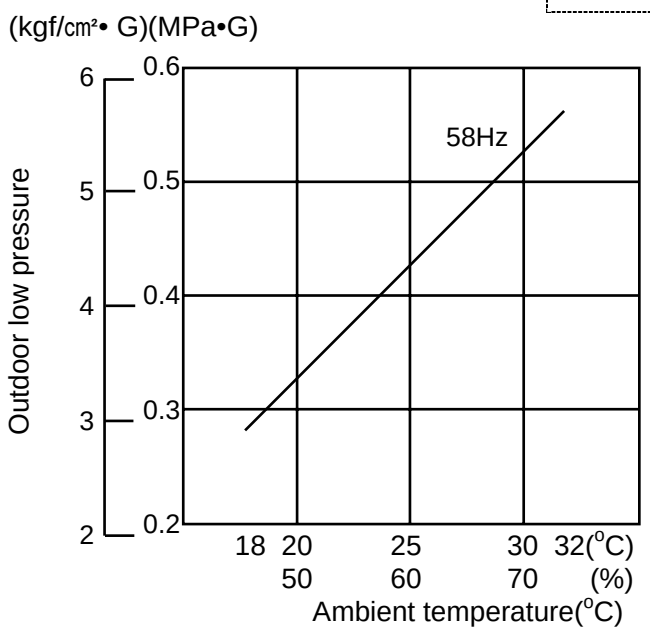
①Both indoor and outdoor units are under the same temperature/humidity condition.

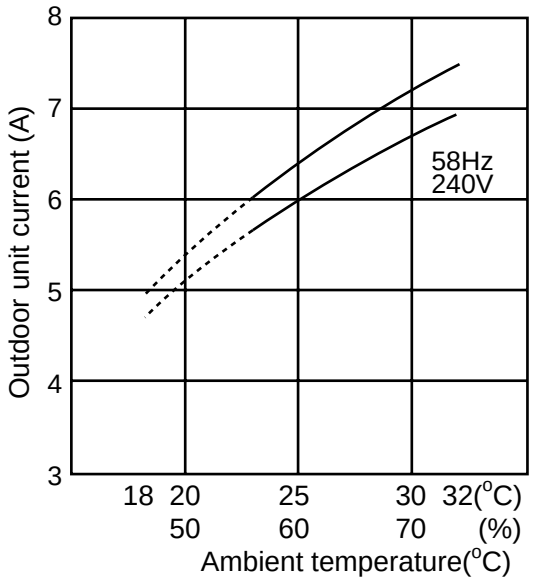
Dry-bulb temperature(°C)	Relative humidity(%)
20	50
25	60
30	70

②Air flow speed : HI

③Inverter output frequency : 58Hz

<How to work fixed-frequency operation>
1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 58Hz (COOL/HEAT).
4.Indoor fan runs at HI speed and continues for 30 minutes.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.





(2) HEAT operation

① Indoor

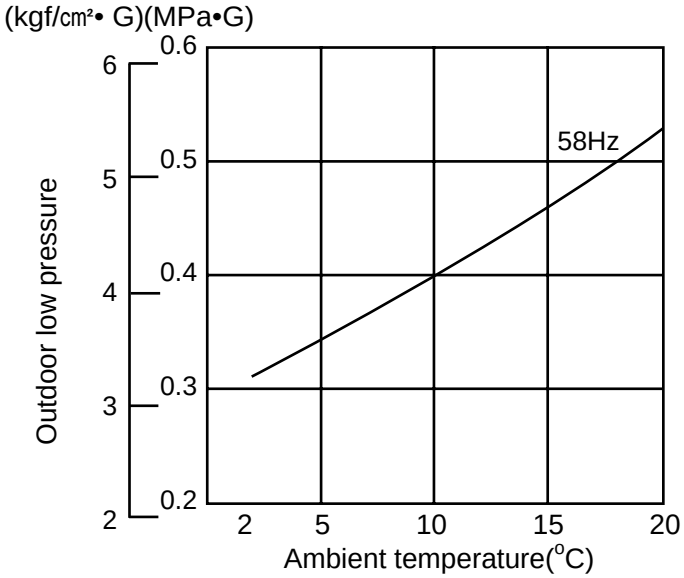
DB(°C)	20.0
WB(°C)	14.5

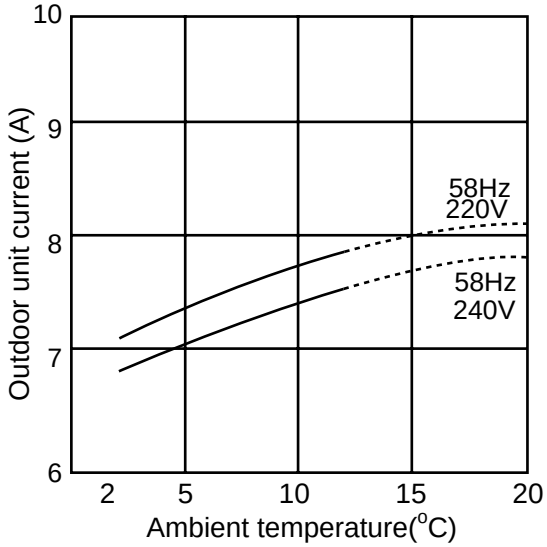
Outdoor

DB(°C)	2	7	15	20.0
WB(°C)	1	6	12	14.5

② Set air flow to Hi speed.

③ Inverter output frequency is 58Hz.





10-3-4.Outdoor low pressure and outdoor unit current

1. 07-class unit in single operation (OUTDOOR UNIT : MXZ-32RV)

NOTO: The unit of pressure has been changed to MPa on the international system of units(SI unit system).
The converted score against the traditional unit system can be gotten according to the formula below.

1(MPa • G) =10.2(kgf/㎠ • G)

(1) COOL operation

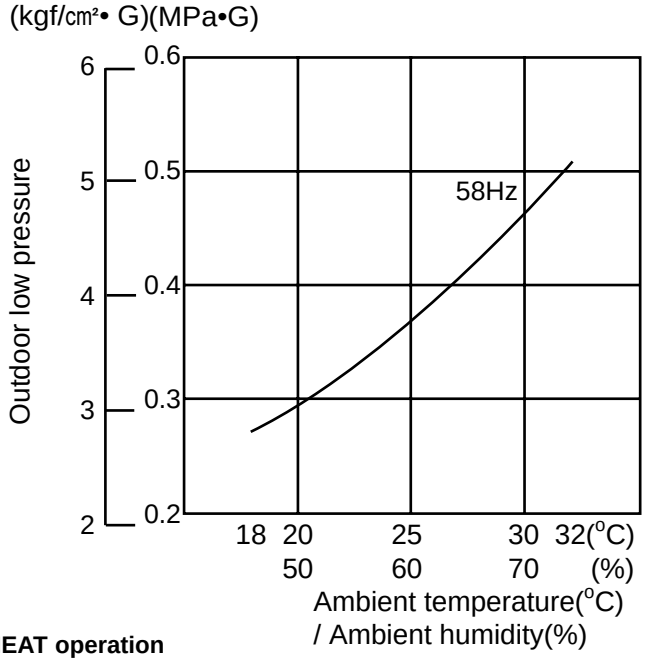
①Both indoor and outdoor units are under the same temperature/humidity condition.

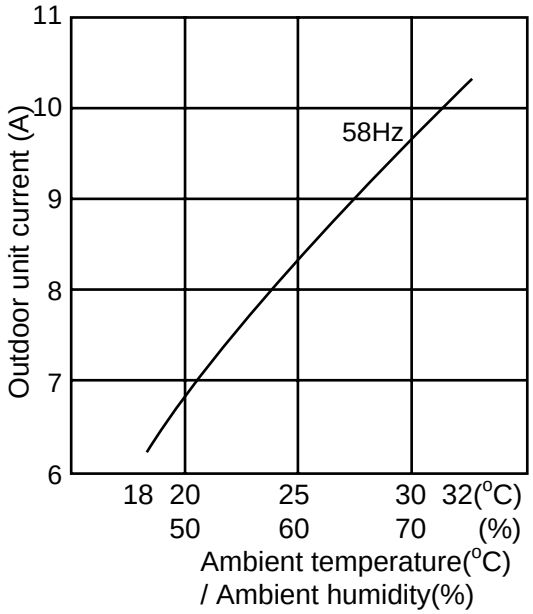
Dry-bulb temperature(°C)	Relative humidity(%)
20	50
25	60
30	70

②Air flow speed : HI

③Inverter output frequency : 58Hz

<How to work fixed-frequency operation>
1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 58Hz (COOL) or 40Hz (HEAT).
4.Indoor fan runs at HI speed and continues for 30 minutes.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.





(2) HEAT operation

① Indoor

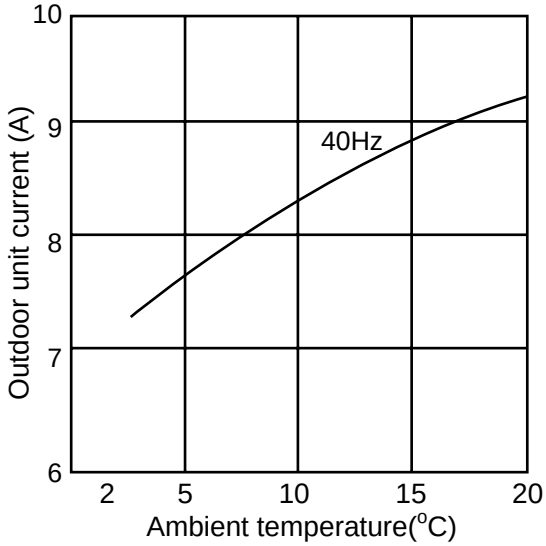
DB(°C)	20.0
WB(°C)	14.5

Outdoor

DB(°C)	2	7	15	20.0
WB(°C)	1	6	12	14.5

② Set air flow to Hi speed.

③ Inverter output frequency is 40Hz.



2. 09-class unit in single operation (OUTDOOR UNIT : MXZ-32RV)

NOTO: The unit of pressure has been changed to MPa on the international system of units(SI unit system).
The converted score against the traditional unit system can be gotten according to the formula below.

1(MPa • G) =10.2(kgf/㎠ • G)

(1) COOL operation

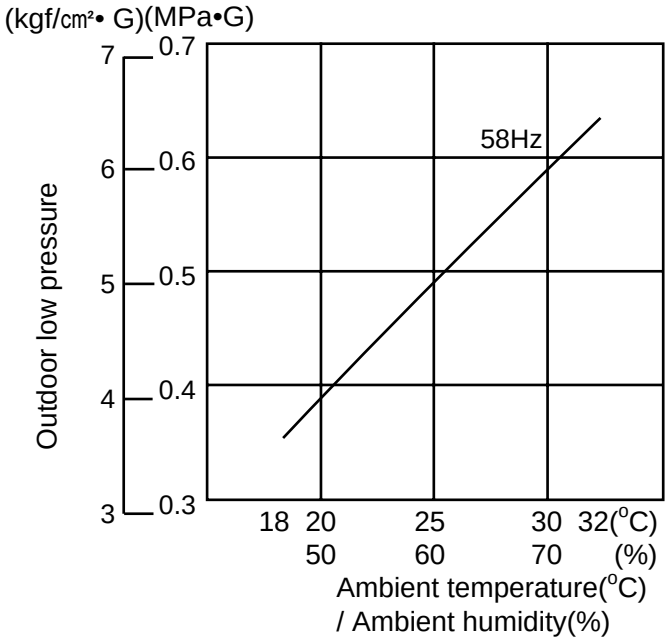
①Both indoor and outdoor units are under the same temperature/humidity condition.

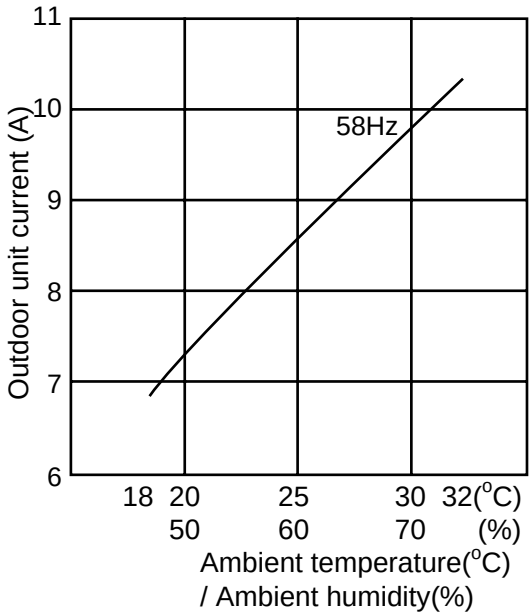
Dry-bulb temperature(°C)	Relative humidity(%)
20	50
25	60
30	70

②Air flow speed : HI

③Inverter output frequency : 58Hz

<How to work fixed-frequency operation>
1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 58Hz (COOL) or 40Hz (HEAT).
4.Indoor fan runs at HI speed and continues for 30 minutes.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.





(2) HEAT operation

① Indoor

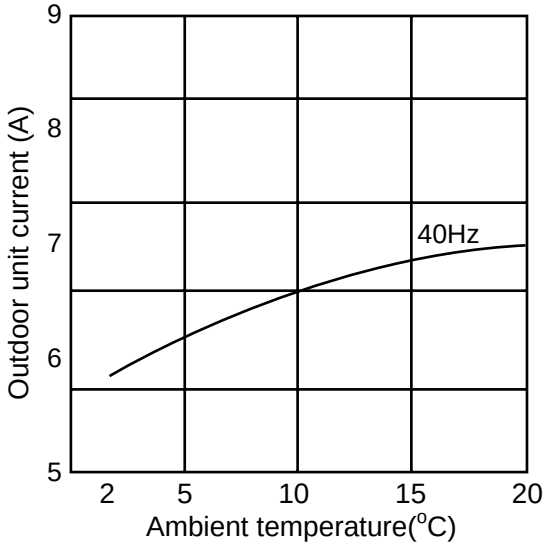
DB(°C)	20.0
WB(°C)	14.5

Outdoor

DB(°C)	2	7	15	20.0
WB(°C)	1	6	12	14.5

② Set air flow to Hi speed.

③ Inverter output frequency is 40Hz.



3. 12(13)-class unit in single operation (OUTDOOR UNIT : MXZ-32RV)

NOTO: The unit of pressure has been changed to MPa on the international system of units(SI unit system).
The converted score against the traditional unit system can be gotten according to the formula below.

1(MPa • G) =10.2(kgf/㎠ • G)

(1) COOL operation

①Both indoor and outdoor units are under the same temperature/humidity condition.

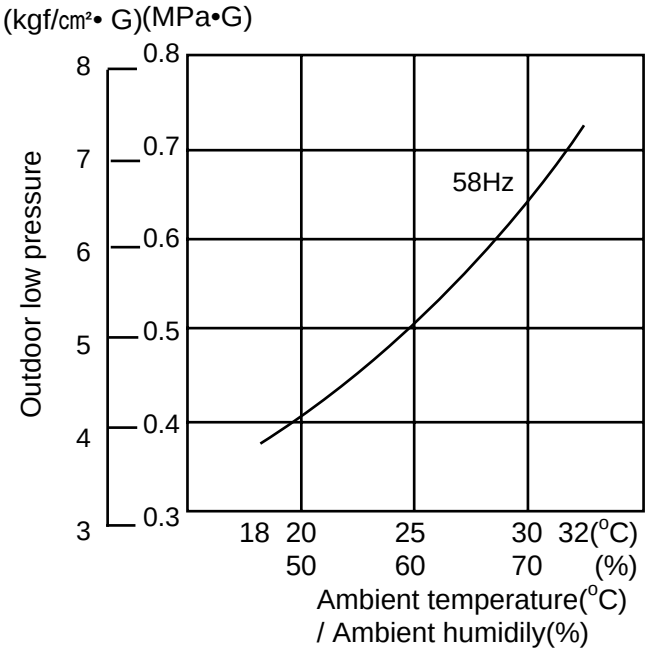
Dry-bulb temperature(°C)	Relative humidity(%)
20	50
25	60
30	70

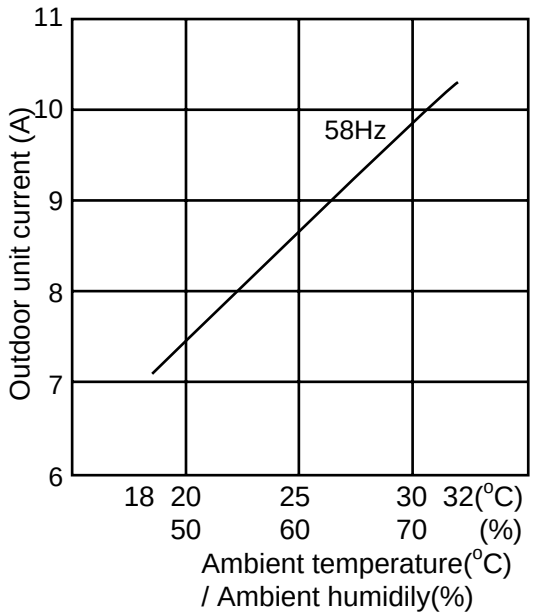
②Air flow speed : HI

③Inverter output frequency : 58Hz

<How to work fixed-frequency operation>

1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 58Hz (COOL) or 40Hz (HEAT).
4.Indoor fan runs at HI speed and continues for 30 minutes.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.





(2) HEAT operation

① Indoor

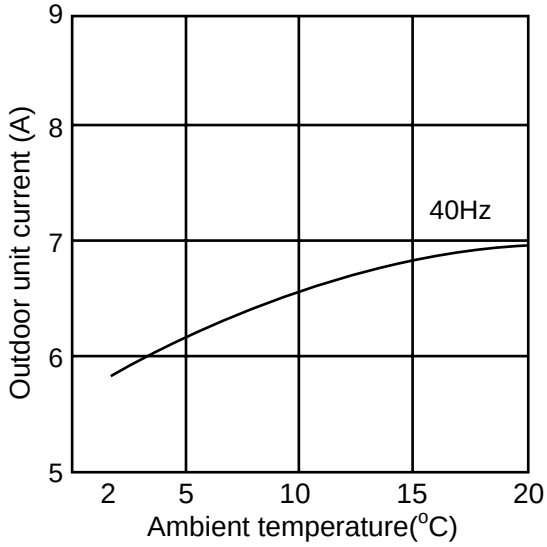
DB(°C)	20.0
WB(°C)	14.5

Outdoor

DB(°C)	2	7	15	20.0
WB(°C)	1	6	12	14.5

② Set air flow to Hi speed.

③ Inverter output frequency is 40Hz.



4. 18-class unit in single operation

NOTO: The unit of pressure has been changed to MPa on the international system of units(SI unit system).
The converted score against the traditional unit system can be gotten according to the formula below.

1(MPa • G) =10.2(kgf/㎠ • G)

(1) COOL operation

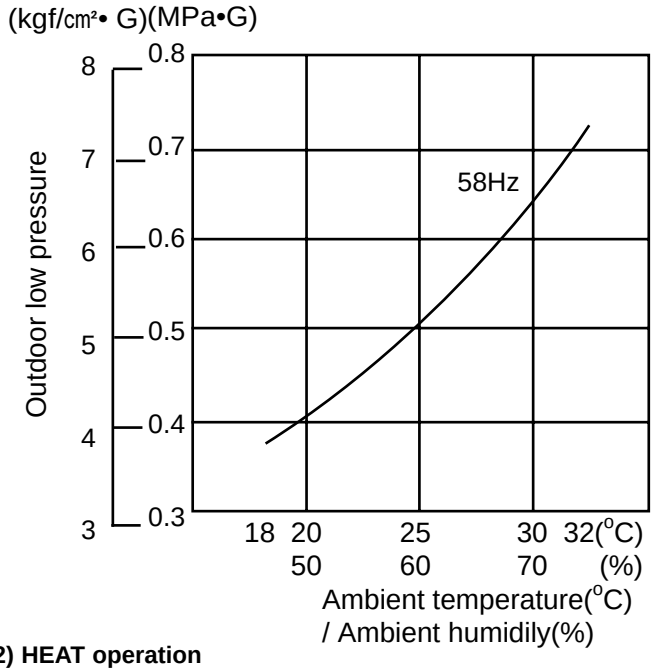
① Both indoor and outdoor units are under the same temperature/humidity condition.

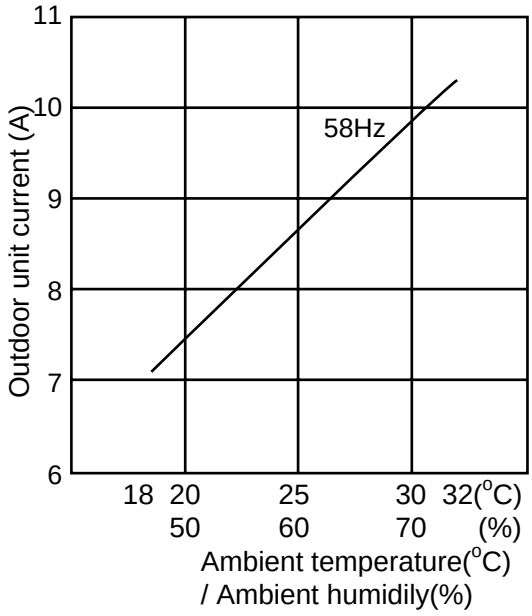
Dry-bulb temperature(°C)	Relative humidity(%)
20	50
25	60
30	70

② Air flow speed : HI

③ Inverter output frequency : 58Hz

<How to work fixed-frequency operation>
1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 58Hz (COOL) or 40Hz (HEAT).
4.Indoor fan runs at HI speed.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.





(2) HEAT operation

① Indoor

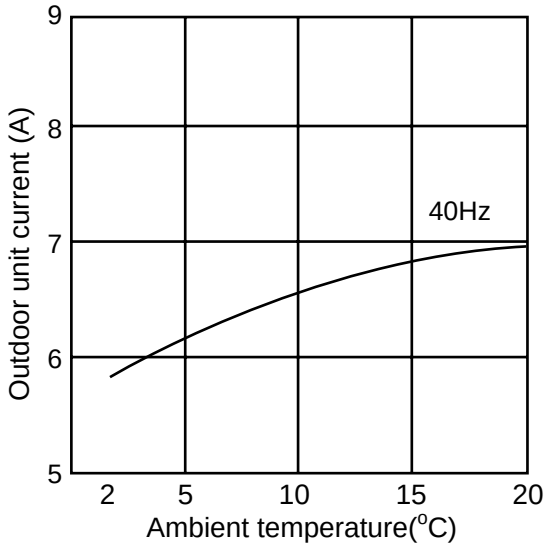
DB(°C)	20.0
WB(°C)	14.5

Outdoor

DB(°C)	2	7	15	20.0
WB(°C)	1	6	12	14.5

② Set air flow to Hi speed.

③ Inverter output frequency is 58Hz.



PERFORMANCE DATA
COOL operation (220V)

MSC-07RV -E1 : MU-07RV -E1

CAPACITY : 2.2 kW INPUT : 680 W SHF : 0.74

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.59	1.45	0.56	544	2.48	1.39	0.56	571	2.38	1.33	0.56	598	2.29	1.28	0.56	626
21	20	2.70	1.19	0.44	571	2.59	1.14	0.44	605	2.51	1.10	0.44	619	2.42	1.06	0.44	646
22	18	2.59	1.55	0.60	544	2.48	1.49	0.60	571	2.38	1.43	0.60	598	2.29	1.37	0.60	626
22	20	2.70	1.29	0.48	571	2.59	1.24	0.48	605	2.51	1.20	0.48	619	2.42	1.16	0.48	646
22	22	2.81	1.01	0.36	592	2.71	0.97	0.36	629	2.64	0.95	0.36	646	2.53	0.91	0.36	673
23	18	2.59	1.65	0.64	544	2.48	1.58	0.64	571	2.38	1.52	0.64	598	2.29	1.46	0.64	626
23	20	2.70	1.40	0.52	571	2.59	1.34	0.52	605	2.51	1.30	0.52	619	2.42	1.26	0.52	646
23	22	2.81	1.12	0.40	592	2.71	1.08	0.40	629	2.64	1.06	0.40	646	2.53	1.01	0.40	673
24	18	2.59	1.76	0.68	544	2.48	1.68	0.68	571	2.38	1.62	0.68	598	2.29	1.56	0.68	626
24	20	2.70	1.51	0.56	571	2.59	1.45	0.56	605	2.51	1.40	0.56	619	2.42	1.36	0.56	646
24	22	2.81	1.23	0.44	592	2.71	1.19	0.44	629	2.64	1.16	0.44	646	2.53	1.11	0.44	673
24	24	2.95	0.94	0.32	619	2.84	0.91	0.32	653	2.77	0.89	0.32	673	2.68	0.86	0.32	707
25	20	2.70	1.62	0.60	571	2.59	1.55	0.60	605	2.51	1.50	0.60	619	2.42	1.45	0.60	646
25	22	2.81	1.35	0.48	592	2.71	1.30	0.48	629	2.64	1.27	0.48	646	2.53	1.21	0.48	673
25	24	2.95	1.06	0.36	619	2.84	1.02	0.36	653	2.77	1.00	0.36	673	2.68	0.97	0.36	707
26	18	2.59	1.96	0.76	544	2.48	1.88	0.76	571	2.38	1.81	0.76	598	2.29	1.74	0.76	626
26	20	2.70	1.72	0.64	571	2.59	1.65	0.64	605	2.51	1.61	0.64	619	2.42	1.55	0.64	646
26	22	2.81	1.46	0.52	592	2.71	1.41	0.52	629	2.64	1.37	0.52	646	2.53	1.32	0.52	673
26	24	2.95	1.18	0.40	619	2.84	1.14	0.40	653	2.77	1.11	0.40	673	2.68	1.07	0.40	707
26	26	3.04	0.85	0.28	653	2.95	0.83	0.28	687	2.90	0.81	0.28	707	2.82	0.79	0.28	728
27	18	2.59	2.07	0.80	544	2.48	1.98	0.80	571	2.38	1.90	0.80	598	2.29	1.83	0.80	626
27	20	2.70	1.83	0.68	571	2.59	1.76	0.68	605	2.51	1.71	0.68	619	2.42	1.65	0.68	646
27	22	2.81	1.57	0.56	592	2.71	1.52	0.56	629	2.64	1.48	0.56	646	2.53	1.42	0.56	673
27	24	2.95	1.30	0.44	619	2.84	1.25	0.44	653	2.77	1.22	0.44	673	2.68	1.18	0.44	707
27	26	3.04	0.97	0.32	653	2.95	0.94	0.32	687	2.90	0.93	0.32	707	2.82	0.90	0.32	728
28	18	2.59	2.17	0.84	544	2.48	2.08	0.84	571	2.38	2.00	0.84	598	2.29	1.92	0.84	626
28	20	2.70	1.94	0.72	571	2.59	1.86	0.72	605	2.51	1.81	0.72	619	2.42	1.74	0.72	646
28	22	2.81	1.68	0.60	592	2.71	1.62	0.60	629	2.64	1.58	0.60	646	2.53	1.52	0.60	673
28	24	2.95	1.42	0.48	619	2.84	1.36	0.48	653	2.77	1.33	0.48	673	2.68	1.29	0.48	707
28	26	3.04	1.09	0.36	653	2.95	1.06	0.36	687	2.90	1.05	0.36	707	2.82	1.01	0.36	728
29	18	2.59	2.27	0.88	544	2.48	2.18	0.88	571	2.38	2.09	0.88	598	2.29	2.01	0.88	626
29	20	2.70	2.05	0.76	571	2.59	1.96	0.76	605	2.51	1.91	0.76	619	2.42	1.84	0.76	646
29	22	2.81	1.80	0.64	592	2.71	1.73	0.64	629	2.64	1.69	0.64	646	2.53	1.62	0.64	673
29	24	2.95	1.53	0.52	619	2.84	1.48	0.52	653	2.77	1.44	0.52	673	2.68	1.40	0.52	707
29	26	3.04	1.21	0.40	653	2.95	1.18	0.40	687	2.90	1.16	0.40	707	2.82	1.13	0.40	728
30	18	2.59	2.38	0.92	544	2.48	2.28	0.92	571	2.38	2.19	0.92	598	2.29	2.10	0.92	626
30	20	2.70	2.16	0.80	571	2.59	2.07	0.80	605	2.51	2.01	0.80	619	2.42	1.94	0.80	646
30	22	2.81	1.91	0.68	592	2.71	1.84	0.68	629	2.64	1.80	0.68	646	2.53	1.72	0.68	673
30	24	2.95	1.65	0.56	619	2.84	1.59	0.56	653	2.77	1.55	0.56	673	2.68	1.50	0.56	707
30	26	3.04	1.34	0.44	653	2.95	1.30	0.44	687	2.90	1.28	0.44	707	2.82	1.24	0.44	728
31	18	2.59	2.48	0.96	544	2.48	2.38	0.96	571	2.38	2.28	0.96	598	2.29	2.20	0.96	626
31	20	2.70	2.26	0.84	571	2.59	2.17	0.84	605	2.51	2.11	0.84	619	2.42	2.03	0.84	646
31	22	2.81	2.02	0.72	592	2.71	1.95	0.72	629	2.64	1.90	0.72	646	2.53	1.82	0.72	673
31	24	2.95	1.77	0.60	619	2.84	1.70	0.60	653	2.77	1.66	0.60	673	2.68	1.61	0.60	707
31	26	3.04	1.46	0.48	653	2.95	1.42	0.48	687	2.90	1.39	0.48	707	2.82	1.35	0.48	728
32	18	2.59	2.59	1.00	544	2.48	2.48	1.00	571	2.38	2.38	1.00	598	2.29	2.29	1.00	626
32	20	2.70	2.37	0.88	571	2.59	2.27	0.88	605	2.51	2.21	0.88	619	2.42	2.13	0.88	646
32	22	2.81	2.13	0.76	592	2.71	2.06	0.76	629	2.64	2.01	0.76	646	2.53	1.92	0.76	673
32	24	2.95	1.89	0.64	619	2.84	1.82	0.64	653	2.77	1.77	0.64	673	2.68	1.72	0.64	707
32	26	3.04	1.58	0.52	653	2.95	1.53	0.52	687	2.90	1.51	0.52	707	2.82	1.46	0.52	728

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-07RV -E1 : MU-07RV -E1

CAPACITY : 2.2 kW INPUT : 680 W SHF : 0.74

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.16	1.21	0.56	666	1.98	1.11	0.56	707	1.90	1.07	0.56	721
21	20	2.27	1.00	0.44	694	2.11	0.93	0.44	728	2.04	0.90	0.44	748
22	18	2.16	1.29	0.60	666	1.98	1.19	0.60	707	1.90	1.14	0.60	721
22	20	2.27	1.09	0.48	694	2.11	1.01	0.48	728	2.04	0.98	0.48	748
22	22	2.40	0.86	0.36	721	2.24	0.81	0.36	762	2.17	0.78	0.36	775
23	18	2.16	1.38	0.64	666	1.98	1.27	0.64	707	1.90	1.22	0.64	721
23	20	2.27	1.18	0.52	694	2.11	1.10	0.52	728	2.04	1.06	0.52	748
23	22	2.40	0.96	0.40	721	2.24	0.90	0.40	762	2.17	0.87	0.40	775
24	18	2.16	1.47	0.68	666	1.98	1.35	0.68	707	1.90	1.29	0.68	721
24	20	2.27	1.27	0.56	694	2.11	1.18	0.56	728	2.04	1.14	0.56	748
24	22	2.40	1.06	0.44	721	2.24	0.99	0.44	762	2.17	0.95	0.44	775
24	24	2.53	0.81	0.32	748	2.38	0.76	0.32	782	2.31	0.74	0.32	799
25	20	2.27	1.36	0.60	694	2.11	1.27	0.60	728	2.04	1.22	0.60	748
25	22	2.40	1.15	0.48	721	2.24	1.08	0.48	762	2.17	1.04	0.48	775
25	24	2.53	0.91	0.36	748	2.38	0.86	0.36	782	2.31	0.83	0.36	799
26	18	2.16	1.64	0.76	666	1.98	1.50	0.76	707	1.90	1.45	0.76	721
26	20	2.27	1.45	0.64	694	2.11	1.35	0.64	728	2.04	1.30	0.64	748
26	22	2.40	1.25	0.52	721	2.24	1.17	0.52	762	2.17	1.13	0.52	775
26	24	2.53	1.01	0.40	748	2.38	0.95	0.40	782	2.31	0.92	0.40	799
26	26	2.66	0.75	0.28	775	2.51	0.70	0.28	809	2.43	0.68	0.28	826
27	18	2.16	1.72	0.80	666	1.98	1.58	0.80	707	1.90	1.52	0.80	721
27	20	2.27	1.54	0.68	694	2.11	1.44	0.68	728	2.04	1.38	0.68	748
27	22	2.40	1.34	0.56	721	2.24	1.26	0.56	762	2.17	1.21	0.56	775
27	24	2.53	1.11	0.44	748	2.38	1.05	0.44	782	2.31	1.02	0.44	799
27	26	2.66	0.85	0.32	775	2.51	0.80	0.32	809	2.43	0.78	0.32	826
28	18	2.16	1.81	0.84	666	1.98	1.66	0.84	707	1.90	1.60	0.84	721
28	20	2.27	1.63	0.72	694	2.11	1.52	0.72	728	2.04	1.47	0.72	748
28	22	2.40	1.44	0.60	721	2.24	1.35	0.60	762	2.17	1.30	0.60	775
28	24	2.53	1.21	0.48	748	2.38	1.14	0.48	782	2.31	1.11	0.48	799
28	26	2.66	0.96	0.36	775	2.51	0.90	0.36	809	2.43	0.88	0.36	826
29	18	2.16	1.90	0.88	666	1.98	1.74	0.88	707	1.90	1.67	0.88	721
29	20	2.27	1.72	0.76	694	2.11	1.61	0.76	728	2.04	1.55	0.76	748
29	22	2.40	1.53	0.64	721	2.24	1.44	0.64	762	2.17	1.39	0.64	775
29	24	2.53	1.32	0.52	748	2.38	1.24	0.52	782	2.31	1.20	0.52	799
29	26	2.66	1.06	0.40	775	2.51	1.00	0.40	809	2.43	0.97	0.40	826
30	18	2.16	1.98	0.92	666	1.98	1.82	0.92	707	1.90	1.75	0.92	721
30	20	2.27	1.81	0.80	694	2.11	1.69	0.80	728	2.04	1.63	0.80	748
30	22	2.40	1.63	0.68	721	2.24	1.53	0.68	762	2.17	1.47	0.68	775
30	24	2.53	1.42	0.56	748	2.38	1.33	0.56	782	2.31	1.29	0.56	799
30	26	2.66	1.17	0.44	775	2.51	1.10	0.44	809	2.43	1.07	0.44	826
31	18	2.16	2.07	0.96	666	1.98	1.90	0.96	707	1.90	1.83	0.96	721
31	20	2.27	1.90	0.84	694	2.11	1.77	0.84	728	2.04	1.71	0.84	748
31	22	2.40	1.73	0.72	721	2.24	1.62	0.72	762	2.17	1.56	0.72	775
31	24	2.53	1.52	0.60	748	2.38	1.43	0.60	782	2.31	1.39	0.60	799
31	26	2.66	1.28	0.48	775	2.51	1.20	0.48	809	2.43	1.17	0.48	826
32	18	2.16	2.16	1.00	666	1.98	1.98	1.00	707	1.90	1.90	1.00	721
32	20	2.27	1.99	0.88	694	2.11	1.86	0.88	728	2.04	1.79	0.88	748
32	22	2.40	1.82	0.76	721	2.24	1.71	0.76	762	2.17	1.65	0.76	775
32	24	2.53	1.62	0.64	748	2.38	1.52	0.64	782	2.31	1.48	0.64	799
32	26	2.66	1.38	0.52	775	2.51	1.30	0.52	809	2.43	1.26	0.52	826

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-07RV -E1 : MU-07RV -E1

CAPACITY : 2.2 kW INPUT : 710 W SHF : 0.74

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.59	1.45	0.56	568	2.48	1.39	0.56	596	2.38	1.33	0.56	625	2.29	1.28	0.56	653
21	20	2.70	1.19	0.44	596	2.59	1.14	0.44	632	2.51	1.10	0.44	646	2.42	1.06	0.44	675
22	18	2.59	1.55	0.60	568	2.48	1.49	0.60	596	2.38	1.43	0.60	625	2.29	1.37	0.60	653
22	20	2.70	1.29	0.48	596	2.59	1.24	0.48	632	2.51	1.20	0.48	646	2.42	1.16	0.48	675
22	22	2.81	1.01	0.36	618	2.71	0.97	0.36	657	2.64	0.95	0.36	675	2.53	0.91	0.36	703
23	18	2.59	1.65	0.64	568	2.48	1.58	0.64	596	2.38	1.52	0.64	625	2.29	1.46	0.64	653
23	20	2.70	1.40	0.52	596	2.59	1.34	0.52	632	2.51	1.30	0.52	646	2.42	1.26	0.52	675
23	22	2.81	1.12	0.40	618	2.71	1.08	0.40	657	2.64	1.06	0.40	675	2.53	1.01	0.40	703
24	18	2.59	1.76	0.68	568	2.48	1.68	0.68	596	2.38	1.62	0.68	625	2.29	1.56	0.68	653
24	20	2.70	1.51	0.56	596	2.59	1.45	0.56	632	2.51	1.40	0.56	646	2.42	1.36	0.56	675
24	22	2.81	1.23	0.44	618	2.71	1.19	0.44	657	2.64	1.16	0.44	675	2.53	1.11	0.44	703
24	24	2.95	0.94	0.32	646	2.84	0.91	0.32	682	2.77	0.89	0.32	703	2.68	0.86	0.32	738
25	20	2.70	1.62	0.60	596	2.59	1.55	0.60	632	2.51	1.50	0.60	646	2.42	1.45	0.60	675
25	22	2.81	1.35	0.48	618	2.71	1.30	0.48	657	2.64	1.27	0.48	675	2.53	1.21	0.48	703
25	24	2.95	1.06	0.36	646	2.84	1.02	0.36	682	2.77	1.00	0.36	703	2.68	0.97	0.36	738
26	18	2.59	1.96	0.76	568	2.48	1.88	0.76	596	2.38	1.81	0.76	625	2.29	1.74	0.76	653
26	20	2.70	1.72	0.64	596	2.59	1.65	0.64	632	2.51	1.61	0.64	646	2.42	1.55	0.64	675
26	22	2.81	1.46	0.52	618	2.71	1.41	0.52	657	2.64	1.37	0.52	675	2.53	1.32	0.52	703
26	24	2.95	1.18	0.40	646	2.84	1.14	0.40	682	2.77	1.11	0.40	703	2.68	1.07	0.40	738
26	26	3.04	0.85	0.28	682	2.95	0.83	0.28	717	2.90	0.81	0.28	738	2.82	0.79	0.28	760
27	18	2.59	2.07	0.80	568	2.48	1.98	0.80	596	2.38	1.90	0.80	625	2.29	1.83	0.80	653
27	20	2.70	1.83	0.68	596	2.59	1.76	0.68	632	2.51	1.71	0.68	646	2.42	1.65	0.68	675
27	22	2.81	1.57	0.56	618	2.71	1.52	0.56	657	2.64	1.48	0.56	675	2.53	1.42	0.56	703
27	24	2.95	1.30	0.44	646	2.84	1.25	0.44	682	2.77	1.22	0.44	703	2.68	1.18	0.44	738
27	26	3.04	0.97	0.32	682	2.95	0.94	0.32	717	2.90	0.93	0.32	738	2.82	0.90	0.32	760
28	18	2.59	2.17	0.84	568	2.48	2.08	0.84	596	2.38	2.00	0.84	625	2.29	1.92	0.84	653
28	20	2.70	1.94	0.72	596	2.59	1.86	0.72	632	2.51	1.81	0.72	646	2.42	1.74	0.72	675
28	22	2.81	1.68	0.60	618	2.71	1.62	0.60	657	2.64	1.58	0.60	675	2.53	1.52	0.60	703
28	24	2.95	1.42	0.48	646	2.84	1.36	0.48	682	2.77	1.33	0.48	703	2.68	1.29	0.48	738
28	26	3.04	1.09	0.36	682	2.95	1.06	0.36	717	2.90	1.05	0.36	738	2.82	1.01	0.36	760
29	18	2.59	2.27	0.88	568	2.48	2.18	0.88	596	2.38	2.09	0.88	625	2.29	2.01	0.88	653
29	20	2.70	2.05	0.76	596	2.59	1.96	0.76	632	2.51	1.91	0.76	646	2.42	1.84	0.76	675
29	22	2.81	1.80	0.64	618	2.71	1.73	0.64	657	2.64	1.69	0.64	675	2.53	1.62	0.64	703
29	24	2.95	1.53	0.52	646	2.84	1.48	0.52	682	2.77	1.44	0.52	703	2.68	1.40	0.52	738
29	26	3.04	1.21	0.40	682	2.95	1.18	0.40	717	2.90	1.16	0.40	738	2.82	1.13	0.40	760
30	18	2.59	2.38	0.92	568	2.48	2.28	0.92	596	2.38	2.19	0.92	625	2.29	2.10	0.92	653
30	20	2.70	2.16	0.80	596	2.59	2.07	0.80	632	2.51	2.01	0.80	646	2.42	1.94	0.80	675
30	22	2.81	1.91	0.68	618	2.71	1.84	0.68	657	2.64	1.80	0.68	675	2.53	1.72	0.68	703
30	24	2.95	1.65	0.56	646	2.84	1.59	0.56	682	2.77	1.55	0.56	703	2.68	1.50	0.56	738
30	26	3.04	1.34	0.44	682	2.95	1.30	0.44	717	2.90	1.28	0.44	738	2.82	1.24	0.44	760
31	18	2.59	2.48	0.96	568	2.48	2.38	0.96	596	2.38	2.28	0.96	625	2.29	2.20	0.96	653
31	20	2.70	2.26	0.84	596	2.59	2.17	0.84	632	2.51	2.11	0.84	646	2.42	2.03	0.84	675
31	22	2.81	2.02	0.72	618	2.71	1.95	0.72	657	2.64	1.90	0.72	675	2.53	1.82	0.72	703
31	24	2.95	1.77	0.60	646	2.84	1.70	0.60	682	2.77	1.66	0.60	703	2.68	1.61	0.60	738
31	26	3.04	1.46	0.48	682	2.95	1.42	0.48	717	2.90	1.39	0.48	738	2.82	1.35	0.48	760
32	18	2.59	2.59	1.00	568	2.48	2.48	1.00	596	2.38	2.38	1.00	625	2.29	2.29	1.00	653
32	20	2.70	2.37	0.88	596	2.59	2.27	0.88	632	2.51	2.21	0.88	646	2.42	2.13	0.88	675
32	22	2.81	2.13	0.76	618	2.71	2.06	0.76	657	2.64	2.01	0.76	675	2.53	1.92	0.76	703
32	24	2.95	1.89	0.64	646	2.84	1.82	0.64	682	2.77	1.77	0.64	703	2.68	1.72	0.64	738
32	26	3.04	1.58	0.52	682	2.95	1.53	0.52	717	2.90	1.51	0.52	738	2.82	1.46	0.52	760

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-07RV -E1 : MU-07RV -E1

CAPACITY : 2.2 kW INPUT : 710 W SHF : 0.74

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.16	1.21	0.56	696	1.98	1.11	0.56	738	1.90	1.07	0.56	753
21	20	2.27	1.00	0.44	724	2.11	0.93	0.44	760	2.04	0.90	0.44	781
22	18	2.16	1.29	0.60	696	1.98	1.19	0.60	738	1.90	1.14	0.60	753
22	20	2.27	1.09	0.48	724	2.11	1.01	0.48	760	2.04	0.98	0.48	781
22	22	2.40	0.86	0.36	753	2.24	0.81	0.36	795	2.17	0.78	0.36	809
23	18	2.16	1.38	0.64	696	1.98	1.27	0.64	738	1.90	1.22	0.64	753
23	20	2.27	1.18	0.52	724	2.11	1.10	0.52	760	2.04	1.06	0.52	781
23	22	2.40	0.96	0.40	753	2.24	0.90	0.40	795	2.17	0.87	0.40	809
24	18	2.16	1.47	0.68	696	1.98	1.35	0.68	738	1.90	1.29	0.68	753
24	20	2.27	1.27	0.56	724	2.11	1.18	0.56	760	2.04	1.14	0.56	781
24	22	2.40	1.06	0.44	753	2.24	0.99	0.44	795	2.17	0.95	0.44	809
24	24	2.53	0.81	0.32	781	2.38	0.76	0.32	817	2.31	0.74	0.32	834
25	20	2.27	1.36	0.60	724	2.11	1.27	0.60	760	2.04	1.22	0.60	781
25	22	2.40	1.15	0.48	753	2.24	1.08	0.48	795	2.17	1.04	0.48	809
25	24	2.53	0.91	0.36	781	2.38	0.86	0.36	817	2.31	0.83	0.36	834
26	18	2.16	1.64	0.76	696	1.98	1.50	0.76	738	1.90	1.45	0.76	753
26	20	2.27	1.45	0.64	724	2.11	1.35	0.64	760	2.04	1.30	0.64	781
26	22	2.40	1.25	0.52	753	2.24	1.17	0.52	795	2.17	1.13	0.52	809
26	24	2.53	1.01	0.40	781	2.38	0.95	0.40	817	2.31	0.92	0.40	834
26	26	2.66	0.75	0.28	809	2.51	0.70	0.28	845	2.43	0.68	0.28	863
27	18	2.16	1.72	0.80	696	1.98	1.58	0.80	738	1.90	1.52	0.80	753
27	20	2.27	1.54	0.68	724	2.11	1.44	0.68	760	2.04	1.38	0.68	781
27	22	2.40	1.34	0.56	753	2.24	1.26	0.56	795	2.17	1.21	0.56	809
27	24	2.53	1.11	0.44	781	2.38	1.05	0.44	817	2.31	1.02	0.44	834
27	26	2.66	0.85	0.32	809	2.51	0.80	0.32	845	2.43	0.78	0.32	863
28	18	2.16	1.81	0.84	696	1.98	1.66	0.84	738	1.90	1.60	0.84	753
28	20	2.27	1.63	0.72	724	2.11	1.52	0.72	760	2.04	1.47	0.72	781
28	22	2.40	1.44	0.60	753	2.24	1.35	0.60	795	2.17	1.30	0.60	809
28	24	2.53	1.21	0.48	781	2.38	1.14	0.48	817	2.31	1.11	0.48	834
28	26	2.66	0.96	0.36	809	2.51	0.90	0.36	845	2.43	0.88	0.36	863
29	18	2.16	1.90	0.88	696	1.98	1.74	0.88	738	1.90	1.67	0.88	753
29	20	2.27	1.72	0.76	724	2.11	1.61	0.76	760	2.04	1.55	0.76	781
29	22	2.40	1.53	0.64	753	2.24	1.44	0.64	795	2.17	1.39	0.64	809
29	24	2.53	1.32	0.52	781	2.38	1.24	0.52	817	2.31	1.20	0.52	834
29	26	2.66	1.06	0.40	809	2.51	1.00	0.40	845	2.43	0.97	0.40	863
30	18	2.16	1.98	0.92	696	1.98	1.82	0.92	738	1.90	1.75	0.92	753
30	20	2.27	1.81	0.80	724	2.11	1.69	0.80	760	2.04	1.63	0.80	781
30	22	2.40	1.63	0.68	753	2.24	1.53	0.68	795	2.17	1.47	0.68	809
30	24	2.53	1.42	0.56	781	2.38	1.33	0.56	817	2.31	1.29	0.56	834
30	26	2.66	1.17	0.44	809	2.51	1.10	0.44	845	2.43	1.07	0.44	863
31	18	2.16	2.07	0.96	696	1.98	1.90	0.96	738	1.90	1.83	0.96	753
31	20	2.27	1.90	0.84	724	2.11	1.77	0.84	760	2.04	1.71	0.84	781
31	22	2.40	1.73	0.72	753	2.24	1.62	0.72	795	2.17	1.56	0.72	809
31	24	2.53	1.52	0.60	781	2.38	1.43	0.60	817	2.31	1.39	0.60	834
31	26	2.66	1.28	0.48	809	2.51	1.20	0.48	845	2.43	1.17	0.48	863
32	18	2.16	2.16	1.00	696	1.98	1.98	1.00	738	1.90	1.90	1.00	753
32	20	2.27	1.99	0.88	724	2.11	1.86	0.88	760	2.04	1.79	0.88	781
32	22	2.40	1.82	0.76	753	2.24	1.71	0.76	795	2.17	1.65	0.76	809
32	24	2.53	1.62	0.64	781	2.38	1.52	0.64	817	2.31	1.48	0.64	834
32	26	2.66	1.38	0.52	809	2.51	1.30	0.52	845	2.43	1.26	0.52	863

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-09RV -E1 : MU-09RV -E1

CAPACITY : 2.5 kW INPUT : 780 W SHF : 0.7

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.94	1.53	0.52	624	2.81	1.46	0.52	655	2.70	1.40	0.52	686	2.60	1.35	0.52	718
21	20	3.06	1.23	0.40	655	2.94	1.18	0.40	694	2.85	1.14	0.40	710	2.75	1.10	0.40	741
22	18	2.94	1.65	0.56	624	2.81	1.58	0.56	655	2.70	1.51	0.56	686	2.60	1.46	0.56	718
22	20	3.06	1.35	0.44	655	2.94	1.29	0.44	694	2.85	1.25	0.44	710	2.75	1.21	0.44	741
22	22	3.19	1.02	0.32	679	3.08	0.98	0.32	722	3.00	0.96	0.32	741	2.88	0.92	0.32	772
23	18	2.94	1.76	0.60	624	2.81	1.69	0.60	655	2.70	1.62	0.60	686	2.60	1.56	0.60	718
23	20	3.06	1.47	0.48	655	2.94	1.41	0.48	694	2.85	1.37	0.48	710	2.75	1.32	0.48	741
23	22	3.19	1.15	0.36	679	3.08	1.11	0.36	722	3.00	1.08	0.36	741	2.88	1.04	0.36	772
24	18	2.94	1.88	0.64	624	2.81	1.80	0.64	655	2.70	1.73	0.64	686	2.60	1.66	0.64	718
24	20	3.06	1.59	0.52	655	2.94	1.53	0.52	694	2.85	1.48	0.52	710	2.75	1.43	0.52	741
24	22	3.19	1.28	0.40	679	3.08	1.23	0.40	722	3.00	1.20	0.40	741	2.88	1.15	0.40	772
24	24	3.35	0.94	0.28	710	3.23	0.90	0.28	749	3.15	0.88	0.28	772	3.05	0.85	0.28	811
25	20	3.06	1.72	0.56	655	2.94	1.65	0.56	694	2.85	1.60	0.56	710	2.75	1.54	0.56	741
25	22	3.19	1.40	0.44	679	3.08	1.35	0.44	722	3.00	1.32	0.44	741	2.88	1.27	0.44	772
25	24	3.35	1.07	0.32	710	3.23	1.03	0.32	749	3.15	1.01	0.32	772	3.05	0.98	0.32	811
26	18	2.94	2.12	0.72	624	2.81	2.03	0.72	655	2.70	1.94	0.72	686	2.60	1.87	0.72	718
26	20	3.06	1.84	0.60	655	2.94	1.76	0.60	694	2.85	1.71	0.60	710	2.75	1.65	0.60	741
26	22	3.19	1.53	0.48	679	3.08	1.48	0.48	722	3.00	1.44	0.48	741	2.88	1.38	0.48	772
26	24	3.35	1.21	0.36	710	3.23	1.16	0.36	749	3.15	1.13	0.36	772	3.05	1.10	0.36	811
26	26	3.45	0.83	0.24	749	3.35	0.80	0.24	788	3.30	0.79	0.24	811	3.20	0.77	0.24	835
27	18	2.94	2.23	0.76	624	2.81	2.14	0.76	655	2.70	2.05	0.76	686	2.60	1.98	0.76	718
27	20	3.06	1.96	0.64	655	2.94	1.88	0.64	694	2.85	1.82	0.64	710	2.75	1.76	0.64	741
27	22	3.19	1.66	0.52	679	3.08	1.60	0.52	722	3.00	1.56	0.52	741	2.88	1.50	0.52	772
27	24	3.35	1.34	0.40	710	3.23	1.29	0.40	749	3.15	1.26	0.40	772	3.05	1.22	0.40	811
27	26	3.45	0.97	0.28	749	3.35	0.94	0.28	788	3.30	0.92	0.28	811	3.20	0.90	0.28	835
28	18	2.94	2.35	0.80	624	2.81	2.25	0.80	655	2.70	2.16	0.80	686	2.60	2.08	0.80	718
28	20	3.06	2.08	0.68	655	2.94	2.00	0.68	694	2.85	1.94	0.68	710	2.75	1.87	0.68	741
28	22	3.19	1.79	0.56	679	3.08	1.72	0.56	722	3.00	1.68	0.56	741	2.88	1.61	0.56	772
28	24	3.35	1.47	0.44	710	3.23	1.42	0.44	749	3.15	1.39	0.44	772	3.05	1.34	0.44	811
28	26	3.45	1.10	0.32	749	3.35	1.07	0.32	788	3.30	1.06	0.32	811	3.20	1.02	0.32	835
29	18	2.94	2.47	0.84	624	2.81	2.36	0.84	655	2.70	2.27	0.84	686	2.60	2.18	0.84	718
29	20	3.06	2.21	0.72	655	2.94	2.12	0.72	694	2.85	2.05	0.72	710	2.75	1.98	0.72	741
29	22	3.19	1.91	0.60	679	3.08	1.85	0.60	722	3.00	1.80	0.60	741	2.88	1.73	0.60	772
29	24	3.35	1.61	0.48	710	3.23	1.55	0.48	749	3.15	1.51	0.48	772	3.05	1.46	0.48	811
29	26	3.45	1.24	0.36	749	3.35	1.21	0.36	788	3.30	1.19	0.36	811	3.20	1.15	0.36	835
30	18	2.94	2.59	0.88	624	2.81	2.48	0.88	655	2.70	2.38	0.88	686	2.60	2.29	0.88	718
30	20	3.06	2.33	0.76	655	2.94	2.23	0.76	694	2.85	2.17	0.76	710	2.75	2.09	0.76	741
30	22	3.19	2.04	0.64	679	3.08	1.97	0.64	722	3.00	1.92	0.64	741	2.88	1.84	0.64	772
30	24	3.35	1.74	0.52	710	3.23	1.68	0.52	749	3.15	1.64	0.52	772	3.05	1.59	0.52	811
30	26	3.45	1.38	0.40	749	3.35	1.34	0.40	788	3.30	1.32	0.40	811	3.20	1.28	0.40	835
31	18	2.94	2.70	0.92	624	2.81	2.59	0.92	655	2.70	2.48	0.92	686	2.60	2.39	0.92	718
31	20	3.06	2.45	0.80	655	2.94	2.35	0.80	694	2.85	2.28	0.80	710	2.75	2.20	0.80	741
31	22	3.19	2.17	0.68	679	3.08	2.09	0.68	722	3.00	2.04	0.68	741	2.88	1.96	0.68	772
31	24	3.35	1.88	0.56	710	3.23	1.81	0.56	749	3.15	1.76	0.56	772	3.05	1.71	0.56	811
31	26	3.45	1.52	0.44	749	3.35	1.47	0.44	788	3.30	1.45	0.44	811	3.20	1.41	0.44	835
32	18	2.94	2.82	0.96	624	2.81	2.70	0.96	655	2.70	2.59	0.96	686	2.60	2.50	0.96	718
32	20	3.06	2.57	0.84	655	2.94	2.47	0.84	694	2.85	2.39	0.84	710	2.75	2.31	0.84	741
32	22	3.19	2.30	0.72	679	3.08	2.21	0.72	722	3.00	2.16	0.72	741	2.88	2.07	0.72	772
32	24	3.35	2.01	0.60	710	3.23	1.94	0.60	749	3.15	1.89	0.60	772	3.05	1.83	0.60	811
32	26	3.45	1.66	0.48	749	3.35	1.61	0.48	788	3.30	1.58	0.48	811	3.20	1.54	0.48	835

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-09RV -E1 : MU-09RV -E1

CAPACITY : 2.5 kW INPUT : 780 W SHF : 0.7

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.45	1.27	0.52	764	2.25	1.17	0.52	811	2.16	1.12	0.52	827
21	20	2.58	1.03	0.40	796	2.40	0.96	0.40	835	2.31	0.93	0.40	858
22	18	2.45	1.37	0.56	764	2.25	1.26	0.56	811	2.16	1.21	0.56	827
22	20	2.58	1.13	0.44	796	2.40	1.06	0.44	835	2.31	1.02	0.44	858
22	22	2.73	0.87	0.32	827	2.55	0.82	0.32	874	2.46	0.79	0.32	889
23	18	2.45	1.47	0.60	764	2.25	1.35	0.60	811	2.16	1.30	0.60	827
23	20	2.58	1.24	0.48	796	2.40	1.15	0.48	835	2.31	1.11	0.48	858
23	22	2.73	0.98	0.36	827	2.55	0.92	0.36	874	2.46	0.89	0.36	889
24	18	2.45	1.57	0.64	764	2.25	1.44	0.64	811	2.16	1.38	0.64	827
24	20	2.58	1.34	0.52	796	2.40	1.25	0.52	835	2.31	1.20	0.52	858
24	22	2.73	1.09	0.40	827	2.55	1.02	0.40	874	2.46	0.99	0.40	889
24	24	2.88	0.81	0.28	858	2.70	0.76	0.28	897	2.63	0.74	0.28	917
25	20	2.58	1.44	0.56	796	2.40	1.34	0.56	835	2.31	1.30	0.56	858
25	22	2.73	1.20	0.44	827	2.55	1.12	0.44	874	2.46	1.08	0.44	889
25	24	2.88	0.92	0.32	858	2.70	0.86	0.32	897	2.63	0.84	0.32	917
26	18	2.45	1.76	0.72	764	2.25	1.62	0.72	811	2.16	1.56	0.72	827
26	20	2.58	1.55	0.60	796	2.40	1.44	0.60	835	2.31	1.39	0.60	858
26	22	2.73	1.31	0.48	827	2.55	1.22	0.48	874	2.46	1.18	0.48	889
26	24	2.88	1.04	0.36	858	2.70	0.97	0.36	897	2.63	0.95	0.36	917
26	26	3.03	0.73	0.24	889	2.85	0.68	0.24	928	2.76	0.66	0.24	948
27	18	2.45	1.86	0.76	764	2.25	1.71	0.76	811	2.16	1.64	0.76	827
27	20	2.58	1.65	0.64	796	2.40	1.54	0.64	835	2.31	1.48	0.64	858
27	22	2.73	1.42	0.52	827	2.55	1.33	0.52	874	2.46	1.28	0.52	889
27	24	2.88	1.15	0.40	858	2.70	1.08	0.40	897	2.63	1.05	0.40	917
27	26	3.03	0.85	0.28	889	2.85	0.80	0.28	928	2.76	0.77	0.28	948
28	18	2.45	1.96	0.80	764	2.25	1.80	0.80	811	2.16	1.73	0.80	827
28	20	2.58	1.75	0.68	796	2.40	1.63	0.68	835	2.31	1.57	0.68	858
28	22	2.73	1.53	0.56	827	2.55	1.43	0.56	874	2.46	1.38	0.56	889
28	24	2.88	1.27	0.44	858	2.70	1.19	0.44	897	2.63	1.16	0.44	917
28	26	3.03	0.97	0.32	889	2.85	0.91	0.32	928	2.76	0.88	0.32	948
29	18	2.45	2.06	0.84	764	2.25	1.89	0.84	811	2.16	1.82	0.84	827
29	20	2.58	1.85	0.72	796	2.40	1.73	0.72	835	2.31	1.67	0.72	858
29	22	2.73	1.64	0.60	827	2.55	1.53	0.60	874	2.46	1.48	0.60	889
29	24	2.88	1.38	0.48	858	2.70	1.30	0.48	897	2.63	1.26	0.48	917
29	26	3.03	1.09	0.36	889	2.85	1.03	0.36	928	2.76	0.99	0.36	948
30	18	2.45	2.16	0.88	764	2.25	1.98	0.88	811	2.16	1.90	0.88	827
30	20	2.58	1.96	0.76	796	2.40	1.82	0.76	835	2.31	1.76	0.76	858
30	22	2.73	1.74	0.64	827	2.55	1.63	0.64	874	2.46	1.58	0.64	889
30	24	2.88	1.50	0.52	858	2.70	1.40	0.52	897	2.63	1.37	0.52	917
30	26	3.03	1.21	0.40	889	2.85	1.14	0.40	928	2.76	1.11	0.40	948
31	18	2.45	2.25	0.92	764	2.25	2.07	0.92	811	2.16	1.99	0.92	827
31	20	2.58	2.06	0.80	796	2.40	1.92	0.80	835	2.31	1.85	0.80	858
31	22	2.73	1.85	0.68	827	2.55	1.73	0.68	874	2.46	1.67	0.68	889
31	24	2.88	1.61	0.56	858	2.70	1.51	0.56	897	2.63	1.47	0.56	917
31	26	3.03	1.33	0.44	889	2.85	1.25	0.44	928	2.76	1.22	0.44	948
32	18	2.45	2.35	0.96	764	2.25	2.16	0.96	811	2.16	2.08	0.96	827
32	20	2.58	2.16	0.84	796	2.40	2.02	0.84	835	2.31	1.94	0.84	858
32	22	2.73	1.96	0.72	827	2.55	1.84	0.72	874	2.46	1.77	0.72	889
32	24	2.88	1.73	0.60	858	2.70	1.62	0.60	897	2.63	1.58	0.60	917
32	26	3.03	1.45	0.48	889	2.85	1.37	0.48	928	2.76	1.33	0.48	948

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-09RV -E1 : MU-09RV -E1

CAPACITY : 2.5 kW INPUT : 810 W SHF : 0.7

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.94	1.53	0.52	648	2.81	1.46	0.52	680	2.70	1.40	0.52	713	2.60	1.35	0.52	745
21	20	3.06	1.23	0.40	680	2.94	1.18	0.40	721	2.85	1.14	0.40	737	2.75	1.10	0.40	770
22	18	2.94	1.65	0.56	648	2.81	1.58	0.56	680	2.70	1.51	0.56	713	2.60	1.46	0.56	745
22	20	3.06	1.35	0.44	680	2.94	1.29	0.44	721	2.85	1.25	0.44	737	2.75	1.21	0.44	770
22	22	3.19	1.02	0.32	705	3.08	0.98	0.32	749	3.00	0.96	0.32	770	2.88	0.92	0.32	802
23	18	2.94	1.76	0.60	648	2.81	1.69	0.60	680	2.70	1.62	0.60	713	2.60	1.56	0.60	745
23	20	3.06	1.47	0.48	680	2.94	1.41	0.48	721	2.85	1.37	0.48	737	2.75	1.32	0.48	770
23	22	3.19	1.15	0.36	705	3.08	1.11	0.36	749	3.00	1.08	0.36	770	2.88	1.04	0.36	802
24	18	2.94	1.88	0.64	648	2.81	1.80	0.64	680	2.70	1.73	0.64	713	2.60	1.66	0.64	745
24	20	3.06	1.59	0.52	680	2.94	1.53	0.52	721	2.85	1.48	0.52	737	2.75	1.43	0.52	770
24	22	3.19	1.28	0.40	705	3.08	1.23	0.40	749	3.00	1.20	0.40	770	2.88	1.15	0.40	802
24	24	3.35	0.94	0.28	737	3.23	0.90	0.28	778	3.15	0.88	0.28	802	3.05	0.85	0.28	842
25	20	3.06	1.72	0.56	680	2.94	1.65	0.56	721	2.85	1.60	0.56	737	2.75	1.54	0.56	770
25	22	3.19	1.40	0.44	705	3.08	1.35	0.44	749	3.00	1.32	0.44	770	2.88	1.27	0.44	802
25	24	3.35	1.07	0.32	737	3.23	1.03	0.32	778	3.15	1.01	0.32	802	3.05	0.98	0.32	842
26	18	2.94	2.12	0.72	648	2.81	2.03	0.72	680	2.70	1.94	0.72	713	2.60	1.87	0.72	745
26	20	3.06	1.84	0.60	680	2.94	1.76	0.60	721	2.85	1.71	0.60	737	2.75	1.65	0.60	770
26	22	3.19	1.53	0.48	705	3.08	1.48	0.48	749	3.00	1.44	0.48	770	2.88	1.38	0.48	802
26	24	3.35	1.21	0.36	737	3.23	1.16	0.36	778	3.15	1.13	0.36	802	3.05	1.10	0.36	842
26	26	3.45	0.83	0.24	778	3.35	0.80	0.24	818	3.30	0.79	0.24	842	3.20	0.77	0.24	867
27	18	2.94	2.23	0.76	648	2.81	2.14	0.76	680	2.70	2.05	0.76	713	2.60	1.98	0.76	745
27	20	3.06	1.96	0.64	680	2.94	1.88	0.64	721	2.85	1.82	0.64	737	2.75	1.76	0.64	770
27	22	3.19	1.66	0.52	705	3.08	1.60	0.52	749	3.00	1.56	0.52	770	2.88	1.50	0.52	802
27	24	3.35	1.34	0.40	737	3.23	1.29	0.40	778	3.15	1.26	0.40	802	3.05	1.22	0.40	842
27	26	3.45	0.97	0.28	778	3.35	0.94	0.28	818	3.30	0.92	0.28	842	3.20	0.90	0.28	867
28	18	2.94	2.35	0.80	648	2.81	2.25	0.80	680	2.70	2.16	0.80	713	2.60	2.08	0.80	745
28	20	3.06	2.08	0.68	680	2.94	2.00	0.68	721	2.85	1.94	0.68	737	2.75	1.87	0.68	770
28	22	3.19	1.79	0.56	705	3.08	1.72	0.56	749	3.00	1.68	0.56	770	2.88	1.61	0.56	802
28	24	3.35	1.47	0.44	737	3.23	1.42	0.44	778	3.15	1.39	0.44	802	3.05	1.34	0.44	842
28	26	3.45	1.10	0.32	778	3.35	1.07	0.32	818	3.30	1.06	0.32	842	3.20	1.02	0.32	867
29	18	2.94	2.47	0.84	648	2.81	2.36	0.84	680	2.70	2.27	0.84	713	2.60	2.18	0.84	745
29	20	3.06	2.21	0.72	680	2.94	2.12	0.72	721	2.85	2.05	0.72	737	2.75	1.98	0.72	770
29	22	3.19	1.91	0.60	705	3.08	1.85	0.60	749	3.00	1.80	0.60	770	2.88	1.73	0.60	802
29	24	3.35	1.61	0.48	737	3.23	1.55	0.48	778	3.15	1.51	0.48	802	3.05	1.46	0.48	842
29	26	3.45	1.24	0.36	778	3.35	1.21	0.36	818	3.30	1.19	0.36	842	3.20	1.15	0.36	867
30	18	2.94	2.59	0.88	648	2.81	2.48	0.88	680	2.70	2.38	0.88	713	2.60	2.29	0.88	745
30	20	3.06	2.33	0.76	680	2.94	2.23	0.76	721	2.85	2.17	0.76	737	2.75	2.09	0.76	770
30	22	3.19	2.04	0.64	705	3.08	1.97	0.64	749	3.00	1.92	0.64	770	2.88	1.84	0.64	802
30	24	3.35	1.74	0.52	737	3.23	1.68	0.52	778	3.15	1.64	0.52	802	3.05	1.59	0.52	842
30	26	3.45	1.38	0.40	778	3.35	1.34	0.40	818	3.30	1.32	0.40	842	3.20	1.28	0.40	867
31	18	2.94	2.70	0.92	648	2.81	2.59	0.92	680	2.70	2.48	0.92	713	2.60	2.39	0.92	745
31	20	3.06	2.45	0.80	680	2.94	2.35	0.80	721	2.85	2.28	0.80	737	2.75	2.20	0.80	770
31	22	3.19	2.17	0.68	705	3.08	2.09	0.68	749	3.00	2.04	0.68	770	2.88	1.96	0.68	802
31	24	3.35	1.88	0.56	737	3.23	1.81	0.56	778	3.15	1.76	0.56	802	3.05	1.71	0.56	842
31	26	3.45	1.52	0.44	778	3.35	1.47	0.44	818	3.30	1.45	0.44	842	3.20	1.41	0.44	867
32	18	2.94	2.82	0.96	648	2.81	2.70	0.96	680	2.70	2.59	0.96	713	2.60	2.50	0.96	745
32	20	3.06	2.57	0.84	680	2.94	2.47	0.84	721	2.85	2.39	0.84	737	2.75	2.31	0.84	770
32	22	3.19	2.30	0.72	705	3.08	2.21	0.72	749	3.00	2.16	0.72	770	2.88	2.07	0.72	802
32	24	3.35	2.01	0.60	737	3.23	1.94	0.60	778	3.15	1.89	0.60	802	3.05	1.83	0.60	842
32	26	3.45	1.66	0.48	778	3.35	1.61	0.48	818	3.30	1.58	0.48	842	3.20	1.54	0.48	867

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-09RV -E1 : MU-09RV -E1

CAPACITY : 2.5 kW INPUT : 810 W SHF : 0.7

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.45	1.27	0.52	794	2.25	1.17	0.52	842	2.16	1.12	0.52	859
21	20	2.58	1.03	0.40	826	2.40	0.96	0.40	867	2.31	0.93	0.40	891
22	18	2.45	1.37	0.56	794	2.25	1.26	0.56	842	2.16	1.21	0.56	859
22	20	2.58	1.13	0.44	826	2.40	1.06	0.44	867	2.31	1.02	0.44	891
22	22	2.73	0.87	0.32	859	2.55	0.82	0.32	907	2.46	0.79	0.32	923
23	18	2.45	1.47	0.60	794	2.25	1.35	0.60	842	2.16	1.30	0.60	859
23	20	2.58	1.24	0.48	826	2.40	1.15	0.48	867	2.31	1.11	0.48	891
23	22	2.73	0.98	0.36	859	2.55	0.92	0.36	907	2.46	0.89	0.36	923
24	18	2.45	1.57	0.64	794	2.25	1.44	0.64	842	2.16	1.38	0.64	859
24	20	2.58	1.34	0.52	826	2.40	1.25	0.52	867	2.31	1.20	0.52	891
24	22	2.73	1.09	0.40	859	2.55	1.02	0.40	907	2.46	0.99	0.40	923
24	24	2.88	0.81	0.28	891	2.70	0.76	0.28	932	2.63	0.74	0.28	952
25	20	2.58	1.44	0.56	826	2.40	1.34	0.56	867	2.31	1.30	0.56	891
25	22	2.73	1.20	0.44	859	2.55	1.12	0.44	907	2.46	1.08	0.44	923
25	24	2.88	0.92	0.32	891	2.70	0.86	0.32	932	2.63	0.84	0.32	952
26	18	2.45	1.76	0.72	794	2.25	1.62	0.72	842	2.16	1.56	0.72	859
26	20	2.58	1.55	0.60	826	2.40	1.44	0.60	867	2.31	1.39	0.60	891
26	22	2.73	1.31	0.48	859	2.55	1.22	0.48	907	2.46	1.18	0.48	923
26	24	2.88	1.04	0.36	891	2.70	0.97	0.36	932	2.63	0.95	0.36	952
26	26	3.03	0.73	0.24	923	2.85	0.68	0.24	964	2.76	0.66	0.24	984
27	18	2.45	1.86	0.76	794	2.25	1.71	0.76	842	2.16	1.64	0.76	859
27	20	2.58	1.65	0.64	826	2.40	1.54	0.64	867	2.31	1.48	0.64	891
27	22	2.73	1.42	0.52	859	2.55	1.33	0.52	907	2.46	1.28	0.52	923
27	24	2.88	1.15	0.40	891	2.70	1.08	0.40	932	2.63	1.05	0.40	952
27	26	3.03	0.85	0.28	923	2.85	0.80	0.28	964	2.76	0.77	0.28	984
28	18	2.45	1.96	0.80	794	2.25	1.80	0.80	842	2.16	1.73	0.80	859
28	20	2.58	1.75	0.68	826	2.40	1.63	0.68	867	2.31	1.57	0.68	891
28	22	2.73	1.53	0.56	859	2.55	1.43	0.56	907	2.46	1.38	0.56	923
28	24	2.88	1.27	0.44	891	2.70	1.19	0.44	932	2.63	1.16	0.44	952
28	26	3.03	0.97	0.32	923	2.85	0.91	0.32	964	2.76	0.88	0.32	984
29	18	2.45	2.06	0.84	794	2.25	1.89	0.84	842	2.16	1.82	0.84	859
29	20	2.58	1.85	0.72	826	2.40	1.73	0.72	867	2.31	1.67	0.72	891
29	22	2.73	1.64	0.60	859	2.55	1.53	0.60	907	2.46	1.48	0.60	923
29	24	2.88	1.38	0.48	891	2.70	1.30	0.48	932	2.63	1.26	0.48	952
29	26	3.03	1.09	0.36	923	2.85	1.03	0.36	964	2.76	0.99	0.36	984
30	18	2.45	2.16	0.88	794	2.25	1.98	0.88	842	2.16	1.90	0.88	859
30	20	2.58	1.96	0.76	826	2.40	1.82	0.76	867	2.31	1.76	0.76	891
30	22	2.73	1.74	0.64	859	2.55	1.63	0.64	907	2.46	1.58	0.64	923
30	24	2.88	1.50	0.52	891	2.70	1.40	0.52	932	2.63	1.37	0.52	952
30	26	3.03	1.21	0.40	923	2.85	1.14	0.40	964	2.76	1.11	0.40	984
31	18	2.45	2.25	0.92	794	2.25	2.07	0.92	842	2.16	1.99	0.92	859
31	20	2.58	2.06	0.80	826	2.40	1.92	0.80	867	2.31	1.85	0.80	891
31	22	2.73	1.85	0.68	859	2.55	1.73	0.68	907	2.46	1.67	0.68	923
31	24	2.88	1.61	0.56	891	2.70	1.51	0.56	932	2.63	1.47	0.56	952
31	26	3.03	1.33	0.44	923	2.85	1.25	0.44	964	2.76	1.22	0.44	984
32	18	2.45	2.35	0.96	794	2.25	2.16	0.96	842	2.16	2.08	0.96	859
32	20	2.58	2.16	0.84	826	2.40	2.02	0.84	867	2.31	1.94	0.84	891
32	22	2.73	1.96	0.72	859	2.55	1.84	0.72	907	2.46	1.77	0.72	923
32	24	2.88	1.73	0.60	891	2.70	1.62	0.60	932	2.63	1.58	0.60	952
32	26	3.03	1.45	0.48	923	2.85	1.37	0.48	964	2.76	1.33	0.48	984

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-12RV -E1 : MU-12RV -E1

CAPACITY : 3.5 kW INPUT : 1310 W SHF : 0.67

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	4.11	2.02	0.49	1048	3.94	1.93	0.49	1100	3.78	1.85	0.49	1153	3.64	1.78	0.49	1205
21	20	4.29	1.59	0.37	1100	4.11	1.52	0.37	1166	3.99	1.48	0.37	1192	3.85	1.42	0.37	1245
22	18	4.11	2.18	0.53	1048	3.94	2.09	0.53	1100	3.78	2.00	0.53	1153	3.64	1.93	0.53	1205
22	20	4.29	1.76	0.41	1100	4.11	1.69	0.41	1166	3.99	1.64	0.41	1192	3.85	1.58	0.41	1245
22	22	4.46	1.29	0.29	1140	4.31	1.25	0.29	1212	4.20	1.22	0.29	1245	4.03	1.17	0.29	1297
23	18	4.11	2.34	0.57	1048	3.94	2.24	0.57	1100	3.78	2.15	0.57	1153	3.64	2.07	0.57	1205
23	20	4.29	1.93	0.45	1100	4.11	1.85	0.45	1166	3.99	1.80	0.45	1192	3.85	1.73	0.45	1245
23	22	4.46	1.47	0.33	1140	4.31	1.42	0.33	1212	4.20	1.39	0.33	1245	4.03	1.33	0.33	1297
24	18	4.11	2.51	0.61	1048	3.94	2.40	0.61	1100	3.78	2.31	0.61	1153	3.64	2.22	0.61	1205
24	20	4.29	2.10	0.49	1100	4.11	2.02	0.49	1166	3.99	1.96	0.49	1192	3.85	1.89	0.49	1245
24	22	4.46	1.65	0.37	1140	4.31	1.59	0.37	1212	4.20	1.55	0.37	1245	4.03	1.49	0.37	1297
24	24	4.69	1.17	0.25	1192	4.52	1.13	0.25	1258	4.41	1.10	0.25	1297	4.27	1.07	0.25	1362
25	20	4.29	2.27	0.53	1100	4.11	2.18	0.53	1166	3.99	2.11	0.53	1192	3.85	2.04	0.53	1245
25	22	4.46	1.83	0.41	1140	4.31	1.77	0.41	1212	4.20	1.72	0.41	1245	4.03	1.65	0.41	1297
25	24	4.69	1.36	0.29	1192	4.52	1.31	0.29	1258	4.41	1.28	0.29	1297	4.27	1.24	0.29	1362
26	18	4.11	2.84	0.69	1048	3.94	2.72	0.69	1100	3.78	2.61	0.69	1153	3.64	2.51	0.69	1205
26	20	4.29	2.44	0.57	1100	4.11	2.34	0.57	1166	3.99	2.27	0.57	1192	3.85	2.19	0.57	1245
26	22	4.46	2.01	0.45	1140	4.31	1.94	0.45	1212	4.20	1.89	0.45	1245	4.03	1.81	0.45	1297
26	24	4.69	1.55	0.33	1192	4.52	1.49	0.33	1258	4.41	1.46	0.33	1297	4.27	1.41	0.33	1362
26	26	4.83	1.01	0.21	1258	4.69	0.98	0.21	1323	4.62	0.97	0.21	1362	4.48	0.94	0.21	1402
27	18	4.11	3.00	0.73	1048	3.94	2.87	0.73	1100	3.78	2.76	0.73	1153	3.64	2.66	0.73	1205
27	20	4.29	2.62	0.61	1100	4.11	2.51	0.61	1166	3.99	2.43	0.61	1192	3.85	2.35	0.61	1245
27	22	4.46	2.19	0.49	1140	4.31	2.11	0.49	1212	4.20	2.06	0.49	1245	4.03	1.97	0.49	1297
27	24	4.69	1.74	0.37	1192	4.52	1.67	0.37	1258	4.41	1.63	0.37	1297	4.27	1.58	0.37	1362
27	26	4.83	1.21	0.25	1258	4.69	1.17	0.25	1323	4.62	1.16	0.25	1362	4.48	1.12	0.25	1402
28	18	4.11	3.17	0.77	1048	3.94	3.03	0.77	1100	3.78	2.91	0.77	1153	3.64	2.80	0.77	1205
28	20	4.29	2.79	0.65	1100	4.11	2.67	0.65	1166	3.99	2.59	0.65	1192	3.85	2.50	0.65	1245
28	22	4.46	2.37	0.53	1140	4.31	2.28	0.53	1212	4.20	2.23	0.53	1245	4.03	2.13	0.53	1297
28	24	4.69	1.92	0.41	1192	4.52	1.85	0.41	1258	4.41	1.81	0.41	1297	4.27	1.75	0.41	1362
28	26	4.83	1.40	0.29	1258	4.69	1.36	0.29	1323	4.62	1.34	0.29	1362	4.48	1.30	0.29	1402
29	18	4.11	3.33	0.81	1048	3.94	3.19	0.81	1100	3.78	3.06	0.81	1153	3.64	2.95	0.81	1205
29	20	4.29	2.96	0.69	1100	4.11	2.84	0.69	1166	3.99	2.75	0.69	1192	3.85	2.66	0.69	1245
29	22	4.46	2.54	0.57	1140	4.31	2.45	0.57	1212	4.20	2.39	0.57	1245	4.03	2.29	0.57	1297
29	24	4.69	2.11	0.45	1192	4.52	2.03	0.45	1258	4.41	1.98	0.45	1297	4.27	1.92	0.45	1362
29	26	4.83	1.59	0.33	1258	4.69	1.55	0.33	1323	4.62	1.52	0.33	1362	4.48	1.48	0.33	1402
30	18	4.11	3.50	0.85	1048	3.94	3.35	0.85	1100	3.78	3.21	0.85	1153	3.64	3.09	0.85	1205
30	20	4.29	3.13	0.73	1100	4.11	3.00	0.73	1166	3.99	2.91	0.73	1192	3.85	2.81	0.73	1245
30	22	4.46	2.72	0.61	1140	4.31	2.63	0.61	1212	4.20	2.56	0.61	1245	4.03	2.46	0.61	1297
30	24	4.69	2.30	0.49	1192	4.52	2.21	0.49	1258	4.41	2.16	0.49	1297	4.27	2.09	0.49	1362
30	26	4.83	1.79	0.37	1258	4.69	1.74	0.37	1323	4.62	1.71	0.37	1362	4.48	1.66	0.37	1402
31	18	4.11	3.66	0.89	1048	3.94	3.50	0.89	1100	3.78	3.36	0.89	1153	3.64	3.24	0.89	1205
31	20	4.29	3.30	0.77	1100	4.11	3.17	0.77	1166	3.99	3.07	0.77	1192	3.85	2.96	0.77	1245
31	22	4.46	2.90	0.65	1140	4.31	2.80	0.65	1212	4.20	2.73	0.65	1245	4.03	2.62	0.65	1297
31	24	4.69	2.49	0.53	1192	4.52	2.39	0.53	1258	4.41	2.34	0.53	1297	4.27	2.26	0.53	1362
31	26	4.83	1.98	0.41	1258	4.69	1.92	0.41	1323	4.62	1.89	0.41	1362	4.48	1.84	0.41	1402
32	18	4.11	3.82	0.93	1048	3.94	3.66	0.93	1100	3.78	3.52	0.93	1153	3.64	3.39	0.93	1205
32	20	4.29	3.47	0.81	1100	4.11	3.33	0.81	1166	3.99	3.23	0.81	1192	3.85	3.12	0.81	1245
32	22	4.46	3.08	0.69	1140	4.31	2.97	0.69	1212	4.20	2.90	0.69	1245	4.03	2.78	0.69	1297
32	24	4.69	2.67	0.57	1192	4.52	2.57	0.57	1258	4.41	2.51	0.57	1297	4.27	2.43	0.57	1362
32	26	4.83	2.17	0.45	1258	4.69	2.11	0.45	1323	4.62	2.08	0.45	1362	4.48	2.02	0.45	1402

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-12RV -E1 : MU-12RV -E1

CAPACITY : 3.5 kW INPUT : 1310 W SHF : 0.67

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	3.43	1.68	0.49	1284	3.15	1.54	0.49	1362	3.03	1.48	0.49	1389
21	20	3.61	1.33	0.37	1336	3.36	1.24	0.37	1402	3.24	1.20	0.37	1441
22	18	3.43	1.82	0.53	1284	3.15	1.67	0.53	1362	3.03	1.60	0.53	1389
22	20	3.61	1.48	0.41	1336	3.36	1.38	0.41	1402	3.24	1.33	0.41	1441
22	22	3.82	1.11	0.29	1389	3.57	1.04	0.29	1467	3.45	1.00	0.29	1493
23	18	3.43	1.96	0.57	1284	3.15	1.80	0.57	1362	3.03	1.73	0.57	1389
23	20	3.61	1.62	0.45	1336	3.36	1.51	0.45	1402	3.24	1.46	0.45	1441
23	22	3.82	1.26	0.33	1389	3.57	1.18	0.33	1467	3.45	1.14	0.33	1493
24	18	3.43	2.09	0.61	1284	3.15	1.92	0.61	1362	3.03	1.85	0.61	1389
24	20	3.61	1.77	0.49	1336	3.36	1.65	0.49	1402	3.24	1.59	0.49	1441
24	22	3.82	1.41	0.37	1389	3.57	1.32	0.37	1467	3.45	1.28	0.37	1493
24	24	4.03	1.01	0.25	1441	3.78	0.95	0.25	1507	3.68	0.92	0.25	1539
25	20	3.61	1.91	0.53	1336	3.36	1.78	0.53	1402	3.24	1.72	0.53	1441
25	22	3.82	1.56	0.41	1389	3.57	1.46	0.41	1467	3.45	1.41	0.41	1493
25	24	4.03	1.17	0.29	1441	3.78	1.10	0.29	1507	3.68	1.07	0.29	1539
26	18	3.43	2.37	0.69	1284	3.15	2.17	0.69	1362	3.03	2.09	0.69	1389
26	20	3.61	2.05	0.57	1336	3.36	1.92	0.57	1402	3.24	1.85	0.57	1441
26	22	3.82	1.72	0.45	1389	3.57	1.61	0.45	1467	3.45	1.55	0.45	1493
26	24	4.03	1.33	0.33	1441	3.78	1.25	0.33	1507	3.68	1.21	0.33	1539
26	26	4.24	0.89	0.21	1493	3.99	0.84	0.21	1559	3.87	0.81	0.21	1592
27	18	3.43	2.50	0.73	1284	3.15	2.30	0.73	1362	3.03	2.21	0.73	1389
27	20	3.61	2.20	0.61	1336	3.36	2.05	0.61	1402	3.24	1.97	0.61	1441
27	22	3.82	1.87	0.49	1389	3.57	1.75	0.49	1467	3.45	1.69	0.49	1493
27	24	4.03	1.49	0.37	1441	3.78	1.40	0.37	1507	3.68	1.36	0.37	1539
27	26	4.24	1.06	0.25	1493	3.99	1.00	0.25	1559	3.87	0.97	0.25	1592
28	18	3.43	2.64	0.77	1284	3.15	2.43	0.77	1362	3.03	2.33	0.77	1389
28	20	3.61	2.34	0.65	1336	3.36	2.18	0.65	1402	3.24	2.10	0.65	1441
28	22	3.82	2.02	0.53	1389	3.57	1.89	0.53	1467	3.45	1.83	0.53	1493
28	24	4.03	1.65	0.41	1441	3.78	1.55	0.41	1507	3.68	1.51	0.41	1539
28	26	4.24	1.23	0.29	1493	3.99	1.16	0.29	1559	3.87	1.12	0.29	1592
29	18	3.43	2.78	0.81	1284	3.15	2.55	0.81	1362	3.03	2.45	0.81	1389
29	20	3.61	2.49	0.69	1336	3.36	2.32	0.69	1402	3.24	2.23	0.69	1441
29	22	3.82	2.17	0.57	1389	3.57	2.03	0.57	1467	3.45	1.97	0.57	1493
29	24	4.03	1.81	0.45	1441	3.78	1.70	0.45	1507	3.68	1.65	0.45	1539
29	26	4.24	1.40	0.33	1493	3.99	1.32	0.33	1559	3.87	1.28	0.33	1592
30	18	3.43	2.92	0.85	1284	3.15	2.68	0.85	1362	3.03	2.57	0.85	1389
30	20	3.61	2.63	0.73	1336	3.36	2.45	0.73	1402	3.24	2.36	0.73	1441
30	22	3.82	2.33	0.61	1389	3.57	2.18	0.61	1467	3.45	2.10	0.61	1493
30	24	4.03	1.97	0.49	1441	3.78	1.85	0.49	1507	3.68	1.80	0.49	1539
30	26	4.24	1.57	0.37	1493	3.99	1.48	0.37	1559	3.87	1.43	0.37	1592
31	18	3.43	3.05	0.89	1284	3.15	2.80	0.89	1362	3.03	2.69	0.89	1389
31	20	3.61	2.78	0.77	1336	3.36	2.59	0.77	1402	3.24	2.49	0.77	1441
31	22	3.82	2.48	0.65	1389	3.57	2.32	0.65	1467	3.45	2.24	0.65	1493
31	24	4.03	2.13	0.53	1441	3.78	2.00	0.53	1507	3.68	1.95	0.53	1539
31	26	4.24	1.74	0.41	1493	3.99	1.64	0.41	1559	3.87	1.59	0.41	1592
32	18	3.43	3.19	0.93	1284	3.15	2.93	0.93	1362	3.03	2.82	0.93	1389
32	20	3.61	2.92	0.81	1336	3.36	2.72	0.81	1402	3.24	2.62	0.81	1441
32	22	3.82	2.63	0.69	1389	3.57	2.46	0.69	1467	3.45	2.38	0.69	1493
32	24	4.03	2.29	0.57	1441	3.78	2.15	0.57	1507	3.68	2.09	0.57	1539
32	26	4.24	1.91	0.45	1493	3.99	1.80	0.45	1559	3.87	1.74	0.45	1592

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-12RV -E1 : MU-12RV -E1

CAPACITY : 3.5 kW INPUT : 1390 W SHF : 0.67

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	4.11	2.02	0.49	1112	3.94	1.93	0.49	1168	3.78	1.85	0.49	1223	3.64	1.78	0.49	1279
21	20	4.29	1.59	0.37	1168	4.11	1.52	0.37	1237	3.99	1.48	0.37	1265	3.85	1.42	0.37	1321
22	18	4.11	2.18	0.53	1112	3.94	2.09	0.53	1168	3.78	2.00	0.53	1223	3.64	1.93	0.53	1279
22	20	4.29	1.76	0.41	1168	4.11	1.69	0.41	1237	3.99	1.64	0.41	1265	3.85	1.58	0.41	1321
22	22	4.46	1.29	0.29	1209	4.31	1.25	0.29	1286	4.20	1.22	0.29	1321	4.03	1.17	0.29	1376
23	18	4.11	2.34	0.57	1112	3.94	2.24	0.57	1168	3.78	2.15	0.57	1223	3.64	2.07	0.57	1279
23	20	4.29	1.93	0.45	1168	4.11	1.85	0.45	1237	3.99	1.80	0.45	1265	3.85	1.73	0.45	1321
23	22	4.46	1.47	0.33	1209	4.31	1.42	0.33	1286	4.20	1.39	0.33	1321	4.03	1.33	0.33	1376
24	18	4.11	2.51	0.61	1112	3.94	2.40	0.61	1168	3.78	2.31	0.61	1223	3.64	2.22	0.61	1279
24	20	4.29	2.10	0.49	1168	4.11	2.02	0.49	1237	3.99	1.96	0.49	1265	3.85	1.89	0.49	1321
24	22	4.46	1.65	0.37	1209	4.31	1.59	0.37	1286	4.20	1.55	0.37	1321	4.03	1.49	0.37	1376
24	24	4.69	1.17	0.25	1265	4.52	1.13	0.25	1334	4.41	1.10	0.25	1376	4.27	1.07	0.25	1446
25	20	4.29	2.27	0.53	1168	4.11	2.18	0.53	1237	3.99	2.11	0.53	1265	3.85	2.04	0.53	1321
25	22	4.46	1.83	0.41	1209	4.31	1.77	0.41	1286	4.20	1.72	0.41	1321	4.03	1.65	0.41	1376
25	24	4.69	1.36	0.29	1265	4.52	1.31	0.29	1334	4.41	1.28	0.29	1376	4.27	1.24	0.29	1446
26	18	4.11	2.84	0.69	1112	3.94	2.72	0.69	1168	3.78	2.61	0.69	1223	3.64	2.51	0.69	1279
26	20	4.29	2.44	0.57	1168	4.11	2.34	0.57	1237	3.99	2.27	0.57	1265	3.85	2.19	0.57	1321
26	22	4.46	2.01	0.45	1209	4.31	1.94	0.45	1286	4.20	1.89	0.45	1321	4.03	1.81	0.45	1376
26	24	4.69	1.55	0.33	1265	4.52	1.49	0.33	1334	4.41	1.46	0.33	1376	4.27	1.41	0.33	1446
26	26	4.83	1.01	0.21	1334	4.69	0.98	0.21	1404	4.62	0.97	0.21	1446	4.48	0.94	0.21	1487
27	18	4.11	3.00	0.73	1112	3.94	2.87	0.73	1168	3.78	2.76	0.73	1223	3.64	2.66	0.73	1279
27	20	4.29	2.62	0.61	1168	4.11	2.51	0.61	1237	3.99	2.43	0.61	1265	3.85	2.35	0.61	1321
27	22	4.46	2.19	0.49	1209	4.31	2.11	0.49	1286	4.20	2.06	0.49	1321	4.03	1.97	0.49	1376
27	24	4.69	1.74	0.37	1265	4.52	1.67	0.37	1334	4.41	1.63	0.37	1376	4.27	1.58	0.37	1446
27	26	4.83	1.21	0.25	1334	4.69	1.17	0.25	1404	4.62	1.16	0.25	1446	4.48	1.12	0.25	1487
28	18	4.11	3.17	0.77	1112	3.94	3.03	0.77	1168	3.78	2.91	0.77	1223	3.64	2.80	0.77	1279
28	20	4.29	2.79	0.65	1168	4.11	2.67	0.65	1237	3.99	2.59	0.65	1265	3.85	2.50	0.65	1321
28	22	4.46	2.37	0.53	1209	4.31	2.28	0.53	1286	4.20	2.23	0.53	1321	4.03	2.13	0.53	1376
28	24	4.69	1.92	0.41	1265	4.52	1.85	0.41	1334	4.41	1.81	0.41	1376	4.27	1.75	0.41	1446
28	26	4.83	1.40	0.29	1334	4.69	1.36	0.29	1404	4.62	1.34	0.29	1446	4.48	1.30	0.29	1487
29	18	4.11	3.33	0.81	1112	3.94	3.19	0.81	1168	3.78	3.06	0.81	1223	3.64	2.95	0.81	1279
29	20	4.29	2.96	0.69	1168	4.11	2.84	0.69	1237	3.99	2.75	0.69	1265	3.85	2.66	0.69	1321
29	22	4.46	2.54	0.57	1209	4.31	2.45	0.57	1286	4.20	2.39	0.57	1321	4.03	2.29	0.57	1376
29	24	4.69	2.11	0.45	1265	4.52	2.03	0.45	1334	4.41	1.98	0.45	1376	4.27	1.92	0.45	1446
29	26	4.83	1.59	0.33	1334	4.69	1.55	0.33	1404	4.62	1.52	0.33	1446	4.48	1.48	0.33	1487
30	18	4.11	3.50	0.85	1112	3.94	3.35	0.85	1168	3.78	3.21	0.85	1223	3.64	3.09	0.85	1279
30	20	4.29	3.13	0.73	1168	4.11	3.00	0.73	1237	3.99	2.91	0.73	1265	3.85	2.81	0.73	1321
30	22	4.46	2.72	0.61	1209	4.31	2.63	0.61	1286	4.20	2.56	0.61	1321	4.03	2.46	0.61	1376
30	24	4.69	2.30	0.49	1265	4.52	2.21	0.49	1334	4.41	2.16	0.49	1376	4.27	2.09	0.49	1446
30	26	4.83	1.79	0.37	1334	4.69	1.74	0.37	1404	4.62	1.71	0.37	1446	4.48	1.66	0.37	1487
31	18	4.11	3.66	0.89	1112	3.94	3.50	0.89	1168	3.78	3.36	0.89	1223	3.64	3.24	0.89	1279
31	20	4.29	3.30	0.77	1168	4.11	3.17	0.77	1237	3.99	3.07	0.77	1265	3.85	2.96	0.77	1321
31	22	4.46	2.90	0.65	1209	4.31	2.80	0.65	1286	4.20	2.73	0.65	1321	4.03	2.62	0.65	1376
31	24	4.69	2.49	0.53	1265	4.52	2.39	0.53	1334	4.41	2.34	0.53	1376	4.27	2.26	0.53	1446
31	26	4.83	1.98	0.41	1334	4.69	1.92	0.41	1404	4.62	1.89	0.41	1446	4.48	1.84	0.41	1487
32	18	4.11	3.82	0.93	1112	3.94	3.66	0.93	1168	3.78	3.52	0.93	1223	3.64	3.39	0.93	1279
32	20	4.29	3.47	0.81	1168	4.11	3.33	0.81	1237	3.99	3.23	0.81	1265	3.85	3.12	0.81	1321
32	22	4.46	3.08	0.69	1209	4.31	2.97	0.69	1286	4.20	2.90	0.69	1321	4.03	2.78	0.69	1376
32	24	4.69	2.67	0.57	1265	4.52	2.57	0.57	1334	4.41	2.51	0.57	1376	4.27	2.43	0.57	1446
32	26	4.83	2.17	0.45	1334	4.69	2.11	0.45	1404	4.62	2.08	0.45	1446	4.48	2.02	0.45	1487

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-12RV -E1 : MU-12RV -E1

CAPACITY : 3.5 kW INPUT : 1390 W SHF : 0.67

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	3.43	1.68	0.49	1362	3.15	1.54	0.49	1446	3.03	1.48	0.49	1473
21	20	3.61	1.33	0.37	1418	3.36	1.24	0.37	1487	3.24	1.20	0.37	1529
22	18	3.43	1.82	0.53	1362	3.15	1.67	0.53	1446	3.03	1.60	0.53	1473
22	20	3.61	1.48	0.41	1418	3.36	1.38	0.41	1487	3.24	1.33	0.41	1529
22	22	3.82	1.11	0.29	1473	3.57	1.04	0.29	1557	3.45	1.00	0.29	1585
23	18	3.43	1.96	0.57	1362	3.15	1.80	0.57	1446	3.03	1.73	0.57	1473
23	20	3.61	1.62	0.45	1418	3.36	1.51	0.45	1487	3.24	1.46	0.45	1529
23	22	3.82	1.26	0.33	1473	3.57	1.18	0.33	1557	3.45	1.14	0.33	1585
24	18	3.43	2.09	0.61	1362	3.15	1.92	0.61	1446	3.03	1.85	0.61	1473
24	20	3.61	1.77	0.49	1418	3.36	1.65	0.49	1487	3.24	1.59	0.49	1529
24	22	3.82	1.41	0.37	1473	3.57	1.32	0.37	1557	3.45	1.28	0.37	1585
24	24	4.03	1.01	0.25	1529	3.78	0.95	0.25	1599	3.68	0.92	0.25	1633
25	20	3.61	1.91	0.53	1418	3.36	1.78	0.53	1487	3.24	1.72	0.53	1529
25	22	3.82	1.56	0.41	1473	3.57	1.46	0.41	1557	3.45	1.41	0.41	1585
25	24	4.03	1.17	0.29	1529	3.78	1.10	0.29	1599	3.68	1.07	0.29	1633
26	18	3.43	2.37	0.69	1362	3.15	2.17	0.69	1446	3.03	2.09	0.69	1473
26	20	3.61	2.05	0.57	1418	3.36	1.92	0.57	1487	3.24	1.85	0.57	1529
26	22	3.82	1.72	0.45	1473	3.57	1.61	0.45	1557	3.45	1.55	0.45	1585
26	24	4.03	1.33	0.33	1529	3.78	1.25	0.33	1599	3.68	1.21	0.33	1633
26	26	4.24	0.89	0.21	1585	3.99	0.84	0.21	1654	3.87	0.81	0.21	1689
27	18	3.43	2.50	0.73	1362	3.15	2.30	0.73	1446	3.03	2.21	0.73	1473
27	20	3.61	2.20	0.61	1418	3.36	2.05	0.61	1487	3.24	1.97	0.61	1529
27	22	3.82	1.87	0.49	1473	3.57	1.75	0.49	1557	3.45	1.69	0.49	1585
27	24	4.03	1.49	0.37	1529	3.78	1.40	0.37	1599	3.68	1.36	0.37	1633
27	26	4.24	1.06	0.25	1585	3.99	1.00	0.25	1654	3.87	0.97	0.25	1689
28	18	3.43	2.64	0.77	1362	3.15	2.43	0.77	1446	3.03	2.33	0.77	1473
28	20	3.61	2.34	0.65	1418	3.36	2.18	0.65	1487	3.24	2.10	0.65	1529
28	22	3.82	2.02	0.53	1473	3.57	1.89	0.53	1557	3.45	1.83	0.53	1585
28	24	4.03	1.65	0.41	1529	3.78	1.55	0.41	1599	3.68	1.51	0.41	1633
28	26	4.24	1.23	0.29	1585	3.99	1.16	0.29	1654	3.87	1.12	0.29	1689
29	18	3.43	2.78	0.81	1362	3.15	2.55	0.81	1446	3.03	2.45	0.81	1473
29	20	3.61	2.49	0.69	1418	3.36	2.32	0.69	1487	3.24	2.23	0.69	1529
29	22	3.82	2.17	0.57	1473	3.57	2.03	0.57	1557	3.45	1.97	0.57	1585
29	24	4.03	1.81	0.45	1529	3.78	1.70	0.45	1599	3.68	1.65	0.45	1633
29	26	4.24	1.40	0.33	1585	3.99	1.32	0.33	1654	3.87	1.28	0.33	1689
30	18	3.43	2.92	0.85	1362	3.15	2.68	0.85	1446	3.03	2.57	0.85	1473
30	20	3.61	2.63	0.73	1418	3.36	2.45	0.73	1487	3.24	2.36	0.73	1529
30	22	3.82	2.33	0.61	1473	3.57	2.18	0.61	1557	3.45	2.10	0.61	1585
30	24	4.03	1.97	0.49	1529	3.78	1.85	0.49	1599	3.68	1.80	0.49	1633
30	26	4.24	1.57	0.37	1585	3.99	1.48	0.37	1654	3.87	1.43	0.37	1689
31	18	3.43	3.05	0.89	1362	3.15	2.80	0.89	1446	3.03	2.69	0.89	1473
31	20	3.61	2.78	0.77	1418	3.36	2.59	0.77	1487	3.24	2.49	0.77	1529
31	22	3.82	2.48	0.65	1473	3.57	2.32	0.65	1557	3.45	2.24	0.65	1585
31	24	4.03	2.13	0.53	1529	3.78	2.00	0.53	1599	3.68	1.95	0.53	1633
31	26	4.24	1.74	0.41	1585	3.99	1.64	0.41	1654	3.87	1.59	0.41	1689
32	18	3.43	3.19	0.93	1362	3.15	2.93	0.93	1446	3.03	2.82	0.93	1473
32	20	3.61	2.92	0.81	1418	3.36	2.72	0.81	1487	3.24	2.62	0.81	1529
32	22	3.82	2.63	0.69	1473	3.57	2.46	0.69	1557	3.45	2.38	0.69	1585
32	24	4.03	2.29	0.57	1529	3.78	2.15	0.57	1599	3.68	2.09	0.57	1633
32	26	4.24	1.91	0.45	1585	3.99	1.80	0.45	1654	3.87	1.74	0.45	1689

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-07RV -E1 : MUH-07RV -E1

CAPACITY : 2.2 kW INPUT : 710 W SHF : 0.74

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.59	1.45	0.56	568	2.48	1.39	0.56	596	2.38	1.33	0.56	625	2.29	1.28	0.56	653
21	20	2.70	1.19	0.44	596	2.59	1.14	0.44	632	2.51	1.10	0.44	646	2.42	1.06	0.44	675
22	18	2.59	1.55	0.60	568	2.48	1.49	0.60	596	2.38	1.43	0.60	625	2.29	1.37	0.60	653
22	20	2.70	1.29	0.48	596	2.59	1.24	0.48	632	2.51	1.20	0.48	646	2.42	1.16	0.48	675
22	22	2.81	1.01	0.36	618	2.71	0.97	0.36	657	2.64	0.95	0.36	675	2.53	0.91	0.36	703
23	18	2.59	1.65	0.64	568	2.48	1.58	0.64	596	2.38	1.52	0.64	625	2.29	1.46	0.64	653
23	20	2.70	1.40	0.52	596	2.59	1.34	0.52	632	2.51	1.30	0.52	646	2.42	1.26	0.52	675
23	22	2.81	1.12	0.40	618	2.71	1.08	0.40	657	2.64	1.06	0.40	675	2.53	1.01	0.40	703
24	18	2.59	1.76	0.68	568	2.48	1.68	0.68	596	2.38	1.62	0.68	625	2.29	1.56	0.68	653
24	20	2.70	1.51	0.56	596	2.59	1.45	0.56	632	2.51	1.40	0.56	646	2.42	1.36	0.56	675
24	22	2.81	1.23	0.44	618	2.71	1.19	0.44	657	2.64	1.16	0.44	675	2.53	1.11	0.44	703
24	24	2.95	0.94	0.32	646	2.84	0.91	0.32	682	2.77	0.89	0.32	703	2.68	0.86	0.32	738
25	20	2.70	1.62	0.60	596	2.59	1.55	0.60	632	2.51	1.50	0.60	646	2.42	1.45	0.60	675
25	22	2.81	1.35	0.48	618	2.71	1.30	0.48	657	2.64	1.27	0.48	675	2.53	1.21	0.48	703
25	24	2.95	1.06	0.36	646	2.84	1.02	0.36	682	2.77	1.00	0.36	703	2.68	0.97	0.36	738
26	18	2.59	1.96	0.76	568	2.48	1.88	0.76	596	2.38	1.81	0.76	625	2.29	1.74	0.76	653
26	20	2.70	1.72	0.64	596	2.59	1.65	0.64	632	2.51	1.61	0.64	646	2.42	1.55	0.64	675
26	22	2.81	1.46	0.52	618	2.71	1.41	0.52	657	2.64	1.37	0.52	675	2.53	1.32	0.52	703
26	24	2.95	1.18	0.40	646	2.84	1.14	0.40	682	2.77	1.11	0.40	703	2.68	1.07	0.40	738
26	26	3.04	0.85	0.28	682	2.95	0.83	0.28	717	2.90	0.81	0.28	738	2.82	0.79	0.28	760
27	18	2.59	2.07	0.80	568	2.48	1.98	0.80	596	2.38	1.90	0.80	625	2.29	1.83	0.80	653
27	20	2.70	1.83	0.68	596	2.59	1.76	0.68	632	2.51	1.71	0.68	646	2.42	1.65	0.68	675
27	22	2.81	1.57	0.56	618	2.71	1.52	0.56	657	2.64	1.48	0.56	675	2.53	1.42	0.56	703
27	24	2.95	1.30	0.44	646	2.84	1.25	0.44	682	2.77	1.22	0.44	703	2.68	1.18	0.44	738
27	26	3.04	0.97	0.32	682	2.95	0.94	0.32	717	2.90	0.93	0.32	738	2.82	0.90	0.32	760
28	18	2.59	2.17	0.84	568	2.48	2.08	0.84	596	2.38	2.00	0.84	625	2.29	1.92	0.84	653
28	20	2.70	1.94	0.72	596	2.59	1.86	0.72	632	2.51	1.81	0.72	646	2.42	1.74	0.72	675
28	22	2.81	1.68	0.60	618	2.71	1.62	0.60	657	2.64	1.58	0.60	675	2.53	1.52	0.60	703
28	24	2.95	1.42	0.48	646	2.84	1.36	0.48	682	2.77	1.33	0.48	703	2.68	1.29	0.48	738
28	26	3.04	1.09	0.36	682	2.95	1.06	0.36	717	2.90	1.05	0.36	738	2.82	1.01	0.36	760
29	18	2.59	2.27	0.88	568	2.48	2.18	0.88	596	2.38	2.09	0.88	625	2.29	2.01	0.88	653
29	20	2.70	2.05	0.76	596	2.59	1.96	0.76	632	2.51	1.91	0.76	646	2.42	1.84	0.76	675
29	22	2.81	1.80	0.64	618	2.71	1.73	0.64	657	2.64	1.69	0.64	675	2.53	1.62	0.64	703
29	24	2.95	1.53	0.52	646	2.84	1.48	0.52	682	2.77	1.44	0.52	703	2.68	1.40	0.52	738
29	26	3.04	1.21	0.40	682	2.95	1.18	0.40	717	2.90	1.16	0.40	738	2.82	1.13	0.40	760
30	18	2.59	2.38	0.92	568	2.48	2.28	0.92	596	2.38	2.19	0.92	625	2.29	2.10	0.92	653
30	20	2.70	2.16	0.80	596	2.59	2.07	0.80	632	2.51	2.01	0.80	646	2.42	1.94	0.80	675
30	22	2.81	1.91	0.68	618	2.71	1.84	0.68	657	2.64	1.80	0.68	675	2.53	1.72	0.68	703
30	24	2.95	1.65	0.56	646	2.84	1.59	0.56	682	2.77	1.55	0.56	703	2.68	1.50	0.56	738
30	26	3.04	1.34	0.44	682	2.95	1.30	0.44	717	2.90	1.28	0.44	738	2.82	1.24	0.44	760
31	18	2.59	2.48	0.96	568	2.48	2.38	0.96	596	2.38	2.28	0.96	625	2.29	2.20	0.96	653
31	20	2.70	2.26	0.84	596	2.59	2.17	0.84	632	2.51	2.11	0.84	646	2.42	2.03	0.84	675
31	22	2.81	2.02	0.72	618	2.71	1.95	0.72	657	2.64	1.90	0.72	675	2.53	1.82	0.72	703
31	24	2.95	1.77	0.60	646	2.84	1.70	0.60	682	2.77	1.66	0.60	703	2.68	1.61	0.60	738
31	26	3.04	1.46	0.48	682	2.95	1.42	0.48	717	2.90	1.39	0.48	738	2.82	1.35	0.48	760
32	18	2.59	2.59	1.00	568	2.48	2.48	1.00	596	2.38	2.38	1.00	625	2.29	2.29	1.00	653
32	20	2.70	2.37	0.88	596	2.59	2.27	0.88	632	2.51	2.21	0.88	646	2.42	2.13	0.88	675
32	22	2.81	2.13	0.76	618	2.71	2.06	0.76	657	2.64	2.01	0.76	675	2.53	1.92	0.76	703
32	24	2.95	1.89	0.64	646	2.84	1.82	0.64	682	2.77	1.77	0.64	703	2.68	1.72	0.64	738
32	26	3.04	1.58	0.52	682	2.95	1.53	0.52	717	2.90	1.51	0.52	738	2.82	1.46	0.52	760

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-07RV -E1 : MUH-07RV -E1

CAPACITY : 2.2 kW INPUT : 710 W SHF : 0.74

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.16	1.21	0.56	696	1.98	1.11	0.56	738	1.90	1.07	0.56	753
21	20	2.27	1.00	0.44	724	2.11	0.93	0.44	760	2.04	0.90	0.44	781
22	18	2.16	1.29	0.60	696	1.98	1.19	0.60	738	1.90	1.14	0.60	753
22	20	2.27	1.09	0.48	724	2.11	1.01	0.48	760	2.04	0.98	0.48	781
22	22	2.40	0.86	0.36	753	2.24	0.81	0.36	795	2.17	0.78	0.36	809
23	18	2.16	1.38	0.64	696	1.98	1.27	0.64	738	1.90	1.22	0.64	753
23	20	2.27	1.18	0.52	724	2.11	1.10	0.52	760	2.04	1.06	0.52	781
23	22	2.40	0.96	0.40	753	2.24	0.90	0.40	795	2.17	0.87	0.40	809
24	18	2.16	1.47	0.68	696	1.98	1.35	0.68	738	1.90	1.29	0.68	753
24	20	2.27	1.27	0.56	724	2.11	1.18	0.56	760	2.04	1.14	0.56	781
24	22	2.40	1.06	0.44	753	2.24	0.99	0.44	795	2.17	0.95	0.44	809
24	24	2.53	0.81	0.32	781	2.38	0.76	0.32	817	2.31	0.74	0.32	834
25	20	2.27	1.36	0.60	724	2.11	1.27	0.60	760	2.04	1.22	0.60	781
25	22	2.40	1.15	0.48	753	2.24	1.08	0.48	795	2.17	1.04	0.48	809
25	24	2.53	0.91	0.36	781	2.38	0.86	0.36	817	2.31	0.83	0.36	834
26	18	2.16	1.64	0.76	696	1.98	1.50	0.76	738	1.90	1.45	0.76	753
26	20	2.27	1.45	0.64	724	2.11	1.35	0.64	760	2.04	1.30	0.64	781
26	22	2.40	1.25	0.52	753	2.24	1.17	0.52	795	2.17	1.13	0.52	809
26	24	2.53	1.01	0.40	781	2.38	0.95	0.40	817	2.31	0.92	0.40	834
26	26	2.66	0.75	0.28	809	2.51	0.70	0.28	845	2.43	0.68	0.28	863
27	18	2.16	1.72	0.80	696	1.98	1.58	0.80	738	1.90	1.52	0.80	753
27	20	2.27	1.54	0.68	724	2.11	1.44	0.68	760	2.04	1.38	0.68	781
27	22	2.40	1.34	0.56	753	2.24	1.26	0.56	795	2.17	1.21	0.56	809
27	24	2.53	1.11	0.44	781	2.38	1.05	0.44	817	2.31	1.02	0.44	834
27	26	2.66	0.85	0.32	809	2.51	0.80	0.32	845	2.43	0.78	0.32	863
28	18	2.16	1.81	0.84	696	1.98	1.66	0.84	738	1.90	1.60	0.84	753
28	20	2.27	1.63	0.72	724	2.11	1.52	0.72	760	2.04	1.47	0.72	781
28	22	2.40	1.44	0.60	753	2.24	1.35	0.60	795	2.17	1.30	0.60	809
28	24	2.53	1.21	0.48	781	2.38	1.14	0.48	817	2.31	1.11	0.48	834
28	26	2.66	0.96	0.36	809	2.51	0.90	0.36	845	2.43	0.88	0.36	863
29	18	2.16	1.90	0.88	696	1.98	1.74	0.88	738	1.90	1.67	0.88	753
29	20	2.27	1.72	0.76	724	2.11	1.61	0.76	760	2.04	1.55	0.76	781
29	22	2.40	1.53	0.64	753	2.24	1.44	0.64	795	2.17	1.39	0.64	809
29	24	2.53	1.32	0.52	781	2.38	1.24	0.52	817	2.31	1.20	0.52	834
29	26	2.66	1.06	0.40	809	2.51	1.00	0.40	845	2.43	0.97	0.40	863
30	18	2.16	1.98	0.92	696	1.98	1.82	0.92	738	1.90	1.75	0.92	753
30	20	2.27	1.81	0.80	724	2.11	1.69	0.80	760	2.04	1.63	0.80	781
30	22	2.40	1.63	0.68	753	2.24	1.53	0.68	795	2.17	1.47	0.68	809
30	24	2.53	1.42	0.56	781	2.38	1.33	0.56	817	2.31	1.29	0.56	834
30	26	2.66	1.17	0.44	809	2.51	1.10	0.44	845	2.43	1.07	0.44	863
31	18	2.16	2.07	0.96	696	1.98	1.90	0.96	738	1.90	1.83	0.96	753
31	20	2.27	1.90	0.84	724	2.11	1.77	0.84	760	2.04	1.71	0.84	781
31	22	2.40	1.73	0.72	753	2.24	1.62	0.72	795	2.17	1.56	0.72	809
31	24	2.53	1.52	0.60	781	2.38	1.43	0.60	817	2.31	1.39	0.60	834
31	26	2.66	1.28	0.48	809	2.51	1.20	0.48	845	2.43	1.17	0.48	863
32	18	2.16	2.16	1.00	696	1.98	1.98	1.00	738	1.90	1.90	1.00	753
32	20	2.27	1.99	0.88	724	2.11	1.86	0.88	760	2.04	1.79	0.88	781
32	22	2.40	1.82	0.76	753	2.24	1.71	0.76	795	2.17	1.65	0.76	809
32	24	2.53	1.62	0.64	781	2.38	1.52	0.64	817	2.31	1.48	0.64	834
32	26	2.66	1.38	0.52	809	2.51	1.30	0.52	845	2.43	1.26	0.52	863

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-07RV -E1 : MUH-07RV -E1

CAPACITY : 2.2 kW INPUT : 750 W SHF : 0.74

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.59	1.45	0.56	600	2.48	1.39	0.56	630	2.38	1.33	0.56	660	2.29	1.28	0.56	690
21	20	2.70	1.19	0.44	630	2.59	1.14	0.44	668	2.51	1.10	0.44	683	2.42	1.06	0.44	713
22	18	2.59	1.55	0.60	600	2.48	1.49	0.60	630	2.38	1.43	0.60	660	2.29	1.37	0.60	690
22	20	2.70	1.29	0.48	630	2.59	1.24	0.48	668	2.51	1.20	0.48	683	2.42	1.16	0.48	713
22	22	2.81	1.01	0.36	653	2.71	0.97	0.36	694	2.64	0.95	0.36	713	2.53	0.91	0.36	743
23	18	2.59	1.65	0.64	600	2.48	1.58	0.64	630	2.38	1.52	0.64	660	2.29	1.46	0.64	690
23	20	2.70	1.40	0.52	630	2.59	1.34	0.52	668	2.51	1.30	0.52	683	2.42	1.26	0.52	713
23	22	2.81	1.12	0.40	653	2.71	1.08	0.40	694	2.64	1.06	0.40	713	2.53	1.01	0.40	743
24	18	2.59	1.76	0.68	600	2.48	1.68	0.68	630	2.38	1.62	0.68	660	2.29	1.56	0.68	690
24	20	2.70	1.51	0.56	630	2.59	1.45	0.56	668	2.51	1.40	0.56	683	2.42	1.36	0.56	713
24	22	2.81	1.23	0.44	653	2.71	1.19	0.44	694	2.64	1.16	0.44	713	2.53	1.11	0.44	743
24	24	2.95	0.94	0.32	683	2.84	0.91	0.32	720	2.77	0.89	0.32	743	2.68	0.86	0.32	780
25	20	2.70	1.62	0.60	630	2.59	1.55	0.60	668	2.51	1.50	0.60	683	2.42	1.45	0.60	713
25	22	2.81	1.35	0.48	653	2.71	1.30	0.48	694	2.64	1.27	0.48	713	2.53	1.21	0.48	743
25	24	2.95	1.06	0.36	683	2.84	1.02	0.36	720	2.77	1.00	0.36	743	2.68	0.97	0.36	780
26	18	2.59	1.96	0.76	600	2.48	1.88	0.76	630	2.38	1.81	0.76	660	2.29	1.74	0.76	690
26	20	2.70	1.72	0.64	630	2.59	1.65	0.64	668	2.51	1.61	0.64	683	2.42	1.55	0.64	713
26	22	2.81	1.46	0.52	653	2.71	1.41	0.52	694	2.64	1.37	0.52	713	2.53	1.32	0.52	743
26	24	2.95	1.18	0.40	683	2.84	1.14	0.40	720	2.77	1.11	0.40	743	2.68	1.07	0.40	780
26	26	3.04	0.85	0.28	720	2.95	0.83	0.28	758	2.90	0.81	0.28	780	2.82	0.79	0.28	803
27	18	2.59	2.07	0.80	600	2.48	1.98	0.80	630	2.38	1.90	0.80	660	2.29	1.83	0.80	690
27	20	2.70	1.83	0.68	630	2.59	1.76	0.68	668	2.51	1.71	0.68	683	2.42	1.65	0.68	713
27	22	2.81	1.57	0.56	653	2.71	1.52	0.56	694	2.64	1.48	0.56	713	2.53	1.42	0.56	743
27	24	2.95	1.30	0.44	683	2.84	1.25	0.44	720	2.77	1.22	0.44	743	2.68	1.18	0.44	780
27	26	3.04	0.97	0.32	720	2.95	0.94	0.32	758	2.90	0.93	0.32	780	2.82	0.90	0.32	803
28	18	2.59	2.17	0.84	600	2.48	2.08	0.84	630	2.38	2.00	0.84	660	2.29	1.92	0.84	690
28	20	2.70	1.94	0.72	630	2.59	1.86	0.72	668	2.51	1.81	0.72	683	2.42	1.74	0.72	713
28	22	2.81	1.68	0.60	653	2.71	1.62	0.60	694	2.64	1.58	0.60	713	2.53	1.52	0.60	743
28	24	2.95	1.42	0.48	683	2.84	1.36	0.48	720	2.77	1.33	0.48	743	2.68	1.29	0.48	780
28	26	3.04	1.09	0.36	720	2.95	1.06	0.36	758	2.90	1.05	0.36	780	2.82	1.01	0.36	803
29	18	2.59	2.27	0.88	600	2.48	2.18	0.88	630	2.38	2.09	0.88	660	2.29	2.01	0.88	690
29	20	2.70	2.05	0.76	630	2.59	1.96	0.76	668	2.51	1.91	0.76	683	2.42	1.84	0.76	713
29	22	2.81	1.80	0.64	653	2.71	1.73	0.64	694	2.64	1.69	0.64	713	2.53	1.62	0.64	743
29	24	2.95	1.53	0.52	683	2.84	1.48	0.52	720	2.77	1.44	0.52	743	2.68	1.40	0.52	780
29	26	3.04	1.21	0.40	720	2.95	1.18	0.40	758	2.90	1.16	0.40	780	2.82	1.13	0.40	803
30	18	2.59	2.38	0.92	600	2.48	2.28	0.92	630	2.38	2.19	0.92	660	2.29	2.10	0.92	690
30	20	2.70	2.16	0.80	630	2.59	2.07	0.80	668	2.51	2.01	0.80	683	2.42	1.94	0.80	713
30	22	2.81	1.91	0.68	653	2.71	1.84	0.68	694	2.64	1.80	0.68	713	2.53	1.72	0.68	743
30	24	2.95	1.65	0.56	683	2.84	1.59	0.56	720	2.77	1.55	0.56	743	2.68	1.50	0.56	780
30	26	3.04	1.34	0.44	720	2.95	1.30	0.44	758	2.90	1.28	0.44	780	2.82	1.24	0.44	803
31	18	2.59	2.48	0.96	600	2.48	2.38	0.96	630	2.38	2.28	0.96	660	2.29	2.20	0.96	690
31	20	2.70	2.26	0.84	630	2.59	2.17	0.84	668	2.51	2.11	0.84	683	2.42	2.03	0.84	713
31	22	2.81	2.02	0.72	653	2.71	1.95	0.72	694	2.64	1.90	0.72	713	2.53	1.82	0.72	743
31	24	2.95	1.77	0.60	683	2.84	1.70	0.60	720	2.77	1.66	0.60	743	2.68	1.61	0.60	780
31	26	3.04	1.46	0.48	720	2.95	1.42	0.48	758	2.90	1.39	0.48	780	2.82	1.35	0.48	803
32	18	2.59	2.59	1.00	600	2.48	2.48	1.00	630	2.38	2.38	1.00	660	2.29	2.29	1.00	690
32	20	2.70	2.37	0.88	630	2.59	2.27	0.88	668	2.51	2.21	0.88	683	2.42	2.13	0.88	713
32	22	2.81	2.13	0.76	653	2.71	2.06	0.76	694	2.64	2.01	0.76	713	2.53	1.92	0.76	743
32	24	2.95	1.89	0.64	683	2.84	1.82	0.64	720	2.77	1.77	0.64	743	2.68	1.72	0.64	780
32	26	3.04	1.58	0.52	720	2.95	1.53	0.52	758	2.90	1.51	0.52	780	2.82	1.46	0.52	803

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-07RV -E1 : MUH-07RV -E1

CAPACITY : 2.2 kW INPUT : 750 W SHF : 0.74

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.16	1.21	0.56	735	1.98	1.11	0.56	780	1.90	1.07	0.56	795
21	20	2.27	1.00	0.44	765	2.11	0.93	0.44	803	2.04	0.90	0.44	825
22	18	2.16	1.29	0.60	735	1.98	1.19	0.60	780	1.90	1.14	0.60	795
22	20	2.27	1.09	0.48	765	2.11	1.01	0.48	803	2.04	0.98	0.48	825
22	22	2.40	0.86	0.36	795	2.24	0.81	0.36	840	2.17	0.78	0.36	855
23	18	2.16	1.38	0.64	735	1.98	1.27	0.64	780	1.90	1.22	0.64	795
23	20	2.27	1.18	0.52	765	2.11	1.10	0.52	803	2.04	1.06	0.52	825
23	22	2.40	0.96	0.40	795	2.24	0.90	0.40	840	2.17	0.87	0.40	855
24	18	2.16	1.47	0.68	735	1.98	1.35	0.68	780	1.90	1.29	0.68	795
24	20	2.27	1.27	0.56	765	2.11	1.18	0.56	803	2.04	1.14	0.56	825
24	22	2.40	1.06	0.44	795	2.24	0.99	0.44	840	2.17	0.95	0.44	855
24	24	2.53	0.81	0.32	825	2.38	0.76	0.32	863	2.31	0.74	0.32	881
25	20	2.27	1.36	0.60	765	2.11	1.27	0.60	803	2.04	1.22	0.60	825
25	22	2.40	1.15	0.48	795	2.24	1.08	0.48	840	2.17	1.04	0.48	855
25	24	2.53	0.91	0.36	825	2.38	0.86	0.36	863	2.31	0.83	0.36	881
26	18	2.16	1.64	0.76	735	1.98	1.50	0.76	780	1.90	1.45	0.76	795
26	20	2.27	1.45	0.64	765	2.11	1.35	0.64	803	2.04	1.30	0.64	825
26	22	2.40	1.25	0.52	795	2.24	1.17	0.52	840	2.17	1.13	0.52	855
26	24	2.53	1.01	0.40	825	2.38	0.95	0.40	863	2.31	0.92	0.40	881
26	26	2.66	0.75	0.28	855	2.51	0.70	0.28	893	2.43	0.68	0.28	911
27	18	2.16	1.72	0.80	735	1.98	1.58	0.80	780	1.90	1.52	0.80	795
27	20	2.27	1.54	0.68	765	2.11	1.44	0.68	803	2.04	1.38	0.68	825
27	22	2.40	1.34	0.56	795	2.24	1.26	0.56	840	2.17	1.21	0.56	855
27	24	2.53	1.11	0.44	825	2.38	1.05	0.44	863	2.31	1.02	0.44	881
27	26	2.66	0.85	0.32	855	2.51	0.80	0.32	893	2.43	0.78	0.32	911
28	18	2.16	1.81	0.84	735	1.98	1.66	0.84	780	1.90	1.60	0.84	795
28	20	2.27	1.63	0.72	765	2.11	1.52	0.72	803	2.04	1.47	0.72	825
28	22	2.40	1.44	0.60	795	2.24	1.35	0.60	840	2.17	1.30	0.60	855
28	24	2.53	1.21	0.48	825	2.38	1.14	0.48	863	2.31	1.11	0.48	881
28	26	2.66	0.96	0.36	855	2.51	0.90	0.36	893	2.43	0.88	0.36	911
29	18	2.16	1.90	0.88	735	1.98	1.74	0.88	780	1.90	1.67	0.88	795
29	20	2.27	1.72	0.76	765	2.11	1.61	0.76	803	2.04	1.55	0.76	825
29	22	2.40	1.53	0.64	795	2.24	1.44	0.64	840	2.17	1.39	0.64	855
29	24	2.53	1.32	0.52	825	2.38	1.24	0.52	863	2.31	1.20	0.52	881
29	26	2.66	1.06	0.40	855	2.51	1.00	0.40	893	2.43	0.97	0.40	911
30	18	2.16	1.98	0.92	735	1.98	1.82	0.92	780	1.90	1.75	0.92	795
30	20	2.27	1.81	0.80	765	2.11	1.69	0.80	803	2.04	1.63	0.80	825
30	22	2.40	1.63	0.68	795	2.24	1.53	0.68	840	2.17	1.47	0.68	855
30	24	2.53	1.42	0.56	825	2.38	1.33	0.56	863	2.31	1.29	0.56	881
30	26	2.66	1.17	0.44	855	2.51	1.10	0.44	893	2.43	1.07	0.44	911
31	18	2.16	2.07	0.96	735	1.98	1.90	0.96	780	1.90	1.83	0.96	795
31	20	2.27	1.90	0.84	765	2.11	1.77	0.84	803	2.04	1.71	0.84	825
31	22	2.40	1.73	0.72	795	2.24	1.62	0.72	840	2.17	1.56	0.72	855
31	24	2.53	1.52	0.60	825	2.38	1.43	0.60	863	2.31	1.39	0.60	881
31	26	2.66	1.28	0.48	855	2.51	1.20	0.48	893	2.43	1.17	0.48	911
32	18	2.16	2.16	1.00	735	1.98	1.98	1.00	780	1.90	1.90	1.00	795
32	20	2.27	1.99	0.88	765	2.11	1.86	0.88	803	2.04	1.79	0.88	825
32	22	2.40	1.82	0.76	795	2.24	1.71	0.76	840	2.17	1.65	0.76	855
32	24	2.53	1.62	0.64	825	2.38	1.52	0.64	863	2.31	1.48	0.64	881
32	26	2.66	1.38	0.52	855	2.51	1.30	0.52	893	2.43	1.26	0.52	911

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-09RV -E1 : MUH-09RV -E1

CAPACITY : 2.5 kW INPUT : 880 W SHF : 0.7

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.94	1.53	0.52	704	2.81	1.46	0.52	739	2.70	1.40	0.52	774	2.60	1.35	0.52	810
21	20	3.06	1.23	0.40	739	2.94	1.18	0.40	783	2.85	1.14	0.40	801	2.75	1.10	0.40	836
22	18	2.94	1.65	0.56	704	2.81	1.58	0.56	739	2.70	1.51	0.56	774	2.60	1.46	0.56	810
22	20	3.06	1.35	0.44	739	2.94	1.29	0.44	783	2.85	1.25	0.44	801	2.75	1.21	0.44	836
22	22	3.19	1.02	0.32	766	3.08	0.98	0.32	814	3.00	0.96	0.32	836	2.88	0.92	0.32	871
23	18	2.94	1.76	0.60	704	2.81	1.69	0.60	739	2.70	1.62	0.60	774	2.60	1.56	0.60	810
23	20	3.06	1.47	0.48	739	2.94	1.41	0.48	783	2.85	1.37	0.48	801	2.75	1.32	0.48	836
23	22	3.19	1.15	0.36	766	3.08	1.11	0.36	814	3.00	1.08	0.36	836	2.88	1.04	0.36	871
24	18	2.94	1.88	0.64	704	2.81	1.80	0.64	739	2.70	1.73	0.64	774	2.60	1.66	0.64	810
24	20	3.06	1.59	0.52	739	2.94	1.53	0.52	783	2.85	1.48	0.52	801	2.75	1.43	0.52	836
24	22	3.19	1.28	0.40	766	3.08	1.23	0.40	814	3.00	1.20	0.40	836	2.88	1.15	0.40	871
24	24	3.35	0.94	0.28	801	3.23	0.90	0.28	845	3.15	0.88	0.28	871	3.05	0.85	0.28	915
25	20	3.06	1.72	0.56	739	2.94	1.65	0.56	783	2.85	1.60	0.56	801	2.75	1.54	0.56	836
25	22	3.19	1.40	0.44	766	3.08	1.35	0.44	814	3.00	1.32	0.44	836	2.88	1.27	0.44	871
25	24	3.35	1.07	0.32	801	3.23	1.03	0.32	845	3.15	1.01	0.32	871	3.05	0.98	0.32	915
26	18	2.94	2.12	0.72	704	2.81	2.03	0.72	739	2.70	1.94	0.72	774	2.60	1.87	0.72	810
26	20	3.06	1.84	0.60	739	2.94	1.76	0.60	783	2.85	1.71	0.60	801	2.75	1.65	0.60	836
26	22	3.19	1.53	0.48	766	3.08	1.48	0.48	814	3.00	1.44	0.48	836	2.88	1.38	0.48	871
26	24	3.35	1.21	0.36	801	3.23	1.16	0.36	845	3.15	1.13	0.36	871	3.05	1.10	0.36	915
26	26	3.45	0.83	0.24	845	3.35	0.80	0.24	889	3.30	0.79	0.24	915	3.20	0.77	0.24	942
27	18	2.94	2.23	0.76	704	2.81	2.14	0.76	739	2.70	2.05	0.76	774	2.60	1.98	0.76	810
27	20	3.06	1.96	0.64	739	2.94	1.88	0.64	783	2.85	1.82	0.64	801	2.75	1.76	0.64	836
27	22	3.19	1.66	0.52	766	3.08	1.60	0.52	814	3.00	1.56	0.52	836	2.88	1.50	0.52	871
27	24	3.35	1.34	0.40	801	3.23	1.29	0.40	845	3.15	1.26	0.40	871	3.05	1.22	0.40	915
27	26	3.45	0.97	0.28	845	3.35	0.94	0.28	889	3.30	0.92	0.28	915	3.20	0.90	0.28	942
28	18	2.94	2.35	0.80	704	2.81	2.25	0.80	739	2.70	2.16	0.80	774	2.60	2.08	0.80	810
28	20	3.06	2.08	0.68	739	2.94	2.00	0.68	783	2.85	1.94	0.68	801	2.75	1.87	0.68	836
28	22	3.19	1.79	0.56	766	3.08	1.72	0.56	814	3.00	1.68	0.56	836	2.88	1.61	0.56	871
28	24	3.35	1.47	0.44	801	3.23	1.42	0.44	845	3.15	1.39	0.44	871	3.05	1.34	0.44	915
28	26	3.45	1.10	0.32	845	3.35	1.07	0.32	889	3.30	1.06	0.32	915	3.20	1.02	0.32	942
29	18	2.94	2.47	0.84	704	2.81	2.36	0.84	739	2.70	2.27	0.84	774	2.60	2.18	0.84	810
29	20	3.06	2.21	0.72	739	2.94	2.12	0.72	783	2.85	2.05	0.72	801	2.75	1.98	0.72	836
29	22	3.19	1.91	0.60	766	3.08	1.85	0.60	814	3.00	1.80	0.60	836	2.88	1.73	0.60	871
29	24	3.35	1.61	0.48	801	3.23	1.55	0.48	845	3.15	1.51	0.48	871	3.05	1.46	0.48	915
29	26	3.45	1.24	0.36	845	3.35	1.21	0.36	889	3.30	1.19	0.36	915	3.20	1.15	0.36	942
30	18	2.94	2.59	0.88	704	2.81	2.48	0.88	739	2.70	2.38	0.88	774	2.60	2.29	0.88	810
30	20	3.06	2.33	0.76	739	2.94	2.23	0.76	783	2.85	2.17	0.76	801	2.75	2.09	0.76	836
30	22	3.19	2.04	0.64	766	3.08	1.97	0.64	814	3.00	1.92	0.64	836	2.88	1.84	0.64	871
30	24	3.35	1.74	0.52	801	3.23	1.68	0.52	845	3.15	1.64	0.52	871	3.05	1.59	0.52	915
30	26	3.45	1.38	0.40	845	3.35	1.34	0.40	889	3.30	1.32	0.40	915	3.20	1.28	0.40	942
31	18	2.94	2.70	0.92	704	2.81	2.59	0.92	739	2.70	2.48	0.92	774	2.60	2.39	0.92	810
31	20	3.06	2.45	0.80	739	2.94	2.35	0.80	783	2.85	2.28	0.80	801	2.75	2.20	0.80	836
31	22	3.19	2.17	0.68	766	3.08	2.09	0.68	814	3.00	2.04	0.68	836	2.88	1.96	0.68	871
31	24	3.35	1.88	0.56	801	3.23	1.81	0.56	845	3.15	1.76	0.56	871	3.05	1.71	0.56	915
31	26	3.45	1.52	0.44	845	3.35	1.47	0.44	889	3.30	1.45	0.44	915	3.20	1.41	0.44	942
32	18	2.94	2.82	0.96	704	2.81	2.70	0.96	739	2.70	2.59	0.96	774	2.60	2.50	0.96	810
32	20	3.06	2.57	0.84	739	2.94	2.47	0.84	783	2.85	2.39	0.84	801	2.75	2.31	0.84	836
32	22	3.19	2.30	0.72	766	3.08	2.21	0.72	814	3.00	2.16	0.72	836	2.88	2.07	0.72	871
32	24	3.35	2.01	0.60	801	3.23	1.94	0.60	845	3.15	1.89	0.60	871	3.05	1.83	0.60	915
32	26	3.45	1.66	0.48	845	3.35	1.61	0.48	889	3.30	1.58	0.48	915	3.20	1.54	0.48	942

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-09RV -E1 : MUH-09RV -E1

CAPACITY : 2.5 kW INPUT : 880 W SHF : 0.7

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.45	1.27	0.52	862	2.25	1.17	0.52	915	2.16	1.12	0.52	933
21	20	2.58	1.03	0.40	898	2.40	0.96	0.40	942	2.31	0.93	0.40	968
22	18	2.45	1.37	0.56	862	2.25	1.26	0.56	915	2.16	1.21	0.56	933
22	20	2.58	1.13	0.44	898	2.40	1.06	0.44	942	2.31	1.02	0.44	968
22	22	2.73	0.87	0.32	933	2.55	0.82	0.32	986	2.46	0.79	0.32	1003
23	18	2.45	1.47	0.60	862	2.25	1.35	0.60	915	2.16	1.30	0.60	933
23	20	2.58	1.24	0.48	898	2.40	1.15	0.48	942	2.31	1.11	0.48	968
23	22	2.73	0.98	0.36	933	2.55	0.92	0.36	986	2.46	0.89	0.36	1003
24	18	2.45	1.57	0.64	862	2.25	1.44	0.64	915	2.16	1.38	0.64	933
24	20	2.58	1.34	0.52	898	2.40	1.25	0.52	942	2.31	1.20	0.52	968
24	22	2.73	1.09	0.40	933	2.55	1.02	0.40	986	2.46	0.99	0.40	1003
24	24	2.88	0.81	0.28	968	2.70	0.76	0.28	1012	2.63	0.74	0.28	1034
25	20	2.58	1.44	0.56	898	2.40	1.34	0.56	942	2.31	1.30	0.56	968
25	22	2.73	1.20	0.44	933	2.55	1.12	0.44	986	2.46	1.08	0.44	1003
25	24	2.88	0.92	0.32	968	2.70	0.86	0.32	1012	2.63	0.84	0.32	1034
26	18	2.45	1.76	0.72	862	2.25	1.62	0.72	915	2.16	1.56	0.72	933
26	20	2.58	1.55	0.60	898	2.40	1.44	0.60	942	2.31	1.39	0.60	968
26	22	2.73	1.31	0.48	933	2.55	1.22	0.48	986	2.46	1.18	0.48	1003
26	24	2.88	1.04	0.36	968	2.70	0.97	0.36	1012	2.63	0.95	0.36	1034
26	26	3.03	0.73	0.24	1003	2.85	0.68	0.24	1047	2.76	0.66	0.24	1069
27	18	2.45	1.86	0.76	862	2.25	1.71	0.76	915	2.16	1.64	0.76	933
27	20	2.58	1.65	0.64	898	2.40	1.54	0.64	942	2.31	1.48	0.64	968
27	22	2.73	1.42	0.52	933	2.55	1.33	0.52	986	2.46	1.28	0.52	1003
27	24	2.88	1.15	0.40	968	2.70	1.08	0.40	1012	2.63	1.05	0.40	1034
27	26	3.03	0.85	0.28	1003	2.85	0.80	0.28	1047	2.76	0.77	0.28	1069
28	18	2.45	1.96	0.80	862	2.25	1.80	0.80	915	2.16	1.73	0.80	933
28	20	2.58	1.75	0.68	898	2.40	1.63	0.68	942	2.31	1.57	0.68	968
28	22	2.73	1.53	0.56	933	2.55	1.43	0.56	986	2.46	1.38	0.56	1003
28	24	2.88	1.27	0.44	968	2.70	1.19	0.44	1012	2.63	1.16	0.44	1034
28	26	3.03	0.97	0.32	1003	2.85	0.91	0.32	1047	2.76	0.88	0.32	1069
29	18	2.45	2.06	0.84	862	2.25	1.89	0.84	915	2.16	1.82	0.84	933
29	20	2.58	1.85	0.72	898	2.40	1.73	0.72	942	2.31	1.67	0.72	968
29	22	2.73	1.64	0.60	933	2.55	1.53	0.60	986	2.46	1.48	0.60	1003
29	24	2.88	1.38	0.48	968	2.70	1.30	0.48	1012	2.63	1.26	0.48	1034
29	26	3.03	1.09	0.36	1003	2.85	1.03	0.36	1047	2.76	0.99	0.36	1069
30	18	2.45	2.16	0.88	862	2.25	1.98	0.88	915	2.16	1.90	0.88	933
30	20	2.58	1.96	0.76	898	2.40	1.82	0.76	942	2.31	1.76	0.76	968
30	22	2.73	1.74	0.64	933	2.55	1.63	0.64	986	2.46	1.58	0.64	1003
30	24	2.88	1.50	0.52	968	2.70	1.40	0.52	1012	2.63	1.37	0.52	1034
30	26	3.03	1.21	0.40	1003	2.85	1.14	0.40	1047	2.76	1.11	0.40	1069
31	18	2.45	2.25	0.92	862	2.25	2.07	0.92	915	2.16	1.99	0.92	933
31	20	2.58	2.06	0.80	898	2.40	1.92	0.80	942	2.31	1.85	0.80	968
31	22	2.73	1.85	0.68	933	2.55	1.73	0.68	986	2.46	1.67	0.68	1003
31	24	2.88	1.61	0.56	968	2.70	1.51	0.56	1012	2.63	1.47	0.56	1034
31	26	3.03	1.33	0.44	1003	2.85	1.25	0.44	1047	2.76	1.22	0.44	1069
32	18	2.45	2.35	0.96	862	2.25	2.16	0.96	915	2.16	2.08	0.96	933
32	20	2.58	2.16	0.84	898	2.40	2.02	0.84	942	2.31	1.94	0.84	968
32	22	2.73	1.96	0.72	933	2.55	1.84	0.72	986	2.46	1.77	0.72	1003
32	24	2.88	1.73	0.60	968	2.70	1.62	0.60	1012	2.63	1.58	0.60	1034
32	26	3.03	1.45	0.48	1003	2.85	1.37	0.48	1047	2.76	1.33	0.48	1069

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-09RV -E1 : MUH-09RV -E1

CAPACITY : 2.5 kW INPUT : 920 W SHF : 0.7

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.94	1.53	0.52	736	2.81	1.46	0.52	773	2.70	1.40	0.52	810	2.60	1.35	0.52	846
21	20	3.06	1.23	0.40	773	2.94	1.18	0.40	819	2.85	1.14	0.40	837	2.75	1.10	0.40	874
22	18	2.94	1.65	0.56	736	2.81	1.58	0.56	773	2.70	1.51	0.56	810	2.60	1.46	0.56	846
22	20	3.06	1.35	0.44	773	2.94	1.29	0.44	819	2.85	1.25	0.44	837	2.75	1.21	0.44	874
22	22	3.19	1.02	0.32	800	3.08	0.98	0.32	851	3.00	0.96	0.32	874	2.88	0.92	0.32	911
23	18	2.94	1.76	0.60	736	2.81	1.69	0.60	773	2.70	1.62	0.60	810	2.60	1.56	0.60	846
23	20	3.06	1.47	0.48	773	2.94	1.41	0.48	819	2.85	1.37	0.48	837	2.75	1.32	0.48	874
23	22	3.19	1.15	0.36	800	3.08	1.11	0.36	851	3.00	1.08	0.36	874	2.88	1.04	0.36	911
24	18	2.94	1.88	0.64	736	2.81	1.80	0.64	773	2.70	1.73	0.64	810	2.60	1.66	0.64	846
24	20	3.06	1.59	0.52	773	2.94	1.53	0.52	819	2.85	1.48	0.52	837	2.75	1.43	0.52	874
24	22	3.19	1.28	0.40	800	3.08	1.23	0.40	851	3.00	1.20	0.40	874	2.88	1.15	0.40	911
24	24	3.35	0.94	0.28	837	3.23	0.90	0.28	883	3.15	0.88	0.28	911	3.05	0.85	0.28	957
25	20	3.06	1.72	0.56	773	2.94	1.65	0.56	819	2.85	1.60	0.56	837	2.75	1.54	0.56	874
25	22	3.19	1.40	0.44	800	3.08	1.35	0.44	851	3.00	1.32	0.44	874	2.88	1.27	0.44	911
25	24	3.35	1.07	0.32	837	3.23	1.03	0.32	883	3.15	1.01	0.32	911	3.05	0.98	0.32	957
26	18	2.94	2.12	0.72	736	2.81	2.03	0.72	773	2.70	1.94	0.72	810	2.60	1.87	0.72	846
26	20	3.06	1.84	0.60	773	2.94	1.76	0.60	819	2.85	1.71	0.60	837	2.75	1.65	0.60	874
26	22	3.19	1.53	0.48	800	3.08	1.48	0.48	851	3.00	1.44	0.48	874	2.88	1.38	0.48	911
26	24	3.35	1.21	0.36	837	3.23	1.16	0.36	883	3.15	1.13	0.36	911	3.05	1.10	0.36	957
26	26	3.45	0.83	0.24	883	3.35	0.80	0.24	929	3.30	0.79	0.24	957	3.20	0.77	0.24	984
27	18	2.94	2.23	0.76	736	2.81	2.14	0.76	773	2.70	2.05	0.76	810	2.60	1.98	0.76	846
27	20	3.06	1.96	0.64	773	2.94	1.88	0.64	819	2.85	1.82	0.64	837	2.75	1.76	0.64	874
27	22	3.19	1.66	0.52	800	3.08	1.60	0.52	851	3.00	1.56	0.52	874	2.88	1.50	0.52	911
27	24	3.35	1.34	0.40	837	3.23	1.29	0.40	883	3.15	1.26	0.40	911	3.05	1.22	0.40	957
27	26	3.45	0.97	0.28	883	3.35	0.94	0.28	929	3.30	0.92	0.28	957	3.20	0.90	0.28	984
28	18	2.94	2.35	0.80	736	2.81	2.25	0.80	773	2.70	2.16	0.80	810	2.60	2.08	0.80	846
28	20	3.06	2.08	0.68	773	2.94	2.00	0.68	819	2.85	1.94	0.68	837	2.75	1.87	0.68	874
28	22	3.19	1.79	0.56	800	3.08	1.72	0.56	851	3.00	1.68	0.56	874	2.88	1.61	0.56	911
28	24	3.35	1.47	0.44	837	3.23	1.42	0.44	883	3.15	1.39	0.44	911	3.05	1.34	0.44	957
28	26	3.45	1.10	0.32	883	3.35	1.07	0.32	929	3.30	1.06	0.32	957	3.20	1.02	0.32	984
29	18	2.94	2.47	0.84	736	2.81	2.36	0.84	773	2.70	2.27	0.84	810	2.60	2.18	0.84	846
29	20	3.06	2.21	0.72	773	2.94	2.12	0.72	819	2.85	2.05	0.72	837	2.75	1.98	0.72	874
29	22	3.19	1.91	0.60	800	3.08	1.85	0.60	851	3.00	1.80	0.60	874	2.88	1.73	0.60	911
29	24	3.35	1.61	0.48	837	3.23	1.55	0.48	883	3.15	1.51	0.48	911	3.05	1.46	0.48	957
29	26	3.45	1.24	0.36	883	3.35	1.21	0.36	929	3.30	1.19	0.36	957	3.20	1.15	0.36	984
30	18	2.94	2.59	0.88	736	2.81	2.48	0.88	773	2.70	2.38	0.88	810	2.60	2.29	0.88	846
30	20	3.06	2.33	0.76	773	2.94	2.23	0.76	819	2.85	2.17	0.76	837	2.75	2.09	0.76	874
30	22	3.19	2.04	0.64	800	3.08	1.97	0.64	851	3.00	1.92	0.64	874	2.88	1.84	0.64	911
30	24	3.35	1.74	0.52	837	3.23	1.68	0.52	883	3.15	1.64	0.52	911	3.05	1.59	0.52	957
30	26	3.45	1.38	0.40	883	3.35	1.34	0.40	929	3.30	1.32	0.40	957	3.20	1.28	0.40	984
31	18	2.94	2.70	0.92	736	2.81	2.59	0.92	773	2.70	2.48	0.92	810	2.60	2.39	0.92	846
31	20	3.06	2.45	0.80	773	2.94	2.35	0.80	819	2.85	2.28	0.80	837	2.75	2.20	0.80	874
31	22	3.19	2.17	0.68	800	3.08	2.09	0.68	851	3.00	2.04	0.68	874	2.88	1.96	0.68	911
31	24	3.35	1.88	0.56	837	3.23	1.81	0.56	883	3.15	1.76	0.56	911	3.05	1.71	0.56	957
31	26	3.45	1.52	0.44	883	3.35	1.47	0.44	929	3.30	1.45	0.44	957	3.20	1.41	0.44	984
32	18	2.94	2.82	0.96	736	2.81	2.70	0.96	773	2.70	2.59	0.96	810	2.60	2.50	0.96	846
32	20	3.06	2.57	0.84	773	2.94	2.47	0.84	819	2.85	2.39	0.84	837	2.75	2.31	0.84	874
32	22	3.19	2.30	0.72	800	3.08	2.21	0.72	851	3.00	2.16	0.72	874	2.88	2.07	0.72	911
32	24	3.35	2.01	0.60	837	3.23	1.94	0.60	883	3.15	1.89	0.60	911	3.05	1.83	0.60	957
32	26	3.45	1.66	0.48	883	3.35	1.61	0.48	929	3.30	1.58	0.48	957	3.20	1.54	0.48	984

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-09RV -E1 : MUH-09RV -E1

CAPACITY : 2.5 kW INPUT : 920 W SHF : 0.7

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.45	1.27	0.52	902	2.25	1.17	0.52	957	2.16	1.12	0.52	975
21	20	2.58	1.03	0.40	938	2.40	0.96	0.40	984	2.31	0.93	0.40	1012
22	18	2.45	1.37	0.56	902	2.25	1.26	0.56	957	2.16	1.21	0.56	975
22	20	2.58	1.13	0.44	938	2.40	1.06	0.44	984	2.31	1.02	0.44	1012
22	22	2.73	0.87	0.32	975	2.55	0.82	0.32	1030	2.46	0.79	0.32	1049
23	18	2.45	1.47	0.60	902	2.25	1.35	0.60	957	2.16	1.30	0.60	975
23	20	2.58	1.24	0.48	938	2.40	1.15	0.48	984	2.31	1.11	0.48	1012
23	22	2.73	0.98	0.36	975	2.55	0.92	0.36	1030	2.46	0.89	0.36	1049
24	18	2.45	1.57	0.64	902	2.25	1.44	0.64	957	2.16	1.38	0.64	975
24	20	2.58	1.34	0.52	938	2.40	1.25	0.52	984	2.31	1.20	0.52	1012
24	22	2.73	1.09	0.40	975	2.55	1.02	0.40	1030	2.46	0.99	0.40	1049
24	24	2.88	0.81	0.28	1012	2.70	0.76	0.28	1058	2.63	0.74	0.28	1081
25	20	2.58	1.44	0.56	938	2.40	1.34	0.56	984	2.31	1.30	0.56	1012
25	22	2.73	1.20	0.44	975	2.55	1.12	0.44	1030	2.46	1.08	0.44	1049
25	24	2.88	0.92	0.32	1012	2.70	0.86	0.32	1058	2.63	0.84	0.32	1081
26	18	2.45	1.76	0.72	902	2.25	1.62	0.72	957	2.16	1.56	0.72	975
26	20	2.58	1.55	0.60	938	2.40	1.44	0.60	984	2.31	1.39	0.60	1012
26	22	2.73	1.31	0.48	975	2.55	1.22	0.48	1030	2.46	1.18	0.48	1049
26	24	2.88	1.04	0.36	1012	2.70	0.97	0.36	1058	2.63	0.95	0.36	1081
26	26	3.03	0.73	0.24	1049	2.85	0.68	0.24	1095	2.76	0.66	0.24	1118
27	18	2.45	1.86	0.76	902	2.25	1.71	0.76	957	2.16	1.64	0.76	975
27	20	2.58	1.65	0.64	938	2.40	1.54	0.64	984	2.31	1.48	0.64	1012
27	22	2.73	1.42	0.52	975	2.55	1.33	0.52	1030	2.46	1.28	0.52	1049
27	24	2.88	1.15	0.40	1012	2.70	1.08	0.40	1058	2.63	1.05	0.40	1081
27	26	3.03	0.85	0.28	1049	2.85	0.80	0.28	1095	2.76	0.77	0.28	1118
28	18	2.45	1.96	0.80	902	2.25	1.80	0.80	957	2.16	1.73	0.80	975
28	20	2.58	1.75	0.68	938	2.40	1.63	0.68	984	2.31	1.57	0.68	1012
28	22	2.73	1.53	0.56	975	2.55	1.43	0.56	1030	2.46	1.38	0.56	1049
28	24	2.88	1.27	0.44	1012	2.70	1.19	0.44	1058	2.63	1.16	0.44	1081
28	26	3.03	0.97	0.32	1049	2.85	0.91	0.32	1095	2.76	0.88	0.32	1118
29	18	2.45	2.06	0.84	902	2.25	1.89	0.84	957	2.16	1.82	0.84	975
29	20	2.58	1.85	0.72	938	2.40	1.73	0.72	984	2.31	1.67	0.72	1012
29	22	2.73	1.64	0.60	975	2.55	1.53	0.60	1030	2.46	1.48	0.60	1049
29	24	2.88	1.38	0.48	1012	2.70	1.30	0.48	1058	2.63	1.26	0.48	1081
29	26	3.03	1.09	0.36	1049	2.85	1.03	0.36	1095	2.76	0.99	0.36	1118
30	18	2.45	2.16	0.88	902	2.25	1.98	0.88	957	2.16	1.90	0.88	975
30	20	2.58	1.96	0.76	938	2.40	1.82	0.76	984	2.31	1.76	0.76	1012
30	22	2.73	1.74	0.64	975	2.55	1.63	0.64	1030	2.46	1.58	0.64	1049
30	24	2.88	1.50	0.52	1012	2.70	1.40	0.52	1058	2.63	1.37	0.52	1081
30	26	3.03	1.21	0.40	1049	2.85	1.14	0.40	1095	2.76	1.11	0.40	1118
31	18	2.45	2.25	0.92	902	2.25	2.07	0.92	957	2.16	1.99	0.92	975
31	20	2.58	2.06	0.80	938	2.40	1.92	0.80	984	2.31	1.85	0.80	1012
31	22	2.73	1.85	0.68	975	2.55	1.73	0.68	1030	2.46	1.67	0.68	1049
31	24	2.88	1.61	0.56	1012	2.70	1.51	0.56	1058	2.63	1.47	0.56	1081
31	26	3.03	1.33	0.44	1049	2.85	1.25	0.44	1095	2.76	1.22	0.44	1118
32	18	2.45	2.35	0.96	902	2.25	2.16	0.96	957	2.16	2.08	0.96	975
32	20	2.58	2.16	0.84	938	2.40	2.02	0.84	984	2.31	1.94	0.84	1012
32	22	2.73	1.96	0.72	975	2.55	1.84	0.72	1030	2.46	1.77	0.72	1049
32	24	2.88	1.73	0.60	1012	2.70	1.62	0.60	1058	2.63	1.58	0.60	1081
32	26	3.03	1.45	0.48	1049	2.85	1.37	0.48	1095	2.76	1.33	0.48	1118

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-12RV -E1 : MUH-12RV -E1

CAPACITY : 3.4 kW INPUT : 1220 W SHF : 0.67

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	4.00	1.96	0.49	976	3.83	1.87	0.49	1025	3.67	1.80	0.49	1074	3.54	1.73	0.49	1122
21	20	4.17	1.54	0.37	1025	4.00	1.48	0.37	1086	3.88	1.43	0.37	1110	3.74	1.38	0.37	1159
22	18	4.00	2.12	0.53	976	3.83	2.03	0.53	1025	3.67	1.95	0.53	1074	3.54	1.87	0.53	1122
22	20	4.17	1.71	0.41	1025	4.00	1.64	0.41	1086	3.88	1.59	0.41	1110	3.74	1.53	0.41	1159
22	22	4.34	1.26	0.29	1061	4.18	1.21	0.29	1129	4.08	1.18	0.29	1159	3.91	1.13	0.29	1208
23	18	4.00	2.28	0.57	976	3.83	2.18	0.57	1025	3.67	2.09	0.57	1074	3.54	2.02	0.57	1122
23	20	4.17	1.87	0.45	1025	4.00	1.80	0.45	1086	3.88	1.74	0.45	1110	3.74	1.68	0.45	1159
23	22	4.34	1.43	0.33	1061	4.18	1.38	0.33	1129	4.08	1.35	0.33	1159	3.91	1.29	0.33	1208
24	18	4.00	2.44	0.61	976	3.83	2.33	0.61	1025	3.67	2.24	0.61	1074	3.54	2.16	0.61	1122
24	20	4.17	2.04	0.49	1025	4.00	1.96	0.49	1086	3.88	1.90	0.49	1110	3.74	1.83	0.49	1159
24	22	4.34	1.60	0.37	1061	4.18	1.55	0.37	1129	4.08	1.51	0.37	1159	3.91	1.45	0.37	1208
24	24	4.56	1.14	0.25	1110	4.39	1.10	0.25	1171	4.28	1.07	0.25	1208	4.15	1.04	0.25	1269
25	20	4.17	2.21	0.53	1025	4.00	2.12	0.53	1086	3.88	2.05	0.53	1110	3.74	1.98	0.53	1159
25	22	4.34	1.78	0.41	1061	4.18	1.71	0.41	1129	4.08	1.67	0.41	1159	3.91	1.60	0.41	1208
25	24	4.56	1.32	0.29	1110	4.39	1.27	0.29	1171	4.28	1.24	0.29	1208	4.15	1.20	0.29	1269
26	18	4.00	2.76	0.69	976	3.83	2.64	0.69	1025	3.67	2.53	0.69	1074	3.54	2.44	0.69	1122
26	20	4.17	2.37	0.57	1025	4.00	2.28	0.57	1086	3.88	2.21	0.57	1110	3.74	2.13	0.57	1159
26	22	4.34	1.95	0.45	1061	4.18	1.88	0.45	1129	4.08	1.84	0.45	1159	3.91	1.76	0.45	1208
26	24	4.56	1.50	0.33	1110	4.39	1.45	0.33	1171	4.28	1.41	0.33	1208	4.15	1.37	0.33	1269
26	26	4.69	0.99	0.21	1171	4.56	0.96	0.21	1232	4.49	0.94	0.21	1269	4.35	0.91	0.21	1305
27	18	4.00	2.92	0.73	976	3.83	2.79	0.73	1025	3.67	2.68	0.73	1074	3.54	2.58	0.73	1122
27	20	4.17	2.54	0.61	1025	4.00	2.44	0.61	1086	3.88	2.36	0.61	1110	3.74	2.28	0.61	1159
27	22	4.34	2.12	0.49	1061	4.18	2.05	0.49	1129	4.08	2.00	0.49	1159	3.91	1.92	0.49	1208
27	24	4.56	1.69	0.37	1110	4.39	1.62	0.37	1171	4.28	1.59	0.37	1208	4.15	1.53	0.37	1269
27	26	4.69	1.17	0.25	1171	4.56	1.14	0.25	1232	4.49	1.12	0.25	1269	4.35	1.09	0.25	1305
28	18	4.00	3.08	0.77	976	3.83	2.95	0.77	1025	3.67	2.83	0.77	1074	3.54	2.72	0.77	1122
28	20	4.17	2.71	0.65	1025	4.00	2.60	0.65	1086	3.88	2.52	0.65	1110	3.74	2.43	0.65	1159
28	22	4.34	2.30	0.53	1061	4.18	2.22	0.53	1129	4.08	2.16	0.53	1159	3.91	2.07	0.53	1208
28	24	4.56	1.87	0.41	1110	4.39	1.80	0.41	1171	4.28	1.76	0.41	1208	4.15	1.70	0.41	1269
28	26	4.69	1.36	0.29	1171	4.56	1.32	0.29	1232	4.49	1.30	0.29	1269	4.35	1.26	0.29	1305
29	18	4.00	3.24	0.81	976	3.83	3.10	0.81	1025	3.67	2.97	0.81	1074	3.54	2.86	0.81	1122
29	20	4.17	2.87	0.69	1025	4.00	2.76	0.69	1086	3.88	2.67	0.69	1110	3.74	2.58	0.69	1159
29	22	4.34	2.47	0.57	1061	4.18	2.38	0.57	1129	4.08	2.33	0.57	1159	3.91	2.23	0.57	1208
29	24	4.56	2.05	0.45	1110	4.39	1.97	0.45	1171	4.28	1.93	0.45	1208	4.15	1.87	0.45	1269
29	26	4.69	1.55	0.33	1171	4.56	1.50	0.33	1232	4.49	1.48	0.33	1269	4.35	1.44	0.33	1305
30	18	4.00	3.40	0.85	976	3.83	3.25	0.85	1025	3.67	3.12	0.85	1074	3.54	3.01	0.85	1122
30	20	4.17	3.04	0.73	1025	4.00	2.92	0.73	1086	3.88	2.83	0.73	1110	3.74	2.73	0.73	1159
30	22	4.34	2.64	0.61	1061	4.18	2.55	0.61	1129	4.08	2.49	0.61	1159	3.91	2.39	0.61	1208
30	24	4.56	2.23	0.49	1110	4.39	2.15	0.49	1171	4.28	2.10	0.49	1208	4.15	2.03	0.49	1269
30	26	4.69	1.74	0.37	1171	4.56	1.69	0.37	1232	4.49	1.66	0.37	1269	4.35	1.61	0.37	1305
31	18	4.00	3.56	0.89	976	3.83	3.40	0.89	1025	3.67	3.27	0.89	1074	3.54	3.15	0.89	1122
31	20	4.17	3.21	0.77	1025	4.00	3.08	0.77	1086	3.88	2.98	0.77	1110	3.74	2.88	0.77	1159
31	22	4.34	2.82	0.65	1061	4.18	2.72	0.65	1129	4.08	2.65	0.65	1159	3.91	2.54	0.65	1208
31	24	4.56	2.41	0.53	1110	4.39	2.32	0.53	1171	4.28	2.27	0.53	1208	4.15	2.20	0.53	1269
31	26	4.69	1.92	0.41	1171	4.56	1.87	0.41	1232	4.49	1.84	0.41	1269	4.35	1.78	0.41	1305
32	18	4.00	3.72	0.93	976	3.83	3.56	0.93	1025	3.67	3.41	0.93	1074	3.54	3.29	0.93	1122
32	20	4.17	3.37	0.81	1025	4.00	3.24	0.81	1086	3.88	3.14	0.81	1110	3.74	3.03	0.81	1159
32	22	4.34	2.99	0.69	1061	4.18	2.89	0.69	1129	4.08	2.82	0.69	1159	3.91	2.70	0.69	1208
32	24	4.56	2.60	0.57	1110	4.39	2.50	0.57	1171	4.28	2.44	0.57	1208	4.15	2.36	0.57	1269
32	26	4.69	2.11	0.45	1171	4.56	2.05	0.45	1232	4.49	2.02	0.45	1269	4.35	1.96	0.45	1305

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-12RV -E1 : MUH-12RV -E1

CAPACITY : 3.4 kW INPUT : 1220 W SHF : 0.67

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	3.33	1.63	0.49	1196	3.06	1.50	0.49	1269	2.94	1.44	0.49	1293
21	20	3.50	1.30	0.37	1244	3.26	1.21	0.37	1305	3.15	1.16	0.37	1342
22	18	3.33	1.77	0.53	1196	3.06	1.62	0.53	1269	2.94	1.56	0.53	1293
22	20	3.50	1.44	0.41	1244	3.26	1.34	0.41	1305	3.15	1.29	0.41	1342
22	22	3.71	1.07	0.29	1293	3.47	1.01	0.29	1366	3.35	0.97	0.29	1391
23	18	3.33	1.90	0.57	1196	3.06	1.74	0.57	1269	2.94	1.68	0.57	1293
23	20	3.50	1.58	0.45	1244	3.26	1.47	0.45	1305	3.15	1.42	0.45	1342
23	22	3.71	1.22	0.33	1293	3.47	1.14	0.33	1366	3.35	1.11	0.33	1391
24	18	3.33	2.03	0.61	1196	3.06	1.87	0.61	1269	2.94	1.79	0.61	1293
24	20	3.50	1.72	0.49	1244	3.26	1.60	0.49	1305	3.15	1.54	0.49	1342
24	22	3.71	1.37	0.37	1293	3.47	1.28	0.37	1366	3.35	1.24	0.37	1391
24	24	3.91	0.98	0.25	1342	3.67	0.92	0.25	1403	3.57	0.89	0.25	1434
25	20	3.50	1.86	0.53	1244	3.26	1.73	0.53	1305	3.15	1.67	0.53	1342
25	22	3.71	1.52	0.41	1293	3.47	1.42	0.41	1366	3.35	1.37	0.41	1391
25	24	3.91	1.13	0.29	1342	3.67	1.06	0.29	1403	3.57	1.04	0.29	1434
26	18	3.33	2.30	0.69	1196	3.06	2.11	0.69	1269	2.94	2.03	0.69	1293
26	20	3.50	2.00	0.57	1244	3.26	1.86	0.57	1305	3.15	1.79	0.57	1342
26	22	3.71	1.67	0.45	1293	3.47	1.56	0.45	1366	3.35	1.51	0.45	1391
26	24	3.91	1.29	0.33	1342	3.67	1.21	0.33	1403	3.57	1.18	0.33	1434
26	26	4.11	0.86	0.21	1391	3.88	0.81	0.21	1452	3.76	0.79	0.21	1482
27	18	3.33	2.43	0.73	1196	3.06	2.23	0.73	1269	2.94	2.15	0.73	1293
27	20	3.50	2.14	0.61	1244	3.26	1.99	0.61	1305	3.15	1.92	0.61	1342
27	22	3.71	1.82	0.49	1293	3.47	1.70	0.49	1366	3.35	1.64	0.49	1391
27	24	3.91	1.45	0.37	1342	3.67	1.36	0.37	1403	3.57	1.32	0.37	1434
27	26	4.11	1.03	0.25	1391	3.88	0.97	0.25	1452	3.76	0.94	0.25	1482
28	18	3.33	2.57	0.77	1196	3.06	2.36	0.77	1269	2.94	2.26	0.77	1293
28	20	3.50	2.28	0.65	1244	3.26	2.12	0.65	1305	3.15	2.04	0.65	1342
28	22	3.71	1.96	0.53	1293	3.47	1.84	0.53	1366	3.35	1.77	0.53	1391
28	24	3.91	1.60	0.41	1342	3.67	1.51	0.41	1403	3.57	1.46	0.41	1434
28	26	4.11	1.19	0.29	1391	3.88	1.12	0.29	1452	3.76	1.09	0.29	1482
29	18	3.33	2.70	0.81	1196	3.06	2.48	0.81	1269	2.94	2.38	0.81	1293
29	20	3.50	2.42	0.69	1244	3.26	2.25	0.69	1305	3.15	2.17	0.69	1342
29	22	3.71	2.11	0.57	1293	3.47	1.98	0.57	1366	3.35	1.91	0.57	1391
29	24	3.91	1.76	0.45	1342	3.67	1.65	0.45	1403	3.57	1.61	0.45	1434
29	26	4.11	1.36	0.33	1391	3.88	1.28	0.33	1452	3.76	1.24	0.33	1482
30	18	3.33	2.83	0.85	1196	3.06	2.60	0.85	1269	2.94	2.50	0.85	1293
30	20	3.50	2.56	0.73	1244	3.26	2.38	0.73	1305	3.15	2.30	0.73	1342
30	22	3.71	2.26	0.61	1293	3.47	2.12	0.61	1366	3.35	2.04	0.61	1391
30	24	3.91	1.92	0.49	1342	3.67	1.80	0.49	1403	3.57	1.75	0.49	1434
30	26	4.11	1.52	0.37	1391	3.88	1.43	0.37	1452	3.76	1.39	0.37	1482
31	18	3.33	2.97	0.89	1196	3.06	2.72	0.89	1269	2.94	2.62	0.89	1293
31	20	3.50	2.70	0.77	1244	3.26	2.51	0.77	1305	3.15	2.42	0.77	1342
31	22	3.71	2.41	0.65	1293	3.47	2.25	0.65	1366	3.35	2.18	0.65	1391
31	24	3.91	2.07	0.53	1342	3.67	1.95	0.53	1403	3.57	1.89	0.53	1434
31	26	4.11	1.69	0.41	1391	3.88	1.59	0.41	1452	3.76	1.54	0.41	1482
32	18	3.33	3.10	0.93	1196	3.06	2.85	0.93	1269	2.94	2.74	0.93	1293
32	20	3.50	2.84	0.81	1244	3.26	2.64	0.81	1305	3.15	2.55	0.81	1342
32	22	3.71	2.56	0.69	1293	3.47	2.39	0.69	1366	3.35	2.31	0.69	1391
32	24	3.91	2.23	0.57	1342	3.67	2.09	0.57	1403	3.57	2.03	0.57	1434
32	26	4.11	1.85	0.45	1391	3.88	1.74	0.45	1452	3.76	1.69	0.45	1482

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-12RV -E1 : MUH-12RV -E1

CAPACITY : 3.4 kW INPUT : 1300 W SHF : 0.67

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	4.00	1.96	0.49	1040	3.83	1.87	0.49	1092	3.67	1.80	0.49	1144	3.54	1.73	0.49	1196
21	20	4.17	1.54	0.37	1092	4.00	1.48	0.37	1157	3.88	1.43	0.37	1183	3.74	1.38	0.37	1235
22	18	4.00	2.12	0.53	1040	3.83	2.03	0.53	1092	3.67	1.95	0.53	1144	3.54	1.87	0.53	1196
22	20	4.17	1.71	0.41	1092	4.00	1.64	0.41	1157	3.88	1.59	0.41	1183	3.74	1.53	0.41	1235
22	22	4.34	1.26	0.29	1131	4.18	1.21	0.29	1203	4.08	1.18	0.29	1235	3.91	1.13	0.29	1287
23	18	4.00	2.28	0.57	1040	3.83	2.18	0.57	1092	3.67	2.09	0.57	1144	3.54	2.02	0.57	1196
23	20	4.17	1.87	0.45	1092	4.00	1.80	0.45	1157	3.88	1.74	0.45	1183	3.74	1.68	0.45	1235
23	22	4.34	1.43	0.33	1131	4.18	1.38	0.33	1203	4.08	1.35	0.33	1235	3.91	1.29	0.33	1287
24	18	4.00	2.44	0.61	1040	3.83	2.33	0.61	1092	3.67	2.24	0.61	1144	3.54	2.16	0.61	1196
24	20	4.17	2.04	0.49	1092	4.00	1.96	0.49	1157	3.88	1.90	0.49	1183	3.74	1.83	0.49	1235
24	22	4.34	1.60	0.37	1131	4.18	1.55	0.37	1203	4.08	1.51	0.37	1235	3.91	1.45	0.37	1287
24	24	4.56	1.14	0.25	1183	4.39	1.10	0.25	1248	4.28	1.07	0.25	1287	4.15	1.04	0.25	1352
25	20	4.17	2.21	0.53	1092	4.00	2.12	0.53	1157	3.88	2.05	0.53	1183	3.74	1.98	0.53	1235
25	22	4.34	1.78	0.41	1131	4.18	1.71	0.41	1203	4.08	1.67	0.41	1235	3.91	1.60	0.41	1287
25	24	4.56	1.32	0.29	1183	4.39	1.27	0.29	1248	4.28	1.24	0.29	1287	4.15	1.20	0.29	1352
26	18	4.00	2.76	0.69	1040	3.83	2.64	0.69	1092	3.67	2.53	0.69	1144	3.54	2.44	0.69	1196
26	20	4.17	2.37	0.57	1092	4.00	2.28	0.57	1157	3.88	2.21	0.57	1183	3.74	2.13	0.57	1235
26	22	4.34	1.95	0.45	1131	4.18	1.88	0.45	1203	4.08	1.84	0.45	1235	3.91	1.76	0.45	1287
26	24	4.56	1.50	0.33	1183	4.39	1.45	0.33	1248	4.28	1.41	0.33	1287	4.15	1.37	0.33	1352
26	26	4.69	0.99	0.21	1248	4.56	0.96	0.21	1313	4.49	0.94	0.21	1352	4.35	0.91	0.21	1391
27	18	4.00	2.92	0.73	1040	3.83	2.79	0.73	1092	3.67	2.68	0.73	1144	3.54	2.58	0.73	1196
27	20	4.17	2.54	0.61	1092	4.00	2.44	0.61	1157	3.88	2.36	0.61	1183	3.74	2.28	0.61	1235
27	22	4.34	2.12	0.49	1131	4.18	2.05	0.49	1203	4.08	2.00	0.49	1235	3.91	1.92	0.49	1287
27	24	4.56	1.69	0.37	1183	4.39	1.62	0.37	1248	4.28	1.59	0.37	1287	4.15	1.53	0.37	1352
27	26	4.69	1.17	0.25	1248	4.56	1.14	0.25	1313	4.49	1.12	0.25	1352	4.35	1.09	0.25	1391
28	18	4.00	3.08	0.77	1040	3.83	2.95	0.77	1092	3.67	2.83	0.77	1144	3.54	2.72	0.77	1196
28	20	4.17	2.71	0.65	1092	4.00	2.60	0.65	1157	3.88	2.52	0.65	1183	3.74	2.43	0.65	1235
28	22	4.34	2.30	0.53	1131	4.18	2.22	0.53	1203	4.08	2.16	0.53	1235	3.91	2.07	0.53	1287
28	24	4.56	1.87	0.41	1183	4.39	1.80	0.41	1248	4.28	1.76	0.41	1287	4.15	1.70	0.41	1352
28	26	4.69	1.36	0.29	1248	4.56	1.32	0.29	1313	4.49	1.30	0.29	1352	4.35	1.26	0.29	1391
29	18	4.00	3.24	0.81	1040	3.83	3.10	0.81	1092	3.67	2.97	0.81	1144	3.54	2.86	0.81	1196
29	20	4.17	2.87	0.69	1092	4.00	2.76	0.69	1157	3.88	2.67	0.69	1183	3.74	2.58	0.69	1235
29	22	4.34	2.47	0.57	1131	4.18	2.38	0.57	1203	4.08	2.33	0.57	1235	3.91	2.23	0.57	1287
29	24	4.56	2.05	0.45	1183	4.39	1.97	0.45	1248	4.28	1.93	0.45	1287	4.15	1.87	0.45	1352
29	26	4.69	1.55	0.33	1248	4.56	1.50	0.33	1313	4.49	1.48	0.33	1352	4.35	1.44	0.33	1391
30	18	4.00	3.40	0.85	1040	3.83	3.25	0.85	1092	3.67	3.12	0.85	1144	3.54	3.01	0.85	1196
30	20	4.17	3.04	0.73	1092	4.00	2.92	0.73	1157	3.88	2.83	0.73	1183	3.74	2.73	0.73	1235
30	22	4.34	2.64	0.61	1131	4.18	2.55	0.61	1203	4.08	2.49	0.61	1235	3.91	2.39	0.61	1287
30	24	4.56	2.23	0.49	1183	4.39	2.15	0.49	1248	4.28	2.10	0.49	1287	4.15	2.03	0.49	1352
30	26	4.69	1.74	0.37	1248	4.56	1.69	0.37	1313	4.49	1.66	0.37	1352	4.35	1.61	0.37	1391
31	18	4.00	3.56	0.89	1040	3.83	3.40	0.89	1092	3.67	3.27	0.89	1144	3.54	3.15	0.89	1196
31	20	4.17	3.21	0.77	1092	4.00	3.08	0.77	1157	3.88	2.98	0.77	1183	3.74	2.88	0.77	1235
31	22	4.34	2.82	0.65	1131	4.18	2.72	0.65	1203	4.08	2.65	0.65	1235	3.91	2.54	0.65	1287
31	24	4.56	2.41	0.53	1183	4.39	2.32	0.53	1248	4.28	2.27	0.53	1287	4.15	2.20	0.53	1352
31	26	4.69	1.92	0.41	1248	4.56	1.87	0.41	1313	4.49	1.84	0.41	1352	4.35	1.78	0.41	1391
32	18	4.00	3.72	0.93	1040	3.83	3.56	0.93	1092	3.67	3.41	0.93	1144	3.54	3.29	0.93	1196
32	20	4.17	3.37	0.81	1092	4.00	3.24	0.81	1157	3.88	3.14	0.81	1183	3.74	3.03	0.81	1235
32	22	4.34	2.99	0.69	1131	4.18	2.89	0.69	1203	4.08	2.82	0.69	1235	3.91	2.70	0.69	1287
32	24	4.56	2.60	0.57	1183	4.39	2.50	0.57	1248	4.28	2.44	0.57	1287	4.15	2.36	0.57	1352
32	26	4.69	2.11	0.45	1248	4.56	2.05	0.45	1313	4.49	2.02	0.45	1352	4.35	1.96	0.45	1391

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-12RV -E1 : MUH-12RV -E1

CAPACITY : 3.4 kW INPUT : 1300 W SHF : 0.67

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	3.33	1.63	0.49	1274	3.06	1.50	0.49	1352	2.94	1.44	0.49	1378
21	20	3.50	1.30	0.37	1326	3.26	1.21	0.37	1391	3.15	1.16	0.37	1430
22	18	3.33	1.77	0.53	1274	3.06	1.62	0.53	1352	2.94	1.56	0.53	1378
22	20	3.50	1.44	0.41	1326	3.26	1.34	0.41	1391	3.15	1.29	0.41	1430
22	22	3.71	1.07	0.29	1378	3.47	1.01	0.29	1456	3.35	0.97	0.29	1482
23	18	3.33	1.90	0.57	1274	3.06	1.74	0.57	1352	2.94	1.68	0.57	1378
23	20	3.50	1.58	0.45	1326	3.26	1.47	0.45	1391	3.15	1.42	0.45	1430
23	22	3.71	1.22	0.33	1378	3.47	1.14	0.33	1456	3.35	1.11	0.33	1482
24	18	3.33	2.03	0.61	1274	3.06	1.87	0.61	1352	2.94	1.79	0.61	1378
24	20	3.50	1.72	0.49	1326	3.26	1.60	0.49	1391	3.15	1.54	0.49	1430
24	22	3.71	1.37	0.37	1378	3.47	1.28	0.37	1456	3.35	1.24	0.37	1482
24	24	3.91	0.98	0.25	1430	3.67	0.92	0.25	1495	3.57	0.89	0.25	1528
25	20	3.50	1.86	0.53	1326	3.26	1.73	0.53	1391	3.15	1.67	0.53	1430
25	22	3.71	1.52	0.41	1378	3.47	1.42	0.41	1456	3.35	1.37	0.41	1482
25	24	3.91	1.13	0.29	1430	3.67	1.06	0.29	1495	3.57	1.04	0.29	1528
26	18	3.33	2.30	0.69	1274	3.06	2.11	0.69	1352	2.94	2.03	0.69	1378
26	20	3.50	2.00	0.57	1326	3.26	1.86	0.57	1391	3.15	1.79	0.57	1430
26	22	3.71	1.67	0.45	1378	3.47	1.56	0.45	1456	3.35	1.51	0.45	1482
26	24	3.91	1.29	0.33	1430	3.67	1.21	0.33	1495	3.57	1.18	0.33	1528
26	26	4.11	0.86	0.21	1482	3.88	0.81	0.21	1547	3.76	0.79	0.21	1580
27	18	3.33	2.43	0.73	1274	3.06	2.23	0.73	1352	2.94	2.15	0.73	1378
27	20	3.50	2.14	0.61	1326	3.26	1.99	0.61	1391	3.15	1.92	0.61	1430
27	22	3.71	1.82	0.49	1378	3.47	1.70	0.49	1456	3.35	1.64	0.49	1482
27	24	3.91	1.45	0.37	1430	3.67	1.36	0.37	1495	3.57	1.32	0.37	1528
27	26	4.11	1.03	0.25	1482	3.88	0.97	0.25	1547	3.76	0.94	0.25	1580
28	18	3.33	2.57	0.77	1274	3.06	2.36	0.77	1352	2.94	2.26	0.77	1378
28	20	3.50	2.28	0.65	1326	3.26	2.12	0.65	1391	3.15	2.04	0.65	1430
28	22	3.71	1.96	0.53	1378	3.47	1.84	0.53	1456	3.35	1.77	0.53	1482
28	24	3.91	1.60	0.41	1430	3.67	1.51	0.41	1495	3.57	1.46	0.41	1528
28	26	4.11	1.19	0.29	1482	3.88	1.12	0.29	1547	3.76	1.09	0.29	1580
29	18	3.33	2.70	0.81	1274	3.06	2.48	0.81	1352	2.94	2.38	0.81	1378
29	20	3.50	2.42	0.69	1326	3.26	2.25	0.69	1391	3.15	2.17	0.69	1430
29	22	3.71	2.11	0.57	1378	3.47	1.98	0.57	1456	3.35	1.91	0.57	1482
29	24	3.91	1.76	0.45	1430	3.67	1.65	0.45	1495	3.57	1.61	0.45	1528
29	26	4.11	1.36	0.33	1482	3.88	1.28	0.33	1547	3.76	1.24	0.33	1580
30	18	3.33	2.83	0.85	1274	3.06	2.60	0.85	1352	2.94	2.50	0.85	1378
30	20	3.50	2.56	0.73	1326	3.26	2.38	0.73	1391	3.15	2.30	0.73	1430
30	22	3.71	2.26	0.61	1378	3.47	2.12	0.61	1456	3.35	2.04	0.61	1482
30	24	3.91	1.92	0.49	1430	3.67	1.80	0.49	1495	3.57	1.75	0.49	1528
30	26	4.11	1.52	0.37	1482	3.88	1.43	0.37	1547	3.76	1.39	0.37	1580
31	18	3.33	2.97	0.89	1274	3.06	2.72	0.89	1352	2.94	2.62	0.89	1378
31	20	3.50	2.70	0.77	1326	3.26	2.51	0.77	1391	3.15	2.42	0.77	1430
31	22	3.71	2.41	0.65	1378	3.47	2.25	0.65	1456	3.35	2.18	0.65	1482
31	24	3.91	2.07	0.53	1430	3.67	1.95	0.53	1495	3.57	1.89	0.53	1528
31	26	4.11	1.69	0.41	1482	3.88	1.59	0.41	1547	3.76	1.54	0.41	1580
32	18	3.33	3.10	0.93	1274	3.06	2.85	0.93	1352	2.94	2.74	0.93	1378
32	20	3.50	2.84	0.81	1326	3.26	2.64	0.81	1391	3.15	2.55	0.81	1430
32	22	3.71	2.56	0.69	1378	3.47	2.39	0.69	1456	3.35	2.31	0.69	1482
32	24	3.91	2.23	0.57	1430	3.67	2.09	0.57	1495	3.57	2.03	0.57	1528
32	26	4.11	1.85	0.45	1482	3.88	1.74	0.45	1547	3.76	1.69	0.45	1580

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
HEAT operation (220V)

MSC-07RV -E1 : MUH-07RV -E1

CAPACITY : 2.5 kW INPUT : 680 W

	OUTDOOR DB(℃)													
INDOOR	-10		-5		0		5		10		15		20	
DB(℃)	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	1.58	442	1.90	530	2.23	598	2.55	646	2.88	687	3.18	707	3.50	721
21	1.50	476	1.80	564	2.13	626	2.43	673	2.75	707	3.05	728	3.36	755
26	1.35	510	1.68	598	1.98	660	2.30	707	2.63	741	2.93	762	3.25	782

MSC-09RV -E1 : MUH-09RV -E1

CAPACITY : 3.1 kW INPUT : 920 W

	OUTDOOR DB(℃)													
INDOOR	-10		-5		0		5		10		15		20	
DB(℃)	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	1.95	598	2.36	718	2.76	810	3.16	874	3.57	929	3.94	957	4.34	975
21	1.86	644	2.23	764	2.64	846	3.01	911	3.41	957	3.78	984	4.17	1021
26	1.67	690	2.08	810	2.45	892	2.85	957	3.26	1003	3.63	1030	4.03	1058

MSC-12RV -E1 : MUH-12RV -E1

CAPACITY : 4.0 kW INPUT : 1260 W

	OUTDOOR DB(℃)													
INDOOR	-10		-5		0		5		10		15		20	
DB(℃)	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	2.52	819	3.04	983	3.56	1109	4.08	1197	4.60	1273	5.08	1310	5.60	1336
21	2.40	882	2.88	1046	3.40	1159	3.88	1247	4.40	1310	4.88	1348	5.38	1399
26	2.16	945	2.68	1109	3.16	1222	3.68	1310	4.20	1373	4.68	1411	5.20	1449

HEAT operation (240V)

MSC-07RV -E1 : MUH-07RV -E1

CAPACITY : 2.5 kW INPUT : 720 W

	OUTDOOR DB(℃)													
INDOOR	-10		-5		0		5		10		15		20	
DB(℃)	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	1.58	468	1.90	562	2.23	634	2.55	684	2.88	727	3.18	749	3.50	763
21	1.50	504	1.80	598	2.13	662	2.43	713	2.75	749	3.05	770	3.36	799
26	1.35	540	1.68	634	1.98	698	2.30	749	2.63	785	2.93	806	3.25	828

MSC-09RV -E1 : MUH-09RV -E1

CAPACITY : 3.1 kW INPUT : 940 W

	OUTDOOR DB(℃)													
INDOOR	-10		-5		0		5		10		15		20	
DB(℃)	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	1.95	611	2.36	733	2.76	827	3.16	893	3.57	949	3.94	978	4.34	996
21	1.86	658	2.23	780	2.64	865	3.01	931	3.41	978	3.78	1006	4.17	1043
26	1.67	705	2.08	827	2.45	912	2.85	978	3.26	1025	3.63	1053	4.03	1081

MSC-12RV -E1 : MUH-12RV -E1

CAPACITY : 4.0 kW INPUT : 1350 W

	OUTDOOR DB(℃)													
INDOOR	-10		-5		0		5		10		15		20	
DB(℃)	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	2.52	878	3.04	1053	3.56	1188	4.08	1283	4.60	1364	5.08	1404	5.60	1431
21	2.40	945	2.88	1121	3.40	1242	3.88	1337	4.40	1404	4.88	1445	5.38	1499
26	2.16	1013	2.68	1188	3.16	1310	3.68	1404	4.20	1472	4.68	1512	5.20	1553

NOTE Q :Total capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-07RV -E1(Single) : MUX-10RV -E1

CAPACITY : 2.2 kW INPUT(Total=Indoor+Outdoor) : 740 W SHF : 0.74

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.59	1.45	0.56	592	2.48	1.39	0.56	622	2.38	1.33	0.56	651	2.29	1.28	0.56	681
21	20	2.70	1.19	0.44	622	2.59	1.14	0.44	659	2.51	1.10	0.44	673	2.42	1.06	0.44	703
22	18	2.59	1.55	0.60	592	2.48	1.49	0.60	622	2.38	1.43	0.60	651	2.29	1.37	0.60	681
22	20	2.70	1.29	0.48	622	2.59	1.24	0.48	659	2.51	1.20	0.48	673	2.42	1.16	0.48	703
22	22	2.81	1.01	0.36	644	2.71	0.97	0.36	685	2.64	0.95	0.36	703	2.53	0.91	0.36	733
23	18	2.59	1.65	0.64	592	2.48	1.58	0.64	622	2.38	1.52	0.64	651	2.29	1.46	0.64	681
23	20	2.70	1.40	0.52	622	2.59	1.34	0.52	659	2.51	1.30	0.52	673	2.42	1.26	0.52	703
23	22	2.81	1.12	0.40	644	2.71	1.08	0.40	685	2.64	1.06	0.40	703	2.53	1.01	0.40	733
24	18	2.59	1.76	0.68	592	2.48	1.68	0.68	622	2.38	1.62	0.68	651	2.29	1.56	0.68	681
24	20	2.70	1.51	0.56	622	2.59	1.45	0.56	659	2.51	1.40	0.56	673	2.42	1.36	0.56	703
24	22	2.81	1.23	0.44	644	2.71	1.19	0.44	685	2.64	1.16	0.44	703	2.53	1.11	0.44	733
24	24	2.95	0.94	0.32	673	2.84	0.91	0.32	710	2.77	0.89	0.32	733	2.68	0.86	0.32	770
25	20	2.70	1.62	0.60	622	2.59	1.55	0.60	659	2.51	1.50	0.60	673	2.42	1.45	0.60	703
25	22	2.81	1.35	0.48	644	2.71	1.30	0.48	685	2.64	1.27	0.48	703	2.53	1.21	0.48	733
25	24	2.95	1.06	0.36	673	2.84	1.02	0.36	710	2.77	1.00	0.36	733	2.68	0.97	0.36	770
26	18	2.59	1.96	0.76	592	2.48	1.88	0.76	622	2.38	1.81	0.76	651	2.29	1.74	0.76	681
26	20	2.70	1.72	0.64	622	2.59	1.65	0.64	659	2.51	1.61	0.64	673	2.42	1.55	0.64	703
26	22	2.81	1.46	0.52	644	2.71	1.41	0.52	685	2.64	1.37	0.52	703	2.53	1.32	0.52	733
26	24	2.95	1.18	0.40	673	2.84	1.14	0.40	710	2.77	1.11	0.40	733	2.68	1.07	0.40	770
26	26	3.04	0.85	0.28	710	2.95	0.83	0.28	747	2.90	0.81	0.28	770	2.82	0.79	0.28	792
27	18	2.59	2.07	0.80	592	2.48	1.98	0.80	622	2.38	1.90	0.80	651	2.29	1.83	0.80	681
27	20	2.70	1.83	0.68	622	2.59	1.76	0.68	659	2.51	1.71	0.68	673	2.42	1.65	0.68	703
27	22	2.81	1.57	0.56	644	2.71	1.52	0.56	685	2.64	1.48	0.56	703	2.53	1.42	0.56	733
27	24	2.95	1.30	0.44	673	2.84	1.25	0.44	710	2.77	1.22	0.44	733	2.68	1.18	0.44	770
27	26	3.04	0.97	0.32	710	2.95	0.94	0.32	747	2.90	0.93	0.32	770	2.82	0.90	0.32	792
28	18	2.59	2.17	0.84	592	2.48	2.08	0.84	622	2.38	2.00	0.84	651	2.29	1.92	0.84	681
28	20	2.70	1.94	0.72	622	2.59	1.86	0.72	659	2.51	1.81	0.72	673	2.42	1.74	0.72	703
28	22	2.81	1.68	0.60	644	2.71	1.62	0.60	685	2.64	1.58	0.60	703	2.53	1.52	0.60	733
28	24	2.95	1.42	0.48	673	2.84	1.36	0.48	710	2.77	1.33	0.48	733	2.68	1.29	0.48	770
28	26	3.04	1.09	0.36	710	2.95	1.06	0.36	747	2.90	1.05	0.36	770	2.82	1.01	0.36	792
29	18	2.59	2.27	0.88	592	2.48	2.18	0.88	622	2.38	2.09	0.88	651	2.29	2.01	0.88	681
29	20	2.70	2.05	0.76	622	2.59	1.96	0.76	659	2.51	1.91	0.76	673	2.42	1.84	0.76	703
29	22	2.81	1.80	0.64	644	2.71	1.73	0.64	685	2.64	1.69	0.64	703	2.53	1.62	0.64	733
29	24	2.95	1.53	0.52	673	2.84	1.48	0.52	710	2.77	1.44	0.52	733	2.68	1.40	0.52	770
29	26	3.04	1.21	0.40	710	2.95	1.18	0.40	747	2.90	1.16	0.40	770	2.82	1.13	0.40	792
30	18	2.59	2.38	0.92	592	2.48	2.28	0.92	622	2.38	2.19	0.92	651	2.29	2.10	0.92	681
30	20	2.70	2.16	0.80	622	2.59	2.07	0.80	659	2.51	2.01	0.80	673	2.42	1.94	0.80	703
30	22	2.81	1.91	0.68	644	2.71	1.84	0.68	685	2.64	1.80	0.68	703	2.53	1.72	0.68	733
30	24	2.95	1.65	0.56	673	2.84	1.59	0.56	710	2.77	1.55	0.56	733	2.68	1.50	0.56	770
30	26	3.04	1.34	0.44	710	2.95	1.30	0.44	747	2.90	1.28	0.44	770	2.82	1.24	0.44	792
31	18	2.59	2.48	0.96	592	2.48	2.38	0.96	622	2.38	2.28	0.96	651	2.29	2.20	0.96	681
31	20	2.70	2.26	0.84	622	2.59	2.17	0.84	659	2.51	2.11	0.84	673	2.42	2.03	0.84	703
31	22	2.81	2.02	0.72	644	2.71	1.95	0.72	685	2.64	1.90	0.72	703	2.53	1.82	0.72	733
31	24	2.95	1.77	0.60	673	2.84	1.70	0.60	710	2.77	1.66	0.60	733	2.68	1.61	0.60	770
31	26	3.04	1.46	0.48	710	2.95	1.42	0.48	747	2.90	1.39	0.48	770	2.82	1.35	0.48	792
32	18	2.59	2.59	1.00	592	2.48	2.48	1.00	622	2.38	2.38	1.00	651	2.29	2.29	1.00	681
32	20	2.70	2.37	0.88	622	2.59	2.27	0.88	659	2.51	2.21	0.88	673	2.42	2.13	0.88	703
32	22	2.81	2.13	0.76	644	2.71	2.06	0.76	685	2.64	2.01	0.76	703	2.53	1.92	0.76	733
32	24	2.95	1.89	0.64	673	2.84	1.82	0.64	710	2.77	1.77	0.64	733	2.68	1.72	0.64	770
32	26	3.04	1.58	0.52	710	2.95	1.53	0.52	747	2.90	1.51	0.52	770	2.82	1.46	0.52	792

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-07RV -E1(Single) : MUX-10RV -E1

CAPACITY : 2.2 kW INPUT(Total=Indoor+Outdoor) : 740 W SHF : 0.74

		OUTDOOR DB(℃)											
INDOO	INDOO	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.16	1.21	0.56	725	1.98	1.11	0.56	770	1.90	1.07	0.56	784
21	20	2.27	1.00	0.44	755	2.11	0.93	0.44	792	2.04	0.90	0.44	814
22	18	2.16	1.29	0.60	725	1.98	1.19	0.60	770	1.90	1.14	0.60	784
22	20	2.27	1.09	0.48	755	2.11	1.01	0.48	792	2.04	0.98	0.48	814
22	22	2.40	0.86	0.36	784	2.24	0.81	0.36	829	2.17	0.78	0.36	844
23	18	2.16	1.38	0.64	725	1.98	1.27	0.64	770	1.90	1.22	0.64	784
23	20	2.27	1.18	0.52	755	2.11	1.10	0.52	792	2.04	1.06	0.52	814
23	22	2.40	0.96	0.40	784	2.24	0.90	0.40	829	2.17	0.87	0.40	844
24	18	2.16	1.47	0.68	725	1.98	1.35	0.68	770	1.90	1.29	0.68	784
24	20	2.27	1.27	0.56	755	2.11	1.18	0.56	792	2.04	1.14	0.56	814
24	22	2.40	1.06	0.44	784	2.24	0.99	0.44	829	2.17	0.95	0.44	844
24	24	2.53	0.81	0.32	814	2.38	0.76	0.32	851	2.31	0.74	0.32	870
25	20	2.27	1.36	0.60	755	2.11	1.27	0.60	792	2.04	1.22	0.60	814
25	22	2.40	1.15	0.48	784	2.24	1.08	0.48	829	2.17	1.04	0.48	844
25	24	2.53	0.91	0.36	814	2.38	0.86	0.36	851	2.31	0.83	0.36	870
26	18	2.16	1.64	0.76	725	1.98	1.50	0.76	770	1.90	1.45	0.76	784
26	20	2.27	1.45	0.64	755	2.11	1.35	0.64	792	2.04	1.30	0.64	814
26	22	2.40	1.25	0.52	784	2.24	1.17	0.52	829	2.17	1.13	0.52	844
26	24	2.53	1.01	0.40	814	2.38	0.95	0.40	851	2.31	0.92	0.40	870
26	26	2.66	0.75	0.28	844	2.51	0.70	0.28	881	2.43	0.68	0.28	899
27	18	2.16	1.72	0.80	725	1.98	1.58	0.80	770	1.90	1.52	0.80	784
27	20	2.27	1.54	0.68	755	2.11	1.44	0.68	792	2.04	1.38	0.68	814
27	22	2.40	1.34	0.56	784	2.24	1.26	0.56	829	2.17	1.21	0.56	844
27	24	2.53	1.11	0.44	814	2.38	1.05	0.44	851	2.31	1.02	0.44	870
27	26	2.66	0.85	0.32	844	2.51	0.80	0.32	881	2.43	0.78	0.32	899
28	18	2.16	1.81	0.84	725	1.98	1.66	0.84	770	1.90	1.60	0.84	784
28	20	2.27	1.63	0.72	755	2.11	1.52	0.72	792	2.04	1.47	0.72	814
28	22	2.40	1.44	0.60	784	2.24	1.35	0.60	829	2.17	1.30	0.60	844
28	24	2.53	1.21	0.48	814	2.38	1.14	0.48	851	2.31	1.11	0.48	870
28	26	2.66	0.96	0.36	844	2.51	0.90	0.36	881	2.43	0.88	0.36	899
29	18	2.16	1.90	0.88	725	1.98	1.74	0.88	770	1.90	1.67	0.88	784
29	20	2.27	1.72	0.76	755	2.11	1.61	0.76	792	2.04	1.55	0.76	814
29	22	2.40	1.53	0.64	784	2.24	1.44	0.64	829	2.17	1.39	0.64	844
29	24	2.53	1.32	0.52	814	2.38	1.24	0.52	851	2.31	1.20	0.52	870
29	26	2.66	1.06	0.40	844	2.51	1.00	0.40	881	2.43	0.97	0.40	899
30	18	2.16	1.98	0.92	725	1.98	1.82	0.92	770	1.90	1.75	0.92	784
30	20	2.27	1.81	0.80	755	2.11	1.69	0.80	792	2.04	1.63	0.80	814
30	22	2.40	1.63	0.68	784	2.24	1.53	0.68	829	2.17	1.47	0.68	844
30	24	2.53	1.42	0.56	814	2.38	1.33	0.56	851	2.31	1.29	0.56	870
30	26	2.66	1.17	0.44	844	2.51	1.10	0.44	881	2.43	1.07	0.44	899
31	18	2.16	2.07	0.96	725	1.98	1.90	0.96	770	1.90	1.83	0.96	784
31	20	2.27	1.90	0.84	755	2.11	1.77	0.84	792	2.04	1.71	0.84	814
31	22	2.40	1.73	0.72	784	2.24	1.62	0.72	829	2.17	1.56	0.72	844
31	24	2.53	1.52	0.60	814	2.38	1.43	0.60	851	2.31	1.39	0.60	870
31	26	2.66	1.28	0.48	844	2.51	1.20	0.48	881	2.43	1.17	0.48	899
32	18	2.16	2.16	1.00	725	1.98	1.98	1.00	770	1.90	1.90	1.00	784
32	20	2.27	1.99	0.88	755	2.11	1.86	0.88	792	2.04	1.79	0.88	814
32	22	2.40	1.82	0.76	784	2.24	1.71	0.76	829	2.17	1.65	0.76	844
32	24	2.53	1.62	0.64	814	2.38	1.52	0.64	851	2.31	1.48	0.64	870
32	26	2.66	1.38	0.52	844	2.51	1.30	0.52	881	2.43	1.26	0.52	899

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-07RV -E1(Single) : MUX-10RV -E1

CAPACITY : 2.2 kW INPUT(Total=Indoor+Outdoor) : 790 W SHF : 0.74

		OUTDOOR DB(℃)															
INDOO	INDOO	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.59	1.45	0.56	632	2.48	1.39	0.56	664	2.38	1.33	0.56	695	2.29	1.28	0.56	727
21	20	2.70	1.19	0.44	664	2.59	1.14	0.44	703	2.51	1.10	0.44	719	2.42	1.06	0.44	751
22	18	2.59	1.55	0.60	632	2.48	1.49	0.60	664	2.38	1.43	0.60	695	2.29	1.37	0.60	727
22	20	2.70	1.29	0.48	664	2.59	1.24	0.48	703	2.51	1.20	0.48	719	2.42	1.16	0.48	751
22	22	2.81	1.01	0.36	687	2.71	0.97	0.36	731	2.64	0.95	0.36	751	2.53	0.91	0.36	782
23	18	2.59	1.65	0.64	632	2.48	1.58	0.64	664	2.38	1.52	0.64	695	2.29	1.46	0.64	727
23	20	2.70	1.40	0.52	664	2.59	1.34	0.52	703	2.51	1.30	0.52	719	2.42	1.26	0.52	751
23	22	2.81	1.12	0.40	687	2.71	1.08	0.40	731	2.64	1.06	0.40	751	2.53	1.01	0.40	782
24	18	2.59	1.76	0.68	632	2.48	1.68	0.68	664	2.38	1.62	0.68	695	2.29	1.56	0.68	727
24	20	2.70	1.51	0.56	664	2.59	1.45	0.56	703	2.51	1.40	0.56	719	2.42	1.36	0.56	751
24	22	2.81	1.23	0.44	687	2.71	1.19	0.44	731	2.64	1.16	0.44	751	2.53	1.11	0.44	782
24	24	2.95	0.94	0.32	719	2.84	0.91	0.32	758	2.77	0.89	0.32	782	2.68	0.86	0.32	822
25	20	2.70	1.62	0.60	664	2.59	1.55	0.60	703	2.51	1.50	0.60	719	2.42	1.45	0.60	751
25	22	2.81	1.35	0.48	687	2.71	1.30	0.48	731	2.64	1.27	0.48	751	2.53	1.21	0.48	782
25	24	2.95	1.06	0.36	719	2.84	1.02	0.36	758	2.77	1.00	0.36	782	2.68	0.97	0.36	822
26	18	2.59	1.96	0.76	632	2.48	1.88	0.76	664	2.38	1.81	0.76	695	2.29	1.74	0.76	727
26	20	2.70	1.72	0.64	664	2.59	1.65	0.64	703	2.51	1.61	0.64	719	2.42	1.55	0.64	751
26	22	2.81	1.46	0.52	687	2.71	1.41	0.52	731	2.64	1.37	0.52	751	2.53	1.32	0.52	782
26	24	2.95	1.18	0.40	719	2.84	1.14	0.40	758	2.77	1.11	0.40	782	2.68	1.07	0.40	822
26	26	3.04	0.85	0.28	758	2.95	0.83	0.28	798	2.90	0.81	0.28	822	2.82	0.79	0.28	845
27	18	2.59	2.07	0.80	632	2.48	1.98	0.80	664	2.38	1.90	0.80	695	2.29	1.83	0.80	727
27	20	2.70	1.83	0.68	664	2.59	1.76	0.68	703	2.51	1.71	0.68	719	2.42	1.65	0.68	751
27	22	2.81	1.57	0.56	687	2.71	1.52	0.56	731	2.64	1.48	0.56	751	2.53	1.42	0.56	782
27	24	2.95	1.30	0.44	719	2.84	1.25	0.44	758	2.77	1.22	0.44	782	2.68	1.18	0.44	822
27	26	3.04	0.97	0.32	758	2.95	0.94	0.32	798	2.90	0.93	0.32	822	2.82	0.90	0.32	845
28	18	2.59	2.17	0.84	632	2.48	2.08	0.84	664	2.38	2.00	0.84	695	2.29	1.92	0.84	727
28	20	2.70	1.94	0.72	664	2.59	1.86	0.72	703	2.51	1.81	0.72	719	2.42	1.74	0.72	751
28	22	2.81	1.68	0.60	687	2.71	1.62	0.60	731	2.64	1.58	0.60	751	2.53	1.52	0.60	782
28	24	2.95	1.42	0.48	719	2.84	1.36	0.48	758	2.77	1.33	0.48	782	2.68	1.29	0.48	822
28	26	3.04	1.09	0.36	758	2.95	1.06	0.36	798	2.90	1.05	0.36	822	2.82	1.01	0.36	845
29	18	2.59	2.27	0.88	632	2.48	2.18	0.88	664	2.38	2.09	0.88	695	2.29	2.01	0.88	727
29	20	2.70	2.05	0.76	664	2.59	1.96	0.76	703	2.51	1.91	0.76	719	2.42	1.84	0.76	751
29	22	2.81	1.80	0.64	687	2.71	1.73	0.64	731	2.64	1.69	0.64	751	2.53	1.62	0.64	782
29	24	2.95	1.53	0.52	719	2.84	1.48	0.52	758	2.77	1.44	0.52	782	2.68	1.40	0.52	822
29	26	3.04	1.21	0.40	758	2.95	1.18	0.40	798	2.90	1.16	0.40	822	2.82	1.13	0.40	845
30	18	2.59	2.38	0.92	632	2.48	2.28	0.92	664	2.38	2.19	0.92	695	2.29	2.10	0.92	727
30	20	2.70	2.16	0.80	664	2.59	2.07	0.80	703	2.51	2.01	0.80	719	2.42	1.94	0.80	751
30	22	2.81	1.91	0.68	687	2.71	1.84	0.68	731	2.64	1.80	0.68	751	2.53	1.72	0.68	782
30	24	2.95	1.65	0.56	719	2.84	1.59	0.56	758	2.77	1.55	0.56	782	2.68	1.50	0.56	822
30	26	3.04	1.34	0.44	758	2.95	1.30	0.44	798	2.90	1.28	0.44	822	2.82	1.24	0.44	845
31	18	2.59	2.48	0.96	632	2.48	2.38	0.96	664	2.38	2.28	0.96	695	2.29	2.20	0.96	727
31	20	2.70	2.26	0.84	664	2.59	2.17	0.84	703	2.51	2.11	0.84	719	2.42	2.03	0.84	751
31	22	2.81	2.02	0.72	687	2.71	1.95	0.72	731	2.64	1.90	0.72	751	2.53	1.82	0.72	782
31	24	2.95	1.77	0.60	719	2.84	1.70	0.60	758	2.77	1.66	0.60	782	2.68	1.61	0.60	822
31	26	3.04	1.46	0.48	758	2.95	1.42	0.48	798	2.90	1.39	0.48	822	2.82	1.35	0.48	845
32	18	2.59	2.59	1.00	632	2.48	2.48	1.00	664	2.38	2.38	1.00	695	2.29	2.29	1.00	727
32	20	2.70	2.37	0.88	664	2.59	2.27	0.88	703	2.51	2.21	0.88	719	2.42	2.13	0.88	751
32	22	2.81	2.13	0.76	687	2.71	2.06	0.76	731	2.64	2.01	0.76	751	2.53	1.92	0.76	782
32	24	2.95	1.89	0.64	719	2.84	1.82	0.64	758	2.77	1.77	0.64	782	2.68	1.72	0.64	822
32	26	3.04	1.58	0.52	758	2.95	1.53	0.52	798	2.90	1.51	0.52	822	2.82	1.46	0.52	845

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-07RV -E1(Single) :MUX-10RV -E1

CAPACITY : 2.2 kW INPUT(Total=Indoor+Outdoor) : 790 W SHF : 0.74

		OUTDOOR DB(℃)											
INDOO	INDOO	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.16	1.21	0.56	774	1.98	1.11	0.56	822	1.90	1.07	0.56	837
21	20	2.27	1.00	0.44	806	2.11	0.93	0.44	845	2.04	0.90	0.44	869
22	18	2.16	1.29	0.60	774	1.98	1.19	0.60	822	1.90	1.14	0.60	837
22	20	2.27	1.09	0.48	806	2.11	1.01	0.48	845	2.04	0.98	0.48	869
22	22	2.40	0.86	0.36	837	2.24	0.81	0.36	885	2.17	0.78	0.36	901
23	18	2.16	1.38	0.64	774	1.98	1.27	0.64	822	1.90	1.22	0.64	837
23	20	2.27	1.18	0.52	806	2.11	1.10	0.52	845	2.04	1.06	0.52	869
23	22	2.40	0.96	0.40	837	2.24	0.90	0.40	885	2.17	0.87	0.40	901
24	18	2.16	1.47	0.68	774	1.98	1.35	0.68	822	1.90	1.29	0.68	837
24	20	2.27	1.27	0.56	806	2.11	1.18	0.56	845	2.04	1.14	0.56	869
24	22	2.40	1.06	0.44	837	2.24	0.99	0.44	885	2.17	0.95	0.44	901
24	24	2.53	0.81	0.32	869	2.38	0.76	0.32	909	2.31	0.74	0.32	928
25	20	2.27	1.36	0.60	806	2.11	1.27	0.60	845	2.04	1.22	0.60	869
25	22	2.40	1.15	0.48	837	2.24	1.08	0.48	885	2.17	1.04	0.48	901
25	24	2.53	0.91	0.36	869	2.38	0.86	0.36	909	2.31	0.83	0.36	928
26	18	2.16	1.64	0.76	774	1.98	1.50	0.76	822	1.90	1.45	0.76	837
26	20	2.27	1.45	0.64	806	2.11	1.35	0.64	845	2.04	1.30	0.64	869
26	22	2.40	1.25	0.52	837	2.24	1.17	0.52	885	2.17	1.13	0.52	901
26	24	2.53	1.01	0.40	869	2.38	0.95	0.40	909	2.31	0.92	0.40	928
26	26	2.66	0.75	0.28	901	2.51	0.70	0.28	940	2.43	0.68	0.28	960
27	18	2.16	1.72	0.80	774	1.98	1.58	0.80	822	1.90	1.52	0.80	837
27	20	2.27	1.54	0.68	806	2.11	1.44	0.68	845	2.04	1.38	0.68	869
27	22	2.40	1.34	0.56	837	2.24	1.26	0.56	885	2.17	1.21	0.56	901
27	24	2.53	1.11	0.44	869	2.38	1.05	0.44	909	2.31	1.02	0.44	928
27	26	2.66	0.85	0.32	901	2.51	0.80	0.32	940	2.43	0.78	0.32	960
28	18	2.16	1.81	0.84	774	1.98	1.66	0.84	822	1.90	1.60	0.84	837
28	20	2.27	1.63	0.72	806	2.11	1.52	0.72	845	2.04	1.47	0.72	869
28	22	2.40	1.44	0.60	837	2.24	1.35	0.60	885	2.17	1.30	0.60	901
28	24	2.53	1.21	0.48	869	2.38	1.14	0.48	909	2.31	1.11	0.48	928
28	26	2.66	0.96	0.36	901	2.51	0.90	0.36	940	2.43	0.88	0.36	960
29	18	2.16	1.90	0.88	774	1.98	1.74	0.88	822	1.90	1.67	0.88	837
29	20	2.27	1.72	0.76	806	2.11	1.61	0.76	845	2.04	1.55	0.76	869
29	22	2.40	1.53	0.64	837	2.24	1.44	0.64	885	2.17	1.39	0.64	901
29	24	2.53	1.32	0.52	869	2.38	1.24	0.52	909	2.31	1.20	0.52	928
29	26	2.66	1.06	0.40	901	2.51	1.00	0.40	940	2.43	0.97	0.40	960
30	18	2.16	1.98	0.92	774	1.98	1.82	0.92	822	1.90	1.75	0.92	837
30	20	2.27	1.81	0.80	806	2.11	1.69	0.80	845	2.04	1.63	0.80	869
30	22	2.40	1.63	0.68	837	2.24	1.53	0.68	885	2.17	1.47	0.68	901
30	24	2.53	1.42	0.56	869	2.38	1.33	0.56	909	2.31	1.29	0.56	928
30	26	2.66	1.17	0.44	901	2.51	1.10	0.44	940	2.43	1.07	0.44	960
31	18	2.16	2.07	0.96	774	1.98	1.90	0.96	822	1.90	1.83	0.96	837
31	20	2.27	1.90	0.84	806	2.11	1.77	0.84	845	2.04	1.71	0.84	869
31	22	2.40	1.73	0.72	837	2.24	1.62	0.72	885	2.17	1.56	0.72	901
31	24	2.53	1.52	0.60	869	2.38	1.43	0.60	909	2.31	1.39	0.60	928
31	26	2.66	1.28	0.48	901	2.51	1.20	0.48	940	2.43	1.17	0.48	960
32	18	2.16	2.16	1.00	774	1.98	1.98	1.00	822	1.90	1.90	1.00	837
32	20	2.27	1.99	0.88	806	2.11	1.86	0.88	845	2.04	1.79	0.88	869
32	22	2.40	1.82	0.76	837	2.24	1.71	0.76	885	2.17	1.65	0.76	901
32	24	2.53	1.62	0.64	869	2.38	1.52	0.64	909	2.31	1.48	0.64	928
32	26	2.66	1.38	0.52	901	2.51	1.30	0.52	940	2.43	1.26	0.52	960

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-09RV -E1(Single) : MUX-18RV -E1

CAPACITY : 2.3 kW INPUT(Total=Indoor+Outdoor) : 790 W SHF : 0.73

		OUTDOOR DB(℃)															
INDOO	INDOO	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.70	1.49	0.55	632	2.59	1.42	0.55	664	2.48	1.37	0.55	695	2.39	1.32	0.55	727
21	20	2.82	1.21	0.43	664	2.70	1.16	0.43	703	2.62	1.13	0.43	719	2.53	1.09	0.43	751
22	18	2.70	1.59	0.59	632	2.59	1.53	0.59	664	2.48	1.47	0.59	695	2.39	1.41	0.59	727
22	20	2.82	1.32	0.47	664	2.70	1.27	0.47	703	2.62	1.23	0.47	719	2.53	1.19	0.47	751
22	22	2.93	1.03	0.35	687	2.83	0.99	0.35	731	2.76	0.97	0.35	751	2.65	0.93	0.35	782
23	18	2.70	1.70	0.63	632	2.59	1.63	0.63	664	2.48	1.56	0.63	695	2.39	1.51	0.63	727
23	20	2.82	1.44	0.51	664	2.70	1.38	0.51	703	2.62	1.34	0.51	719	2.53	1.29	0.51	751
23	22	2.93	1.14	0.39	687	2.83	1.10	0.39	731	2.76	1.08	0.39	751	2.65	1.03	0.39	782
24	18	2.70	1.81	0.67	632	2.59	1.73	0.67	664	2.48	1.66	0.67	695	2.39	1.60	0.67	727
24	20	2.82	1.55	0.55	664	2.70	1.49	0.55	703	2.62	1.44	0.55	719	2.53	1.39	0.55	751
24	22	2.93	1.26	0.43	687	2.83	1.22	0.43	731	2.76	1.19	0.43	751	2.65	1.14	0.43	782
24	24	3.08	0.96	0.31	719	2.97	0.92	0.31	758	2.90	0.90	0.31	782	2.81	0.87	0.31	822
25	20	2.82	1.66	0.59	664	2.70	1.59	0.59	703	2.62	1.55	0.59	719	2.53	1.49	0.59	751
25	22	2.93	1.38	0.47	687	2.83	1.33	0.47	731	2.76	1.30	0.47	751	2.65	1.24	0.47	782
25	24	3.08	1.08	0.35	719	2.97	1.04	0.35	758	2.90	1.01	0.35	782	2.81	0.98	0.35	822
26	18	2.70	2.03	0.75	632	2.59	1.94	0.75	664	2.48	1.86	0.75	695	2.39	1.79	0.75	727
26	20	2.82	1.78	0.63	664	2.70	1.70	0.63	703	2.62	1.65	0.63	719	2.53	1.59	0.63	751
26	22	2.93	1.50	0.51	687	2.83	1.44	0.51	731	2.76	1.41	0.51	751	2.65	1.35	0.51	782
26	24	3.08	1.20	0.39	719	2.97	1.16	0.39	758	2.90	1.13	0.39	782	2.81	1.09	0.39	822
26	26	3.17	0.86	0.27	758	3.08	0.83	0.27	798	3.04	0.82	0.27	822	2.94	0.79	0.27	845
27	18	2.70	2.13	0.79	632	2.59	2.04	0.79	664	2.48	1.96	0.79	695	2.39	1.89	0.79	727
27	20	2.82	1.89	0.67	664	2.70	1.81	0.67	703	2.62	1.76	0.67	719	2.53	1.70	0.67	751
27	22	2.93	1.61	0.55	687	2.83	1.56	0.55	731	2.76	1.52	0.55	751	2.65	1.45	0.55	782
27	24	3.08	1.33	0.43	719	2.97	1.28	0.43	758	2.90	1.25	0.43	782	2.81	1.21	0.43	822
27	26	3.17	0.98	0.31	758	3.08	0.96	0.31	798	3.04	0.94	0.31	822	2.94	0.91	0.31	845
28	18	2.70	2.24	0.83	632	2.59	2.15	0.83	664	2.48	2.06	0.83	695	2.39	1.99	0.83	727
28	20	2.82	2.00	0.71	664	2.70	1.92	0.71	703	2.62	1.86	0.71	719	2.53	1.80	0.71	751
28	22	2.93	1.73	0.59	687	2.83	1.67	0.59	731	2.76	1.63	0.59	751	2.65	1.56	0.59	782
28	24	3.08	1.45	0.47	719	2.97	1.39	0.47	758	2.90	1.36	0.47	782	2.81	1.32	0.47	822
28	26	3.17	1.11	0.35	758	3.08	1.08	0.35	798	3.04	1.06	0.35	822	2.94	1.03	0.35	845
29	18	2.70	2.35	0.87	632	2.59	2.25	0.87	664	2.48	2.16	0.87	695	2.39	2.08	0.87	727
29	20	2.82	2.11	0.75	664	2.70	2.03	0.75	703	2.62	1.97	0.75	719	2.53	1.90	0.75	751
29	22	2.93	1.85	0.63	687	2.83	1.78	0.63	731	2.76	1.74	0.63	751	2.65	1.67	0.63	782
29	24	3.08	1.57	0.51	719	2.97	1.51	0.51	758	2.90	1.48	0.51	782	2.81	1.43	0.51	822
29	26	3.17	1.24	0.39	758	3.08	1.20	0.39	798	3.04	1.18	0.39	822	2.94	1.15	0.39	845
30	18	2.70	2.46	0.91	632	2.59	2.35	0.91	664	2.48	2.26	0.91	695	2.39	2.18	0.91	727
30	20	2.82	2.23	0.79	664	2.70	2.13	0.79	703	2.62	2.07	0.79	719	2.53	2.00	0.79	751
30	22	2.93	1.96	0.67	687	2.83	1.90	0.67	731	2.76	1.85	0.67	751	2.65	1.77	0.67	782
30	24	3.08	1.70	0.55	719	2.97	1.63	0.55	758	2.90	1.59	0.55	782	2.81	1.54	0.55	822
30	26	3.17	1.36	0.43	758	3.08	1.33	0.43	798	3.04	1.31	0.43	822	2.94	1.27	0.43	845
31	18	2.70	2.57	0.95	632	2.59	2.46	0.95	664	2.48	2.36	0.95	695	2.39	2.27	0.95	727
31	20	2.82	2.34	0.83	664	2.70	2.24	0.83	703	2.62	2.18	0.83	719	2.53	2.10	0.83	751
31	22	2.93	2.08	0.71	687	2.83	2.01	0.71	731	2.76	1.96	0.71	751	2.65	1.88	0.71	782
31	24	3.08	1.82	0.59	719	2.97	1.75	0.59	758	2.90	1.71	0.59	782	2.81	1.66	0.59	822
31	26	3.17	1.49	0.47	758	3.08	1.45	0.47	798	3.04	1.43	0.47	822	2.94	1.38	0.47	845
32	18	2.70	2.68	0.99	632	2.59	2.56	0.99	664	2.48	2.46	0.99	695	2.39	2.37	0.99	727
32	20	2.82	2.45	0.87	664	2.70	2.35	0.87	703	2.62	2.28	0.87	719	2.53	2.20	0.87	751
32	22	2.93	2.20	0.75	687	2.83	2.12	0.75	731	2.76	2.07	0.75	751	2.65	1.98	0.75	782
32	24	3.08	1.94	0.63	719	2.97	1.87	0.63	758	2.90	1.83	0.63	782	2.81	1.77	0.63	822
32	26	3.17	1.62	0.51	758	3.08	1.57	0.51	798	3.04	1.55	0.51	822	2.94	1.50	0.51	845

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-09RV -E1(Single) : MUX-18RV -E1

CAPACITY : 2.3 kW INPUT(Total=Indoor+Outdoor) : 790 W SHF : 0.73

		OUTDOOR DB(℃)											
INDOO	INDOO	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.25	1.24	0.55	774	2.07	1.14	0.55	822	1.99	1.09	0.55	837
21	20	2.37	1.02	0.43	806	2.21	0.95	0.43	845	2.13	0.91	0.43	869
22	18	2.25	1.33	0.59	774	2.07	1.22	0.59	822	1.99	1.17	0.59	837
22	20	2.37	1.11	0.47	806	2.21	1.04	0.47	845	2.13	1.00	0.47	869
22	22	2.51	0.88	0.35	837	2.35	0.82	0.35	885	2.27	0.79	0.35	901
23	18	2.25	1.42	0.63	774	2.07	1.30	0.63	822	1.99	1.25	0.63	837
23	20	2.37	1.21	0.51	806	2.21	1.13	0.51	845	2.13	1.09	0.51	869
23	22	2.51	0.98	0.39	837	2.35	0.91	0.39	885	2.27	0.88	0.39	901
24	18	2.25	1.51	0.67	774	2.07	1.39	0.67	822	1.99	1.33	0.67	837
24	20	2.37	1.30	0.55	806	2.21	1.21	0.55	845	2.13	1.17	0.55	869
24	22	2.51	1.08	0.43	837	2.35	1.01	0.43	885	2.27	0.97	0.43	901
24	24	2.65	0.82	0.31	869	2.48	0.77	0.31	909	2.42	0.75	0.31	928
25	20	2.37	1.40	0.59	806	2.21	1.30	0.59	845	2.13	1.26	0.59	869
25	22	2.51	1.18	0.47	837	2.35	1.10	0.47	885	2.27	1.06	0.47	901
25	24	2.65	0.93	0.35	869	2.48	0.87	0.35	909	2.42	0.85	0.35	928
26	18	2.25	1.69	0.75	774	2.07	1.55	0.75	822	1.99	1.49	0.75	837
26	20	2.37	1.49	0.63	806	2.21	1.39	0.63	845	2.13	1.34	0.63	869
26	22	2.51	1.28	0.51	837	2.35	1.20	0.51	885	2.27	1.16	0.51	901
26	24	2.65	1.03	0.39	869	2.48	0.97	0.39	909	2.42	0.94	0.39	928
26	26	2.78	0.75	0.27	901	2.62	0.71	0.27	940	2.54	0.69	0.27	960
27	18	2.25	1.78	0.79	774	2.07	1.64	0.79	822	1.99	1.57	0.79	837
27	20	2.37	1.59	0.67	806	2.21	1.48	0.67	845	2.13	1.43	0.67	869
27	22	2.51	1.38	0.55	837	2.35	1.29	0.55	885	2.27	1.25	0.55	901
27	24	2.65	1.14	0.43	869	2.48	1.07	0.43	909	2.42	1.04	0.43	928
27	26	2.78	0.86	0.31	901	2.62	0.81	0.31	940	2.54	0.79	0.31	960
28	18	2.25	1.87	0.83	774	2.07	1.72	0.83	822	1.99	1.65	0.83	837
28	20	2.37	1.68	0.71	806	2.21	1.57	0.71	845	2.13	1.51	0.71	869
28	22	2.51	1.48	0.59	837	2.35	1.38	0.59	885	2.27	1.34	0.59	901
28	24	2.65	1.24	0.47	869	2.48	1.17	0.47	909	2.42	1.14	0.47	928
28	26	2.78	0.97	0.35	901	2.62	0.92	0.35	940	2.54	0.89	0.35	960
29	18	2.25	1.96	0.87	774	2.07	1.80	0.87	822	1.99	1.73	0.87	837
29	20	2.37	1.78	0.75	806	2.21	1.66	0.75	845	2.13	1.60	0.75	869
29	22	2.51	1.58	0.63	837	2.35	1.48	0.63	885	2.27	1.43	0.63	901
29	24	2.65	1.35	0.51	869	2.48	1.27	0.51	909	2.42	1.23	0.51	928
29	26	2.78	1.09	0.39	901	2.62	1.02	0.39	940	2.54	0.99	0.39	960
30	18	2.25	2.05	0.91	774	2.07	1.88	0.91	822	1.99	1.81	0.91	837
30	20	2.37	1.87	0.79	806	2.21	1.74	0.79	845	2.13	1.68	0.79	869
30	22	2.51	1.68	0.67	837	2.35	1.57	0.67	885	2.27	1.52	0.67	901
30	24	2.65	1.45	0.55	869	2.48	1.37	0.55	909	2.42	1.33	0.55	928
30	26	2.78	1.20	0.43	901	2.62	1.13	0.43	940	2.54	1.09	0.43	960
31	18	2.25	2.14	0.95	774	2.07	1.97	0.95	822	1.99	1.89	0.95	837
31	20	2.37	1.97	0.83	806	2.21	1.83	0.83	845	2.13	1.77	0.83	869
31	22	2.51	1.78	0.71	837	2.35	1.67	0.71	885	2.27	1.61	0.71	901
31	24	2.65	1.56	0.59	869	2.48	1.47	0.59	909	2.42	1.42	0.59	928
31	26	2.78	1.31	0.47	901	2.62	1.23	0.47	940	2.54	1.19	0.47	960
32	18	2.25	2.23	0.99	774	2.07	2.05	0.99	822	1.99	1.97	0.99	837
32	20	2.37	2.06	0.87	806	2.21	1.92	0.87	845	2.13	1.85	0.87	869
32	22	2.51	1.88	0.75	837	2.35	1.76	0.75	885	2.27	1.70	0.75	901
32	24	2.65	1.67	0.63	869	2.48	1.56	0.63	909	2.42	1.52	0.63	928
32	26	2.78	1.42	0.51	901	2.62	1.34	0.51	940	2.54	1.30	0.51	960

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-09RV -E1(Single) : MUX-18RV -E1

CAPACITY : 2.3 kW INPUT(Total=Indoor+Outdoor) : 830 W SHF : 0.73

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.70	1.49	0.55	664	2.59	1.42	0.55	697	2.48	1.37	0.55	730	2.39	1.32	0.55	764
21	20	2.82	1.21	0.43	697	2.70	1.16	0.43	739	2.62	1.13	0.43	755	2.53	1.09	0.43	789
22	18	2.70	1.59	0.59	664	2.59	1.53	0.59	697	2.48	1.47	0.59	730	2.39	1.41	0.59	764
22	20	2.82	1.32	0.47	697	2.70	1.27	0.47	739	2.62	1.23	0.47	755	2.53	1.19	0.47	789
22	22	2.93	1.03	0.35	722	2.83	0.99	0.35	768	2.76	0.97	0.35	789	2.65	0.93	0.35	822
23	18	2.70	1.70	0.63	664	2.59	1.63	0.63	697	2.48	1.56	0.63	730	2.39	1.51	0.63	764
23	20	2.82	1.44	0.51	697	2.70	1.38	0.51	739	2.62	1.34	0.51	755	2.53	1.29	0.51	789
23	22	2.93	1.14	0.39	722	2.83	1.10	0.39	768	2.76	1.08	0.39	789	2.65	1.03	0.39	822
24	18	2.70	1.81	0.67	664	2.59	1.73	0.67	697	2.48	1.66	0.67	730	2.39	1.60	0.67	764
24	20	2.82	1.55	0.55	697	2.70	1.49	0.55	739	2.62	1.44	0.55	755	2.53	1.39	0.55	789
24	22	2.93	1.26	0.43	722	2.83	1.22	0.43	768	2.76	1.19	0.43	789	2.65	1.14	0.43	822
24	24	3.08	0.96	0.31	755	2.97	0.92	0.31	797	2.90	0.90	0.31	822	2.81	0.87	0.31	863
25	20	2.82	1.66	0.59	697	2.70	1.59	0.59	739	2.62	1.55	0.59	755	2.53	1.49	0.59	789
25	22	2.93	1.38	0.47	722	2.83	1.33	0.47	768	2.76	1.30	0.47	789	2.65	1.24	0.47	822
25	24	3.08	1.08	0.35	755	2.97	1.04	0.35	797	2.90	1.01	0.35	822	2.81	0.98	0.35	863
26	18	2.70	2.03	0.75	664	2.59	1.94	0.75	697	2.48	1.86	0.75	730	2.39	1.79	0.75	764
26	20	2.82	1.78	0.63	697	2.70	1.70	0.63	739	2.62	1.65	0.63	755	2.53	1.59	0.63	789
26	22	2.93	1.50	0.51	722	2.83	1.44	0.51	768	2.76	1.41	0.51	789	2.65	1.35	0.51	822
26	24	3.08	1.20	0.39	755	2.97	1.16	0.39	797	2.90	1.13	0.39	822	2.81	1.09	0.39	863
26	26	3.17	0.86	0.27	797	3.08	0.83	0.27	838	3.04	0.82	0.27	863	2.94	0.79	0.27	888
27	18	2.70	2.13	0.79	664	2.59	2.04	0.79	697	2.48	1.96	0.79	730	2.39	1.89	0.79	764
27	20	2.82	1.89	0.67	697	2.70	1.81	0.67	739	2.62	1.76	0.67	755	2.53	1.70	0.67	789
27	22	2.93	1.61	0.55	722	2.83	1.56	0.55	768	2.76	1.52	0.55	789	2.65	1.45	0.55	822
27	24	3.08	1.33	0.43	755	2.97	1.28	0.43	797	2.90	1.25	0.43	822	2.81	1.21	0.43	863
27	26	3.17	0.98	0.31	797	3.08	0.96	0.31	838	3.04	0.94	0.31	863	2.94	0.91	0.31	888
28	18	2.70	2.24	0.83	664	2.59	2.15	0.83	697	2.48	2.06	0.83	730	2.39	1.99	0.83	764
28	20	2.82	2.00	0.71	697	2.70	1.92	0.71	739	2.62	1.86	0.71	755	2.53	1.80	0.71	789
28	22	2.93	1.73	0.59	722	2.83	1.67	0.59	768	2.76	1.63	0.59	789	2.65	1.56	0.59	822
28	24	3.08	1.45	0.47	755	2.97	1.39	0.47	797	2.90	1.36	0.47	822	2.81	1.32	0.47	863
28	26	3.17	1.11	0.35	797	3.08	1.08	0.35	838	3.04	1.06	0.35	863	2.94	1.03	0.35	888
29	18	2.70	2.35	0.87	664	2.59	2.25	0.87	697	2.48	2.16	0.87	730	2.39	2.08	0.87	764
29	20	2.82	2.11	0.75	697	2.70	2.03	0.75	739	2.62	1.97	0.75	755	2.53	1.90	0.75	789
29	22	2.93	1.85	0.63	722	2.83	1.78	0.63	768	2.76	1.74	0.63	789	2.65	1.67	0.63	822
29	24	3.08	1.57	0.51	755	2.97	1.51	0.51	797	2.90	1.48	0.51	822	2.81	1.43	0.51	863
29	26	3.17	1.24	0.39	797	3.08	1.20	0.39	838	3.04	1.18	0.39	863	2.94	1.15	0.39	888
30	18	2.70	2.46	0.91	664	2.59	2.35	0.91	697	2.48	2.26	0.91	730	2.39	2.18	0.91	764
30	20	2.82	2.23	0.79	697	2.70	2.13	0.79	739	2.62	2.07	0.79	755	2.53	2.00	0.79	789
30	22	2.93	1.96	0.67	722	2.83	1.90	0.67	768	2.76	1.85	0.67	789	2.65	1.77	0.67	822
30	24	3.08	1.70	0.55	755	2.97	1.63	0.55	797	2.90	1.59	0.55	822	2.81	1.54	0.55	863
30	26	3.17	1.36	0.43	797	3.08	1.33	0.43	838	3.04	1.31	0.43	863	2.94	1.27	0.43	888
31	18	2.70	2.57	0.95	664	2.59	2.46	0.95	697	2.48	2.36	0.95	730	2.39	2.27	0.95	764
31	20	2.82	2.34	0.83	697	2.70	2.24	0.83	739	2.62	2.18	0.83	755	2.53	2.10	0.83	789
31	22	2.93	2.08	0.71	722	2.83	2.01	0.71	768	2.76	1.96	0.71	789	2.65	1.88	0.71	822
31	24	3.08	1.82	0.59	755	2.97	1.75	0.59	797	2.90	1.71	0.59	822	2.81	1.66	0.59	863
31	26	3.17	1.49	0.47	797	3.08	1.45	0.47	838	3.04	1.43	0.47	863	2.94	1.38	0.47	888
32	18	2.70	2.68	0.99	664	2.59	2.56	0.99	697	2.48	2.46	0.99	730	2.39	2.37	0.99	764
32	20	2.82	2.45	0.87	697	2.70	2.35	0.87	739	2.62	2.28	0.87	755	2.53	2.20	0.87	789
32	22	2.93	2.20	0.75	722	2.83	2.12	0.75	768	2.76	2.07	0.75	789	2.65	1.98	0.75	822
32	24	3.08	1.94	0.63	755	2.97	1.87	0.63	797	2.90	1.83	0.63	822	2.81	1.77	0.63	863
32	26	3.17	1.62	0.51	797	3.08	1.57	0.51	838	3.04	1.55	0.51	863	2.94	1.50	0.51	888

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-09RV -E1(Single) : MUX-18RV -E1

CAPACITY : 2.3 kW INPUT(Total=Indoor+Outdoor) : 830 W SHF : 0.73

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.25	1.24	0.55	813	2.07	1.14	0.55	863	1.99	1.09	0.55	880
21	20	2.37	1.02	0.43	847	2.21	0.95	0.43	888	2.13	0.91	0.43	913
22	18	2.25	1.33	0.59	813	2.07	1.22	0.59	863	1.99	1.17	0.59	880
22	20	2.37	1.11	0.47	847	2.21	1.04	0.47	888	2.13	1.00	0.47	913
22	22	2.51	0.88	0.35	880	2.35	0.82	0.35	930	2.27	0.79	0.35	946
23	18	2.25	1.42	0.63	813	2.07	1.30	0.63	863	1.99	1.25	0.63	880
23	20	2.37	1.21	0.51	847	2.21	1.13	0.51	888	2.13	1.09	0.51	913
23	22	2.51	0.98	0.39	880	2.35	0.91	0.39	930	2.27	0.88	0.39	946
24	18	2.25	1.51	0.67	813	2.07	1.39	0.67	863	1.99	1.33	0.67	880
24	20	2.37	1.30	0.55	847	2.21	1.21	0.55	888	2.13	1.17	0.55	913
24	22	2.51	1.08	0.43	880	2.35	1.01	0.43	930	2.27	0.97	0.43	946
24	24	2.65	0.82	0.31	913	2.48	0.77	0.31	955	2.42	0.75	0.31	975
25	20	2.37	1.40	0.59	847	2.21	1.30	0.59	888	2.13	1.26	0.59	913
25	22	2.51	1.18	0.47	880	2.35	1.10	0.47	930	2.27	1.06	0.47	946
25	24	2.65	0.93	0.35	913	2.48	0.87	0.35	955	2.42	0.85	0.35	975
26	18	2.25	1.69	0.75	813	2.07	1.55	0.75	863	1.99	1.49	0.75	880
26	20	2.37	1.49	0.63	847	2.21	1.39	0.63	888	2.13	1.34	0.63	913
26	22	2.51	1.28	0.51	880	2.35	1.20	0.51	930	2.27	1.16	0.51	946
26	24	2.65	1.03	0.39	913	2.48	0.97	0.39	955	2.42	0.94	0.39	975
26	26	2.78	0.75	0.27	946	2.62	0.71	0.27	988	2.54	0.69	0.27	1008
27	18	2.25	1.78	0.79	813	2.07	1.64	0.79	863	1.99	1.57	0.79	880
27	20	2.37	1.59	0.67	847	2.21	1.48	0.67	888	2.13	1.43	0.67	913
27	22	2.51	1.38	0.55	880	2.35	1.29	0.55	930	2.27	1.25	0.55	946
27	24	2.65	1.14	0.43	913	2.48	1.07	0.43	955	2.42	1.04	0.43	975
27	26	2.78	0.86	0.31	946	2.62	0.81	0.31	988	2.54	0.79	0.31	1008
28	18	2.25	1.87	0.83	813	2.07	1.72	0.83	863	1.99	1.65	0.83	880
28	20	2.37	1.68	0.71	847	2.21	1.57	0.71	888	2.13	1.51	0.71	913
28	22	2.51	1.48	0.59	880	2.35	1.38	0.59	930	2.27	1.34	0.59	946
28	24	2.65	1.24	0.47	913	2.48	1.17	0.47	955	2.42	1.14	0.47	975
28	26	2.78	0.97	0.35	946	2.62	0.92	0.35	988	2.54	0.89	0.35	1008
29	18	2.25	1.96	0.87	813	2.07	1.80	0.87	863	1.99	1.73	0.87	880
29	20	2.37	1.78	0.75	847	2.21	1.66	0.75	888	2.13	1.60	0.75	913
29	22	2.51	1.58	0.63	880	2.35	1.48	0.63	930	2.27	1.43	0.63	946
29	24	2.65	1.35	0.51	913	2.48	1.27	0.51	955	2.42	1.23	0.51	975
29	26	2.78	1.09	0.39	946	2.62	1.02	0.39	988	2.54	0.99	0.39	1008
30	18	2.25	2.05	0.91	813	2.07	1.88	0.91	863	1.99	1.81	0.91	880
30	20	2.37	1.87	0.79	847	2.21	1.74	0.79	888	2.13	1.68	0.79	913
30	22	2.51	1.68	0.67	880	2.35	1.57	0.67	930	2.27	1.52	0.67	946
30	24	2.65	1.45	0.55	913	2.48	1.37	0.55	955	2.42	1.33	0.55	975
30	26	2.78	1.20	0.43	946	2.62	1.13	0.43	988	2.54	1.09	0.43	1008
31	18	2.25	2.14	0.95	813	2.07	1.97	0.95	863	1.99	1.89	0.95	880
31	20	2.37	1.97	0.83	847	2.21	1.83	0.83	888	2.13	1.77	0.83	913
31	22	2.51	1.78	0.71	880	2.35	1.67	0.71	930	2.27	1.61	0.71	946
31	24	2.65	1.56	0.59	913	2.48	1.47	0.59	955	2.42	1.42	0.59	975
31	26	2.78	1.31	0.47	946	2.62	1.23	0.47	988	2.54	1.19	0.47	1008
32	18	2.25	2.23	0.99	813	2.07	2.05	0.99	863	1.99	1.97	0.99	880
32	20	2.37	2.06	0.87	847	2.21	1.92	0.87	888	2.13	1.85	0.87	913
32	22	2.51	1.88	0.75	880	2.35	1.76	0.75	930	2.27	1.70	0.75	946
32	24	2.65	1.67	0.63	913	2.48	1.56	0.63	955	2.42	1.52	0.63	975
32	26	2.78	1.42	0.51	946	2.62	1.34	0.51	988	2.54	1.30	0.51	1008

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-09RV -E1(Single) : MUX-24RV -E1

CAPACITY : 2.6 kW INPUT(Total=Indoor+Outdoor) : 975 W SHF : 0.69

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	3.06	1.56	0.51	780	2.93	1.49	0.51	819	2.81	1.43	0.51	858	2.70	1.38	0.51	897
21	20	3.19	1.24	0.39	819	3.06	1.19	0.39	868	2.96	1.16	0.39	887	2.86	1.12	0.39	926
22	18	3.06	1.68	0.55	780	2.93	1.61	0.55	819	2.81	1.54	0.55	858	2.70	1.49	0.55	897
22	20	3.19	1.37	0.43	819	3.06	1.31	0.43	868	2.96	1.27	0.43	887	2.86	1.23	0.43	926
22	22	3.32	1.03	0.31	848	3.20	0.99	0.31	902	3.12	0.97	0.31	926	2.99	0.93	0.31	965
23	18	3.06	1.80	0.59	780	2.93	1.73	0.59	819	2.81	1.66	0.59	858	2.70	1.60	0.59	897
23	20	3.19	1.50	0.47	819	3.06	1.44	0.47	868	2.96	1.39	0.47	887	2.86	1.34	0.47	926
23	22	3.32	1.16	0.35	848	3.20	1.12	0.35	902	3.12	1.09	0.35	926	2.99	1.05	0.35	965
24	18	3.06	1.92	0.63	780	2.93	1.84	0.63	819	2.81	1.77	0.63	858	2.70	1.70	0.63	897
24	20	3.19	1.62	0.51	819	3.06	1.56	0.51	868	2.96	1.51	0.51	887	2.86	1.46	0.51	926
24	22	3.32	1.29	0.39	848	3.20	1.25	0.39	902	3.12	1.22	0.39	926	2.99	1.17	0.39	965
24	24	3.48	0.94	0.27	887	3.35	0.91	0.27	936	3.28	0.88	0.27	965	3.17	0.86	0.27	1014
25	20	3.19	1.75	0.55	819	3.06	1.68	0.55	868	2.96	1.63	0.55	887	2.86	1.57	0.55	926
25	22	3.32	1.43	0.43	848	3.20	1.38	0.43	902	3.12	1.34	0.43	926	2.99	1.29	0.43	965
25	24	3.48	1.08	0.31	887	3.35	1.04	0.31	936	3.28	1.02	0.31	965	3.17	0.98	0.31	1014
26	18	3.06	2.17	0.71	780	2.93	2.08	0.71	819	2.81	1.99	0.71	858	2.70	1.92	0.71	897
26	20	3.19	1.88	0.59	819	3.06	1.80	0.59	868	2.96	1.75	0.59	887	2.86	1.69	0.59	926
26	22	3.32	1.56	0.47	848	3.20	1.50	0.47	902	3.12	1.47	0.47	926	2.99	1.41	0.47	965
26	24	3.48	1.22	0.35	887	3.35	1.17	0.35	936	3.28	1.15	0.35	965	3.17	1.11	0.35	1014
26	26	3.59	0.83	0.23	936	3.48	0.80	0.23	985	3.43	0.79	0.23	1014	3.33	0.77	0.23	1043
27	18	3.06	2.29	0.75	780	2.93	2.19	0.75	819	2.81	2.11	0.75	858	2.70	2.03	0.75	897
27	20	3.19	2.01	0.63	819	3.06	1.92	0.63	868	2.96	1.87	0.63	887	2.86	1.80	0.63	926
27	22	3.32	1.69	0.51	848	3.20	1.63	0.51	902	3.12	1.59	0.51	926	2.99	1.52	0.51	965
27	24	3.48	1.36	0.39	887	3.35	1.31	0.39	936	3.28	1.28	0.39	965	3.17	1.24	0.39	1014
27	26	3.59	0.97	0.27	936	3.48	0.94	0.27	985	3.43	0.93	0.27	1014	3.33	0.90	0.27	1043
28	18	3.06	2.41	0.79	780	2.93	2.31	0.79	819	2.81	2.22	0.79	858	2.70	2.14	0.79	897
28	20	3.19	2.13	0.67	819	3.06	2.05	0.67	868	2.96	1.99	0.67	887	2.86	1.92	0.67	926
28	22	3.32	1.82	0.55	848	3.20	1.76	0.55	902	3.12	1.72	0.55	926	2.99	1.64	0.55	965
28	24	3.48	1.50	0.43	887	3.35	1.44	0.43	936	3.28	1.41	0.43	965	3.17	1.36	0.43	1014
28	26	3.59	1.11	0.31	936	3.48	1.08	0.31	985	3.43	1.06	0.31	1014	3.33	1.03	0.31	1043
29	18	3.06	2.54	0.83	780	2.93	2.43	0.83	819	2.81	2.33	0.83	858	2.70	2.24	0.83	897
29	20	3.19	2.26	0.71	819	3.06	2.17	0.71	868	2.96	2.10	0.71	887	2.86	2.03	0.71	926
29	22	3.32	1.96	0.59	848	3.20	1.89	0.59	902	3.12	1.84	0.59	926	2.99	1.76	0.59	965
29	24	3.48	1.64	0.47	887	3.35	1.58	0.47	936	3.28	1.54	0.47	965	3.17	1.49	0.47	1014
29	26	3.59	1.26	0.35	936	3.48	1.22	0.35	985	3.43	1.20	0.35	1014	3.33	1.16	0.35	1043
30	18	3.06	2.66	0.87	780	2.93	2.54	0.87	819	2.81	2.44	0.87	858	2.70	2.35	0.87	897
30	20	3.19	2.39	0.75	819	3.06	2.29	0.75	868	2.96	2.22	0.75	887	2.86	2.15	0.75	926
30	22	3.32	2.09	0.63	848	3.20	2.01	0.63	902	3.12	1.97	0.63	926	2.99	1.88	0.63	965
30	24	3.48	1.78	0.51	887	3.35	1.71	0.51	936	3.28	1.67	0.51	965	3.17	1.62	0.51	1014
30	26	3.59	1.40	0.39	936	3.48	1.36	0.39	985	3.43	1.34	0.39	1014	3.33	1.30	0.39	1043
31	18	3.06	2.78	0.91	780	2.93	2.66	0.91	819	2.81	2.56	0.91	858	2.70	2.46	0.91	897
31	20	3.19	2.52	0.79	819	3.06	2.41	0.79	868	2.96	2.34	0.79	887	2.86	2.26	0.79	926
31	22	3.32	2.22	0.67	848	3.20	2.14	0.67	902	3.12	2.09	0.67	926	2.99	2.00	0.67	965
31	24	3.48	1.92	0.55	887	3.35	1.84	0.55	936	3.28	1.80	0.55	965	3.17	1.74	0.55	1014
31	26	3.59	1.54	0.43	936	3.48	1.50	0.43	985	3.43	1.48	0.43	1014	3.33	1.43	0.43	1043
32	18	3.06	2.90	0.95	780	2.93	2.78	0.95	819	2.81	2.67	0.95	858	2.70	2.57	0.95	897
32	20	3.19	2.64	0.83	819	3.06	2.54	0.83	868	2.96	2.46	0.83	887	2.86	2.37	0.83	926
32	22	3.32	2.35	0.71	848	3.20	2.27	0.71	902	3.12	2.22	0.71	926	2.99	2.12	0.71	965
32	24	3.48	2.06	0.59	887	3.35	1.98	0.59	936	3.28	1.93	0.59	965	3.17	1.87	0.59	1014
32	26	3.59	1.69	0.47	936	3.48	1.64	0.47	985	3.43	1.61	0.47	1014	3.33	1.56	0.47	1043

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-09RV -E1(Single) : MUX-24RV -E1

CAPACITY : 2.6 kW INPUT(Total=Indoor+Outdoor) : 975 W SHF : 0.69

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.55	1.30	0.51	956	2.34	1.19	0.51	1014	2.25	1.15	0.51	1034
21	20	2.68	1.04	0.39	995	2.50	0.97	0.39	1043	2.41	0.94	0.39	1073
22	18	2.55	1.40	0.55	956	2.34	1.29	0.55	1014	2.25	1.24	0.55	1034
22	20	2.68	1.15	0.43	995	2.50	1.07	0.43	1043	2.41	1.03	0.43	1073
22	22	2.83	0.88	0.31	1034	2.65	0.82	0.31	1092	2.56	0.79	0.31	1112
23	18	2.55	1.50	0.59	956	2.34	1.38	0.59	1014	2.25	1.33	0.59	1034
23	20	2.68	1.26	0.47	995	2.50	1.17	0.47	1043	2.41	1.13	0.47	1073
23	22	2.83	0.99	0.35	1034	2.65	0.93	0.35	1092	2.56	0.90	0.35	1112
24	18	2.55	1.61	0.63	956	2.34	1.47	0.63	1014	2.25	1.42	0.63	1034
24	20	2.68	1.37	0.51	995	2.50	1.27	0.51	1043	2.41	1.23	0.51	1073
24	22	2.83	1.11	0.39	1034	2.65	1.03	0.39	1092	2.56	1.00	0.39	1112
24	24	2.99	0.81	0.27	1073	2.81	0.76	0.27	1121	2.73	0.74	0.27	1146
25	20	2.68	1.47	0.55	995	2.50	1.37	0.55	1043	2.41	1.32	0.55	1073
25	22	2.83	1.22	0.43	1034	2.65	1.14	0.43	1092	2.56	1.10	0.43	1112
25	24	2.99	0.93	0.31	1073	2.81	0.87	0.31	1121	2.73	0.85	0.31	1146
26	18	2.55	1.81	0.71	956	2.34	1.66	0.71	1014	2.25	1.60	0.71	1034
26	20	2.68	1.58	0.59	995	2.50	1.47	0.59	1043	2.41	1.42	0.59	1073
26	22	2.83	1.33	0.47	1034	2.65	1.25	0.47	1092	2.56	1.20	0.47	1112
26	24	2.99	1.05	0.35	1073	2.81	0.98	0.35	1121	2.73	0.96	0.35	1146
26	26	3.15	0.72	0.23	1112	2.96	0.68	0.23	1160	2.87	0.66	0.23	1185
27	18	2.55	1.91	0.75	956	2.34	1.76	0.75	1014	2.25	1.69	0.75	1034
27	20	2.68	1.69	0.63	995	2.50	1.57	0.63	1043	2.41	1.52	0.63	1073
27	22	2.83	1.45	0.51	1034	2.65	1.35	0.51	1092	2.56	1.31	0.51	1112
27	24	2.99	1.17	0.39	1073	2.81	1.10	0.39	1121	2.73	1.06	0.39	1146
27	26	3.15	0.85	0.27	1112	2.96	0.80	0.27	1160	2.87	0.78	0.27	1185
28	18	2.55	2.01	0.79	956	2.34	1.85	0.79	1014	2.25	1.78	0.79	1034
28	20	2.68	1.79	0.67	995	2.50	1.67	0.67	1043	2.41	1.61	0.67	1073
28	22	2.83	1.56	0.55	1034	2.65	1.46	0.55	1092	2.56	1.41	0.55	1112
28	24	2.99	1.29	0.43	1073	2.81	1.21	0.43	1121	2.73	1.17	0.43	1146
28	26	3.15	0.98	0.31	1112	2.96	0.92	0.31	1160	2.87	0.89	0.31	1185
29	18	2.55	2.11	0.83	956	2.34	1.94	0.83	1014	2.25	1.87	0.83	1034
29	20	2.68	1.90	0.71	995	2.50	1.77	0.71	1043	2.41	1.71	0.71	1073
29	22	2.83	1.67	0.59	1034	2.65	1.56	0.59	1092	2.56	1.51	0.59	1112
29	24	2.99	1.41	0.47	1073	2.81	1.32	0.47	1121	2.73	1.28	0.47	1146
29	26	3.15	1.10	0.35	1112	2.96	1.04	0.35	1160	2.87	1.01	0.35	1185
30	18	2.55	2.22	0.87	956	2.34	2.04	0.87	1014	2.25	1.96	0.87	1034
30	20	2.68	2.01	0.75	995	2.50	1.87	0.75	1043	2.41	1.80	0.75	1073
30	22	2.83	1.79	0.63	1034	2.65	1.67	0.63	1092	2.56	1.61	0.63	1112
30	24	2.99	1.52	0.51	1073	2.81	1.43	0.51	1121	2.73	1.39	0.51	1146
30	26	3.15	1.23	0.39	1112	2.96	1.16	0.39	1160	2.87	1.12	0.39	1185
31	18	2.55	2.32	0.91	956	2.34	2.13	0.91	1014	2.25	2.05	0.91	1034
31	20	2.68	2.12	0.79	995	2.50	1.97	0.79	1043	2.41	1.90	0.79	1073
31	22	2.83	1.90	0.67	1034	2.65	1.78	0.67	1092	2.56	1.72	0.67	1112
31	24	2.99	1.64	0.55	1073	2.81	1.54	0.55	1121	2.73	1.50	0.55	1146
31	26	3.15	1.35	0.43	1112	2.96	1.27	0.43	1160	2.87	1.24	0.43	1185
32	18	2.55	2.42	0.95	956	2.34	2.22	0.95	1014	2.25	2.14	0.95	1034
32	20	2.68	2.22	0.83	995	2.50	2.07	0.83	1043	2.41	2.00	0.83	1073
32	22	2.83	2.01	0.71	1034	2.65	1.88	0.71	1092	2.56	1.82	0.71	1112
32	24	2.99	1.76	0.59	1073	2.81	1.66	0.59	1121	2.73	1.61	0.59	1146
32	26	3.15	1.48	0.47	1112	2.96	1.39	0.47	1160	2.87	1.35	0.47	1185

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-09RV -E1(Single) : MUX-24RV -E1

CAPACITY : 2.6 kW INPUT(Total=Indoor+Outdoor) : 1015 W SHF : 0.69

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	3.06	1.56	0.51	812	2.93	1.49	0.51	853	2.81	1.43	0.51	893	2.70	1.38	0.51	934
21	20	3.19	1.24	0.39	853	3.06	1.19	0.39	903	2.96	1.16	0.39	924	2.86	1.12	0.39	964
22	18	3.06	1.68	0.55	812	2.93	1.61	0.55	853	2.81	1.54	0.55	893	2.70	1.49	0.55	934
22	20	3.19	1.37	0.43	853	3.06	1.31	0.43	903	2.96	1.27	0.43	924	2.86	1.23	0.43	964
22	22	3.32	1.03	0.31	883	3.20	0.99	0.31	939	3.12	0.97	0.31	964	2.99	0.93	0.31	1005
23	18	3.06	1.80	0.59	812	2.93	1.73	0.59	853	2.81	1.66	0.59	893	2.70	1.60	0.59	934
23	20	3.19	1.50	0.47	853	3.06	1.44	0.47	903	2.96	1.39	0.47	924	2.86	1.34	0.47	964
23	22	3.32	1.16	0.35	883	3.20	1.12	0.35	939	3.12	1.09	0.35	964	2.99	1.05	0.35	1005
24	18	3.06	1.92	0.63	812	2.93	1.84	0.63	853	2.81	1.77	0.63	893	2.70	1.70	0.63	934
24	20	3.19	1.62	0.51	853	3.06	1.56	0.51	903	2.96	1.51	0.51	924	2.86	1.46	0.51	964
24	22	3.32	1.29	0.39	883	3.20	1.25	0.39	939	3.12	1.22	0.39	964	2.99	1.17	0.39	1005
24	24	3.48	0.94	0.27	924	3.35	0.91	0.27	974	3.28	0.88	0.27	1005	3.17	0.86	0.27	1056
25	20	3.19	1.75	0.55	853	3.06	1.68	0.55	903	2.96	1.63	0.55	924	2.86	1.57	0.55	964
25	22	3.32	1.43	0.43	883	3.20	1.38	0.43	939	3.12	1.34	0.43	964	2.99	1.29	0.43	1005
25	24	3.48	1.08	0.31	924	3.35	1.04	0.31	974	3.28	1.02	0.31	1005	3.17	0.98	0.31	1056
26	18	3.06	2.17	0.71	812	2.93	2.08	0.71	853	2.81	1.99	0.71	893	2.70	1.92	0.71	934
26	20	3.19	1.88	0.59	853	3.06	1.80	0.59	903	2.96	1.75	0.59	924	2.86	1.69	0.59	964
26	22	3.32	1.56	0.47	883	3.20	1.50	0.47	939	3.12	1.47	0.47	964	2.99	1.41	0.47	1005
26	24	3.48	1.22	0.35	924	3.35	1.17	0.35	974	3.28	1.15	0.35	1005	3.17	1.11	0.35	1056
26	26	3.59	0.83	0.23	974	3.48	0.80	0.23	1025	3.43	0.79	0.23	1056	3.33	0.77	0.23	1086
27	18	3.06	2.29	0.75	812	2.93	2.19	0.75	853	2.81	2.11	0.75	893	2.70	2.03	0.75	934
27	20	3.19	2.01	0.63	853	3.06	1.92	0.63	903	2.96	1.87	0.63	924	2.86	1.80	0.63	964
27	22	3.32	1.69	0.51	883	3.20	1.63	0.51	939	3.12	1.59	0.51	964	2.99	1.52	0.51	1005
27	24	3.48	1.36	0.39	924	3.35	1.31	0.39	974	3.28	1.28	0.39	1005	3.17	1.24	0.39	1056
27	26	3.59	0.97	0.27	974	3.48	0.94	0.27	1025	3.43	0.93	0.27	1056	3.33	0.90	0.27	1086
28	18	3.06	2.41	0.79	812	2.93	2.31	0.79	853	2.81	2.22	0.79	893	2.70	2.14	0.79	934
28	20	3.19	2.13	0.67	853	3.06	2.05	0.67	903	2.96	1.99	0.67	924	2.86	1.92	0.67	964
28	22	3.32	1.82	0.55	883	3.20	1.76	0.55	939	3.12	1.72	0.55	964	2.99	1.64	0.55	1005
28	24	3.48	1.50	0.43	924	3.35	1.44	0.43	974	3.28	1.41	0.43	1005	3.17	1.36	0.43	1056
28	26	3.59	1.11	0.31	974	3.48	1.08	0.31	1025	3.43	1.06	0.31	1056	3.33	1.03	0.31	1086
29	18	3.06	2.54	0.83	812	2.93	2.43	0.83	853	2.81	2.33	0.83	893	2.70	2.24	0.83	934
29	20	3.19	2.26	0.71	853	3.06	2.17	0.71	903	2.96	2.10	0.71	924	2.86	2.03	0.71	964
29	22	3.32	1.96	0.59	883	3.20	1.89	0.59	939	3.12	1.84	0.59	964	2.99	1.76	0.59	1005
29	24	3.48	1.64	0.47	924	3.35	1.58	0.47	974	3.28	1.54	0.47	1005	3.17	1.49	0.47	1056
29	26	3.59	1.26	0.35	974	3.48	1.22	0.35	1025	3.43	1.20	0.35	1056	3.33	1.16	0.35	1086
30	18	3.06	2.66	0.87	812	2.93	2.54	0.87	853	2.81	2.44	0.87	893	2.70	2.35	0.87	934
30	20	3.19	2.39	0.75	853	3.06	2.29	0.75	903	2.96	2.22	0.75	924	2.86	2.15	0.75	964
30	22	3.32	2.09	0.63	883	3.20	2.01	0.63	939	3.12	1.97	0.63	964	2.99	1.88	0.63	1005
30	24	3.48	1.78	0.51	924	3.35	1.71	0.51	974	3.28	1.67	0.51	1005	3.17	1.62	0.51	1056
30	26	3.59	1.40	0.39	974	3.48	1.36	0.39	1025	3.43	1.34	0.39	1056	3.33	1.30	0.39	1086
31	18	3.06	2.78	0.91	812	2.93	2.66	0.91	853	2.81	2.56	0.91	893	2.70	2.46	0.91	934
31	20	3.19	2.52	0.79	853	3.06	2.41	0.79	903	2.96	2.34	0.79	924	2.86	2.26	0.79	964
31	22	3.32	2.22	0.67	883	3.20	2.14	0.67	939	3.12	2.09	0.67	964	2.99	2.00	0.67	1005
31	24	3.48	1.92	0.55	924	3.35	1.84	0.55	974	3.28	1.80	0.55	1005	3.17	1.74	0.55	1056
31	26	3.59	1.54	0.43	974	3.48	1.50	0.43	1025	3.43	1.48	0.43	1056	3.33	1.43	0.43	1086
32	18	3.06	2.90	0.95	812	2.93	2.78	0.95	853	2.81	2.67	0.95	893	2.70	2.57	0.95	934
32	20	3.19	2.64	0.83	853	3.06	2.54	0.83	903	2.96	2.46	0.83	924	2.86	2.37	0.83	964
32	22	3.32	2.35	0.71	883	3.20	2.27	0.71	939	3.12	2.22	0.71	964	2.99	2.12	0.71	1005
32	24	3.48	2.06	0.59	924	3.35	1.98	0.59	974	3.28	1.93	0.59	1005	3.17	1.87	0.59	1056
32	26	3.59	1.69	0.47	974	3.48	1.64	0.47	1025	3.43	1.61	0.47	1056	3.33	1.56	0.47	1086

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-09RV -E1(Single) : MUX-24RV -E1

CAPACITY : 2.6 kW INPUT(Total=Indoor+Outdoor) : 1015 W SHF : 0.69

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.55	1.30	0.51	995	2.34	1.19	0.51	1056	2.25	1.15	0.51	1076
21	20	2.68	1.04	0.39	1035	2.50	0.97	0.39	1086	2.41	0.94	0.39	1117
22	18	2.55	1.40	0.55	995	2.34	1.29	0.55	1056	2.25	1.24	0.55	1076
22	20	2.68	1.15	0.43	1035	2.50	1.07	0.43	1086	2.41	1.03	0.43	1117
22	22	2.83	0.88	0.31	1076	2.65	0.82	0.31	1137	2.56	0.79	0.31	1157
23	18	2.55	1.50	0.59	995	2.34	1.38	0.59	1056	2.25	1.33	0.59	1076
23	20	2.68	1.26	0.47	1035	2.50	1.17	0.47	1086	2.41	1.13	0.47	1117
23	22	2.83	0.99	0.35	1076	2.65	0.93	0.35	1137	2.56	0.90	0.35	1157
24	18	2.55	1.61	0.63	995	2.34	1.47	0.63	1056	2.25	1.42	0.63	1076
24	20	2.68	1.37	0.51	1035	2.50	1.27	0.51	1086	2.41	1.23	0.51	1117
24	22	2.83	1.11	0.39	1076	2.65	1.03	0.39	1137	2.56	1.00	0.39	1157
24	24	2.99	0.81	0.27	1117	2.81	0.76	0.27	1167	2.73	0.74	0.27	1193
25	20	2.68	1.47	0.55	1035	2.50	1.37	0.55	1086	2.41	1.32	0.55	1117
25	22	2.83	1.22	0.43	1076	2.65	1.14	0.43	1137	2.56	1.10	0.43	1157
25	24	2.99	0.93	0.31	1117	2.81	0.87	0.31	1167	2.73	0.85	0.31	1193
26	18	2.55	1.81	0.71	995	2.34	1.66	0.71	1056	2.25	1.60	0.71	1076
26	20	2.68	1.58	0.59	1035	2.50	1.47	0.59	1086	2.41	1.42	0.59	1117
26	22	2.83	1.33	0.47	1076	2.65	1.25	0.47	1137	2.56	1.20	0.47	1157
26	24	2.99	1.05	0.35	1117	2.81	0.98	0.35	1167	2.73	0.96	0.35	1193
26	26	3.15	0.72	0.23	1157	2.96	0.68	0.23	1208	2.87	0.66	0.23	1233
27	18	2.55	1.91	0.75	995	2.34	1.76	0.75	1056	2.25	1.69	0.75	1076
27	20	2.68	1.69	0.63	1035	2.50	1.57	0.63	1086	2.41	1.52	0.63	1117
27	22	2.83	1.45	0.51	1076	2.65	1.35	0.51	1137	2.56	1.31	0.51	1157
27	24	2.99	1.17	0.39	1117	2.81	1.10	0.39	1167	2.73	1.06	0.39	1193
27	26	3.15	0.85	0.27	1157	2.96	0.80	0.27	1208	2.87	0.78	0.27	1233
28	18	2.55	2.01	0.79	995	2.34	1.85	0.79	1056	2.25	1.78	0.79	1076
28	20	2.68	1.79	0.67	1035	2.50	1.67	0.67	1086	2.41	1.61	0.67	1117
28	22	2.83	1.56	0.55	1076	2.65	1.46	0.55	1137	2.56	1.41	0.55	1157
28	24	2.99	1.29	0.43	1117	2.81	1.21	0.43	1167	2.73	1.17	0.43	1193
28	26	3.15	0.98	0.31	1157	2.96	0.92	0.31	1208	2.87	0.89	0.31	1233
29	18	2.55	2.11	0.83	995	2.34	1.94	0.83	1056	2.25	1.87	0.83	1076
29	20	2.68	1.90	0.71	1035	2.50	1.77	0.71	1086	2.41	1.71	0.71	1117
29	22	2.83	1.67	0.59	1076	2.65	1.56	0.59	1137	2.56	1.51	0.59	1157
29	24	2.99	1.41	0.47	1117	2.81	1.32	0.47	1167	2.73	1.28	0.47	1193
29	26	3.15	1.10	0.35	1157	2.96	1.04	0.35	1208	2.87	1.01	0.35	1233
30	18	2.55	2.22	0.87	995	2.34	2.04	0.87	1056	2.25	1.96	0.87	1076
30	20	2.68	2.01	0.75	1035	2.50	1.87	0.75	1086	2.41	1.80	0.75	1117
30	22	2.83	1.79	0.63	1076	2.65	1.67	0.63	1137	2.56	1.61	0.63	1157
30	24	2.99	1.52	0.51	1117	2.81	1.43	0.51	1167	2.73	1.39	0.51	1193
30	26	3.15	1.23	0.39	1157	2.96	1.16	0.39	1208	2.87	1.12	0.39	1233
31	18	2.55	2.32	0.91	995	2.34	2.13	0.91	1056	2.25	2.05	0.91	1076
31	20	2.68	2.12	0.79	1035	2.50	1.97	0.79	1086	2.41	1.90	0.79	1117
31	22	2.83	1.90	0.67	1076	2.65	1.78	0.67	1137	2.56	1.72	0.67	1157
31	24	2.99	1.64	0.55	1117	2.81	1.54	0.55	1167	2.73	1.50	0.55	1193
31	26	3.15	1.35	0.43	1157	2.96	1.27	0.43	1208	2.87	1.24	0.43	1233
32	18	2.55	2.42	0.95	995	2.34	2.22	0.95	1056	2.25	2.14	0.95	1076
32	20	2.68	2.22	0.83	1035	2.50	2.07	0.83	1086	2.41	2.00	0.83	1117
32	22	2.83	2.01	0.71	1076	2.65	1.88	0.71	1137	2.56	1.82	0.71	1157
32	24	2.99	1.76	0.59	1117	2.81	1.66	0.59	1167	2.73	1.61	0.59	1193
32	26	3.15	1.48	0.47	1157	2.96	1.39	0.47	1208	2.87	1.35	0.47	1233

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-12RV -E1(Single) : MUX-24RV -E1

CAPACITY : 3.4 kW INPUT(Total=Indoor+Outdoor) : 1355 W SHF : 0.67

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	4.00	1.96	0.49	1084	3.83	1.87	0.49	1138	3.67	1.80	0.49	1192	3.54	1.73	0.49	1247
21	20	4.17	1.54	0.37	1138	4.00	1.48	0.37	1206	3.88	1.43	0.37	1233	3.74	1.38	0.37	1287
22	18	4.00	2.12	0.53	1084	3.83	2.03	0.53	1138	3.67	1.95	0.53	1192	3.54	1.87	0.53	1247
22	20	4.17	1.71	0.41	1138	4.00	1.64	0.41	1206	3.88	1.59	0.41	1233	3.74	1.53	0.41	1287
22	22	4.34	1.26	0.29	1179	4.18	1.21	0.29	1253	4.08	1.18	0.29	1287	3.91	1.13	0.29	1341
23	18	4.00	2.28	0.57	1084	3.83	2.18	0.57	1138	3.67	2.09	0.57	1192	3.54	2.02	0.57	1247
23	20	4.17	1.87	0.45	1138	4.00	1.80	0.45	1206	3.88	1.74	0.45	1233	3.74	1.68	0.45	1287
23	22	4.34	1.43	0.33	1179	4.18	1.38	0.33	1253	4.08	1.35	0.33	1287	3.91	1.29	0.33	1341
24	18	4.00	2.44	0.61	1084	3.83	2.33	0.61	1138	3.67	2.24	0.61	1192	3.54	2.16	0.61	1247
24	20	4.17	2.04	0.49	1138	4.00	1.96	0.49	1206	3.88	1.90	0.49	1233	3.74	1.83	0.49	1287
24	22	4.34	1.60	0.37	1179	4.18	1.55	0.37	1253	4.08	1.51	0.37	1287	3.91	1.45	0.37	1341
24	24	4.56	1.14	0.25	1233	4.39	1.10	0.25	1301	4.28	1.07	0.25	1341	4.15	1.04	0.25	1409
25	20	4.17	2.21	0.53	1138	4.00	2.12	0.53	1206	3.88	2.05	0.53	1233	3.74	1.98	0.53	1287
25	22	4.34	1.78	0.41	1179	4.18	1.71	0.41	1253	4.08	1.67	0.41	1287	3.91	1.60	0.41	1341
25	24	4.56	1.32	0.29	1233	4.39	1.27	0.29	1301	4.28	1.24	0.29	1341	4.15	1.20	0.29	1409
26	18	4.00	2.76	0.69	1084	3.83	2.64	0.69	1138	3.67	2.53	0.69	1192	3.54	2.44	0.69	1247
26	20	4.17	2.37	0.57	1138	4.00	2.28	0.57	1206	3.88	2.21	0.57	1233	3.74	2.13	0.57	1287
26	22	4.34	1.95	0.45	1179	4.18	1.88	0.45	1253	4.08	1.84	0.45	1287	3.91	1.76	0.45	1341
26	24	4.56	1.50	0.33	1233	4.39	1.45	0.33	1301	4.28	1.41	0.33	1341	4.15	1.37	0.33	1409
26	26	4.69	0.99	0.21	1301	4.56	0.96	0.21	1369	4.49	0.94	0.21	1409	4.35	0.91	0.21	1450
27	18	4.00	2.92	0.73	1084	3.83	2.79	0.73	1138	3.67	2.68	0.73	1192	3.54	2.58	0.73	1247
27	20	4.17	2.54	0.61	1138	4.00	2.44	0.61	1206	3.88	2.36	0.61	1233	3.74	2.28	0.61	1287
27	22	4.34	2.12	0.49	1179	4.18	2.05	0.49	1253	4.08	2.00	0.49	1287	3.91	1.92	0.49	1341
27	24	4.56	1.69	0.37	1233	4.39	1.62	0.37	1301	4.28	1.59	0.37	1341	4.15	1.53	0.37	1409
27	26	4.69	1.17	0.25	1301	4.56	1.14	0.25	1369	4.49	1.12	0.25	1409	4.35	1.09	0.25	1450
28	18	4.00	3.08	0.77	1084	3.83	2.95	0.77	1138	3.67	2.83	0.77	1192	3.54	2.72	0.77	1247
28	20	4.17	2.71	0.65	1138	4.00	2.60	0.65	1206	3.88	2.52	0.65	1233	3.74	2.43	0.65	1287
28	22	4.34	2.30	0.53	1179	4.18	2.22	0.53	1253	4.08	2.16	0.53	1287	3.91	2.07	0.53	1341
28	24	4.56	1.87	0.41	1233	4.39	1.80	0.41	1301	4.28	1.76	0.41	1341	4.15	1.70	0.41	1409
28	26	4.69	1.36	0.29	1301	4.56	1.32	0.29	1369	4.49	1.30	0.29	1409	4.35	1.26	0.29	1450
29	18	4.00	3.24	0.81	1084	3.83	3.10	0.81	1138	3.67	2.97	0.81	1192	3.54	2.86	0.81	1247
29	20	4.17	2.87	0.69	1138	4.00	2.76	0.69	1206	3.88	2.67	0.69	1233	3.74	2.58	0.69	1287
29	22	4.34	2.47	0.57	1179	4.18	2.38	0.57	1253	4.08	2.33	0.57	1287	3.91	2.23	0.57	1341
29	24	4.56	2.05	0.45	1233	4.39	1.97	0.45	1301	4.28	1.93	0.45	1341	4.15	1.87	0.45	1409
29	26	4.69	1.55	0.33	1301	4.56	1.50	0.33	1369	4.49	1.48	0.33	1409	4.35	1.44	0.33	1450
30	18	4.00	3.40	0.85	1084	3.83	3.25	0.85	1138	3.67	3.12	0.85	1192	3.54	3.01	0.85	1247
30	20	4.17	3.04	0.73	1138	4.00	2.92	0.73	1206	3.88	2.83	0.73	1233	3.74	2.73	0.73	1287
30	22	4.34	2.64	0.61	1179	4.18	2.55	0.61	1253	4.08	2.49	0.61	1287	3.91	2.39	0.61	1341
30	24	4.56	2.23	0.49	1233	4.39	2.15	0.49	1301	4.28	2.10	0.49	1341	4.15	2.03	0.49	1409
30	26	4.69	1.74	0.37	1301	4.56	1.69	0.37	1369	4.49	1.66	0.37	1409	4.35	1.61	0.37	1450
31	18	4.00	3.56	0.89	1084	3.83	3.40	0.89	1138	3.67	3.27	0.89	1192	3.54	3.15	0.89	1247
31	20	4.17	3.21	0.77	1138	4.00	3.08	0.77	1206	3.88	2.98	0.77	1233	3.74	2.88	0.77	1287
31	22	4.34	2.82	0.65	1179	4.18	2.72	0.65	1253	4.08	2.65	0.65	1287	3.91	2.54	0.65	1341
31	24	4.56	2.41	0.53	1233	4.39	2.32	0.53	1301	4.28	2.27	0.53	1341	4.15	2.20	0.53	1409
31	26	4.69	1.92	0.41	1301	4.56	1.87	0.41	1369	4.49	1.84	0.41	1409	4.35	1.78	0.41	1450
32	18	4.00	3.72	0.93	1084	3.83	3.56	0.93	1138	3.67	3.41	0.93	1192	3.54	3.29	0.93	1247
32	20	4.17	3.37	0.81	1138	4.00	3.24	0.81	1206	3.88	3.14	0.81	1233	3.74	3.03	0.81	1287
32	22	4.34	2.99	0.69	1179	4.18	2.89	0.69	1253	4.08	2.82	0.69	1287	3.91	2.70	0.69	1341
32	24	4.56	2.60	0.57	1233	4.39	2.50	0.57	1301	4.28	2.44	0.57	1341	4.15	2.36	0.57	1409
32	26	4.69	2.11	0.45	1301	4.56	2.05	0.45	1369	4.49	2.02	0.45	1409	4.35	1.96	0.45	1450

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (220V)

MSC-12RV -E1(Single) : MUX-24RV -E1

CAPACITY : 3.4 kW INPUT(Total=Indoor+Outdoor) : 1355 W SHF : 0.67

		OUTDOOR DB(℃)											
INDOOR	INDOOR	35				40				43			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	3.33	1.63	0.49	1328	3.06	1.50	0.49	1409	2.94	1.44	0.49	1436
21	20	3.50	1.30	0.37	1382	3.26	1.21	0.37	1450	3.15	1.16	0.37	1491
22	18	3.33	1.77	0.53	1328	3.06	1.62	0.53	1409	2.94	1.56	0.53	1436
22	20	3.50	1.44	0.41	1382	3.26	1.34	0.41	1450	3.15	1.29	0.41	1491
22	22	3.71	1.07	0.29	1436	3.47	1.01	0.29	1518	3.35	0.97	0.29	1545
23	18	3.33	1.90	0.57	1328	3.06	1.74	0.57	1409	2.94	1.68	0.57	1436
23	20	3.50	1.58	0.45	1382	3.26	1.47	0.45	1450	3.15	1.42	0.45	1491
23	22	3.71	1.22	0.33	1436	3.47	1.14	0.33	1518	3.35	1.11	0.33	1545
24	18	3.33	2.03	0.61	1328	3.06	1.87	0.61	1409	2.94	1.79	0.61	1436
24	20	3.50	1.72	0.49	1382	3.26	1.60	0.49	1450	3.15	1.54	0.49	1491
24	22	3.71	1.37	0.37	1436	3.47	1.28	0.37	1518	3.35	1.24	0.37	1545
24	24	3.91	0.98	0.25	1491	3.67	0.92	0.25	1558	3.57	0.89	0.25	1592
25	20	3.50	1.86	0.53	1382	3.26	1.73	0.53	1450	3.15	1.67	0.53	1491
25	22	3.71	1.52	0.41	1436	3.47	1.42	0.41	1518	3.35	1.37	0.41	1545
25	24	3.91	1.13	0.29	1491	3.67	1.06	0.29	1558	3.57	1.04	0.29	1592
26	18	3.33	2.30	0.69	1328	3.06	2.11	0.69	1409	2.94	2.03	0.69	1436
26	20	3.50	2.00	0.57	1382	3.26	1.86	0.57	1450	3.15	1.79	0.57	1491
26	22	3.71	1.67	0.45	1436	3.47	1.56	0.45	1518	3.35	1.51	0.45	1545
26	24	3.91	1.29	0.33	1491	3.67	1.21	0.33	1558	3.57	1.18	0.33	1592
26	26	4.11	0.86	0.21	1545	3.88	0.81	0.21	1612	3.76	0.79	0.21	1646
27	18	3.33	2.43	0.73	1328	3.06	2.23	0.73	1409	2.94	2.15	0.73	1436
27	20	3.50	2.14	0.61	1382	3.26	1.99	0.61	1450	3.15	1.92	0.61	1491
27	22	3.71	1.82	0.49	1436	3.47	1.70	0.49	1518	3.35	1.64	0.49	1545
27	24	3.91	1.45	0.37	1491	3.67	1.36	0.37	1558	3.57	1.32	0.37	1592
27	26	4.11	1.03	0.25	1545	3.88	0.97	0.25	1612	3.76	0.94	0.25	1646
28	18	3.33	2.57	0.77	1328	3.06	2.36	0.77	1409	2.94	2.26	0.77	1436
28	20	3.50	2.28	0.65	1382	3.26	2.12	0.65	1450	3.15	2.04	0.65	1491
28	22	3.71	1.96	0.53	1436	3.47	1.84	0.53	1518	3.35	1.77	0.53	1545
28	24	3.91	1.60	0.41	1491	3.67	1.51	0.41	1558	3.57	1.46	0.41	1592
28	26	4.11	1.19	0.29	1545	3.88	1.12	0.29	1612	3.76	1.09	0.29	1646
29	18	3.33	2.70	0.81	1328	3.06	2.48	0.81	1409	2.94	2.38	0.81	1436
29	20	3.50	2.42	0.69	1382	3.26	2.25	0.69	1450	3.15	2.17	0.69	1491
29	22	3.71	2.11	0.57	1436	3.47	1.98	0.57	1518	3.35	1.91	0.57	1545
29	24	3.91	1.76	0.45	1491	3.67	1.65	0.45	1558	3.57	1.61	0.45	1592
29	26	4.11	1.36	0.33	1545	3.88	1.28	0.33	1612	3.76	1.24	0.33	1646
30	18	3.33	2.83	0.85	1328	3.06	2.60	0.85	1409	2.94	2.50	0.85	1436
30	20	3.50	2.56	0.73	1382	3.26	2.38	0.73	1450	3.15	2.30	0.73	1491
30	22	3.71	2.26	0.61	1436	3.47	2.12	0.61	1518	3.35	2.04	0.61	1545
30	24	3.91	1.92	0.49	1491	3.67	1.80	0.49	1558	3.57	1.75	0.49	1592
30	26	4.11	1.52	0.37	1545	3.88	1.43	0.37	1612	3.76	1.39	0.37	1646
31	18	3.33	2.97	0.89	1328	3.06	2.72	0.89	1409	2.94	2.62	0.89	1436
31	20	3.50	2.70	0.77	1382	3.26	2.51	0.77	1450	3.15	2.42	0.77	1491
31	22	3.71	2.41	0.65	1436	3.47	2.25	0.65	1518	3.35	2.18	0.65	1545
31	24	3.91	2.07	0.53	1491	3.67	1.95	0.53	1558	3.57	1.89	0.53	1592
31	26	4.11	1.69	0.41	1545	3.88	1.59	0.41	1612	3.76	1.54	0.41	1646
32	18	3.33	3.10	0.93	1328	3.06	2.85	0.93	1409	2.94	2.74	0.93	1436
32	20	3.50	2.84	0.81	1382	3.26	2.64	0.81	1450	3.15	2.55	0.81	1491
32	22	3.71	2.56	0.69	1436	3.47	2.39	0.69	1518	3.35	2.31	0.69	1545
32	24	3.91	2.23	0.57	1491	3.67	2.09	0.57	1558	3.57	2.03	0.57	1592
32	26	4.11	1.85	0.45	1545	3.88	1.74	0.45	1612	3.76	1.69	0.45	1646

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-12RV -E1(Single) : MUX-24RV -E1

CAPACITY : 3.4 kW INPUT(Total=Indoor+Outdoor) : 1415 W SHF : 0.67

		OUTDOOR DB(℃)															
INDOOR	INDOOR	21				25				27				30			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	4.00	1.96	0.49	1132	3.83	1.87	0.49	1189	3.67	1.80	0.49	1245	3.54	1.73	0.49	1302
21	20	4.17	1.54	0.37	1189	4.00	1.48	0.37	1259	3.88	1.43	0.37	1288	3.74	1.38	0.37	1344
22	18	4.00	2.12	0.53	1132	3.83	2.03	0.53	1189	3.67	1.95	0.53	1245	3.54	1.87	0.53	1302
22	20	4.17	1.71	0.41	1189	4.00	1.64	0.41	1259	3.88	1.59	0.41	1288	3.74	1.53	0.41	1344
22	22	4.34	1.26	0.29	1231	4.18	1.21	0.29	1309	4.08	1.18	0.29	1344	3.91	1.13	0.29	1401
23	18	4.00	2.28	0.57	1132	3.83	2.18	0.57	1189	3.67	2.09	0.57	1245	3.54	2.02	0.57	1302
23	20	4.17	1.87	0.45	1189	4.00	1.80	0.45	1259	3.88	1.74	0.45	1288	3.74	1.68	0.45	1344
23	22	4.34	1.43	0.33	1231	4.18	1.38	0.33	1309	4.08	1.35	0.33	1344	3.91	1.29	0.33	1401
24	18	4.00	2.44	0.61	1132	3.83	2.33	0.61	1189	3.67	2.24	0.61	1245	3.54	2.16	0.61	1302
24	20	4.17	2.04	0.49	1189	4.00	1.96	0.49	1259	3.88	1.90	0.49	1288	3.74	1.83	0.49	1344
24	22	4.34	1.60	0.37	1231	4.18	1.55	0.37	1309	4.08	1.51	0.37	1344	3.91	1.45	0.37	1401
24	24	4.56	1.14	0.25	1288	4.39	1.10	0.25	1358	4.28	1.07	0.25	1401	4.15	1.04	0.25	1472
25	20	4.17	2.21	0.53	1189	4.00	2.12	0.53	1259	3.88	2.05	0.53	1288	3.74	1.98	0.53	1344
25	22	4.34	1.78	0.41	1231	4.18	1.71	0.41	1309	4.08	1.67	0.41	1344	3.91	1.60	0.41	1401
25	24	4.56	1.32	0.29	1288	4.39	1.27	0.29	1358	4.28	1.24	0.29	1401	4.15	1.20	0.29	1472
26	18	4.00	2.76	0.69	1132	3.83	2.64	0.69	1189	3.67	2.53	0.69	1245	3.54	2.44	0.69	1302
26	20	4.17	2.37	0.57	1189	4.00	2.28	0.57	1259	3.88	2.21	0.57	1288	3.74	2.13	0.57	1344
26	22	4.34	1.95	0.45	1231	4.18	1.88	0.45	1309	4.08	1.84	0.45	1344	3.91	1.76	0.45	1401
26	24	4.56	1.50	0.33	1288	4.39	1.45	0.33	1358	4.28	1.41	0.33	1401	4.15	1.37	0.33	1472
26	26	4.69	0.99	0.21	1358	4.56	0.96	0.21	1429	4.49	0.94	0.21	1472	4.35	0.91	0.21	1514
27	18	4.00	2.92	0.73	1132	3.83	2.79	0.73	1189	3.67	2.68	0.73	1245	3.54	2.58	0.73	1302
27	20	4.17	2.54	0.61	1189	4.00	2.44	0.61	1259	3.88	2.36	0.61	1288	3.74	2.28	0.61	1344
27	22	4.34	2.12	0.49	1231	4.18	2.05	0.49	1309	4.08	2.00	0.49	1344	3.91	1.92	0.49	1401
27	24	4.56	1.69	0.37	1288	4.39	1.62	0.37	1358	4.28	1.59	0.37	1401	4.15	1.53	0.37	1472
27	26	4.69	1.17	0.25	1358	4.56	1.14	0.25	1429	4.49	1.12	0.25	1472	4.35	1.09	0.25	1514
28	18	4.00	3.08	0.77	1132	3.83	2.95	0.77	1189	3.67	2.83	0.77	1245	3.54	2.72	0.77	1302
28	20	4.17	2.71	0.65	1189	4.00	2.60	0.65	1259	3.88	2.52	0.65	1288	3.74	2.43	0.65	1344
28	22	4.34	2.30	0.53	1231	4.18	2.22	0.53	1309	4.08	2.16	0.53	1344	3.91	2.07	0.53	1401
28	24	4.56	1.87	0.41	1288	4.39	1.80	0.41	1358	4.28	1.76	0.41	1401	4.15	1.70	0.41	1472
28	26	4.69	1.36	0.29	1358	4.56	1.32	0.29	1429	4.49	1.30	0.29	1472	4.35	1.26	0.29	1514
29	18	4.00	3.24	0.81	1132	3.83	3.10	0.81	1189	3.67	2.97	0.81	1245	3.54	2.86	0.81	1302
29	20	4.17	2.87	0.69	1189	4.00	2.76	0.69	1259	3.88	2.67	0.69	1288	3.74	2.58	0.69	1344
29	22	4.34	2.47	0.57	1231	4.18	2.38	0.57	1309	4.08	2.33	0.57	1344	3.91	2.23	0.57	1401
29	24	4.56	2.05	0.45	1288	4.39	1.97	0.45	1358	4.28	1.93	0.45	1401	4.15	1.87	0.45	1472
29	26	4.69	1.55	0.33	1358	4.56	1.50	0.33	1429	4.49	1.48	0.33	1472	4.35	1.44	0.33	1514
30	18	4.00	3.40	0.85	1132	3.83	3.25	0.85	1189	3.67	3.12	0.85	1245	3.54	3.01	0.85	1302
30	20	4.17	3.04	0.73	1189	4.00	2.92	0.73	1259	3.88	2.83	0.73	1288	3.74	2.73	0.73	1344
30	22	4.34	2.64	0.61	1231	4.18	2.55	0.61	1309	4.08	2.49	0.61	1344	3.91	2.39	0.61	1401
30	24	4.56	2.23	0.49	1288	4.39	2.15	0.49	1358	4.28	2.10	0.49	1401	4.15	2.03	0.49	1472
30	26	4.69	1.74	0.37	1358	4.56	1.69	0.37	1429	4.49	1.66	0.37	1472	4.35	1.61	0.37	1514
31	18	4.00	3.56	0.89	1132	3.83	3.40	0.89	1189	3.67	3.27	0.89	1245	3.54	3.15	0.89	1302
31	20	4.17	3.21	0.77	1189	4.00	3.08	0.77	1259	3.88	2.98	0.77	1288	3.74	2.88	0.77	1344
31	22	4.34	2.82	0.65	1231	4.18	2.72	0.65	1309	4.08	2.65	0.65	1344	3.91	2.54	0.65	1401
31	24	4.56	2.41	0.53	1288	4.39	2.32	0.53	1358	4.28	2.27	0.53	1401	4.15	2.20	0.53	1472
31	26	4.69	1.92	0.41	1358	4.56	1.87	0.41	1429	4.49	1.84	0.41	1472	4.35	1.78	0.41	1514
32	18	4.00	3.72	0.93	1132	3.83	3.56	0.93	1189	3.67	3.41	0.93	1245	3.54	3.29	0.93	1302
32	20	4.17	3.37	0.81	1189	4.00	3.24	0.81	1259	3.88	3.14	0.81	1288	3.74	3.03	0.81	1344
32	22	4.34	2.99	0.69	1231	4.18	2.89	0.69	1309	4.08	2.82	0.69	1344	3.91	2.70	0.69	1401
32	24	4.56	2.60	0.57	1288	4.39	2.50	0.57	1358	4.28	2.44	0.57	1401	4.15	2.36	0.57	1472
32	26	4.69	2.11	0.45	1358	4.56	2.05	0.45	1429	4.49	2.02	0.45	1472	4.35	1.96	0.45	1514

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

PERFORMANCE DATA
COOL operation (240V)

MSC-12RV -E1(Single) : MUX-24RV -E1

CAPACITY : 3.4 kW INPUT(Total=Indoor+Outdoor) : 1415 W SHF : 0.67

		OUT											
INDOOR	INDOOR	35				40				46			
DB(℃)	WB(℃)	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	3.33	1.63	0.49	1387	3.06	1.50	0.49	1472	2.94	1.44	0.49	1500
21	20	3.50	1.30	0.37	1443	3.26	1.21	0.37	1514	3.15	1.16	0.37	1557
22	18	3.33	1.77	0.53	1387	3.06	1.62	0.53	1472	2.94	1.56	0.53	1500
22	20	3.50	1.44	0.41	1443	3.26	1.34	0.41	1514	3.15	1.29	0.41	1557
22	22	3.71	1.07	0.29	1500	3.47	1.01	0.29	1585	3.35	0.97	0.29	1613
23	18	3.33	1.90	0.57	1387	3.06	1.74	0.57	1472	2.94	1.68	0.57	1500
23	20	3.50	1.58	0.45	1443	3.26	1.47	0.45	1514	3.15	1.42	0.45	1557
23	22	3.71	1.22	0.33	1500	3.47	1.14	0.33	1585	3.35	1.11	0.33	1613
24	18	3.33	2.03	0.61	1387	3.06	1.87	0.61	1472	2.94	1.79	0.61	1500
24	20	3.50	1.72	0.49	1443	3.26	1.60	0.49	1514	3.15	1.54	0.49	1557
24	22	3.71	1.37	0.37	1500	3.47	1.28	0.37	1585	3.35	1.24	0.37	1613
24	24	3.91	0.98	0.25	1557	3.67	0.92	0.25	1627	3.57	0.89	0.25	1663
25	20	3.50	1.86	0.53	1443	3.26	1.73	0.53	1514	3.15	1.67	0.53	1557
25	22	3.71	1.52	0.41	1500	3.47	1.42	0.41	1585	3.35	1.37	0.41	1613
25	24	3.91	1.13	0.29	1557	3.67	1.06	0.29	1627	3.57	1.04	0.29	1663
26	18	3.33	2.30	0.69	1387	3.06	2.11	0.69	1472	2.94	2.03	0.69	1500
26	20	3.50	2.00	0.57	1443	3.26	1.86	0.57	1514	3.15	1.79	0.57	1557
26	22	3.71	1.67	0.45	1500	3.47	1.56	0.45	1585	3.35	1.51	0.45	1613
26	24	3.91	1.29	0.33	1557	3.67	1.21	0.33	1627	3.57	1.18	0.33	1663
26	26	4.11	0.86	0.21	1613	3.88	0.81	0.21	1684	3.76	0.79	0.21	1719
27	18	3.33	2.43	0.73	1387	3.06	2.23	0.73	1472	2.94	2.15	0.73	1500
27	20	3.50	2.14	0.61	1443	3.26	1.99	0.61	1514	3.15	1.92	0.61	1557
27	22	3.71	1.82	0.49	1500	3.47	1.70	0.49	1585	3.35	1.64	0.49	1613
27	24	3.91	1.45	0.37	1557	3.67	1.36	0.37	1627	3.57	1.32	0.37	1663
27	26	4.11	1.03	0.25	1613	3.88	0.97	0.25	1684	3.76	0.94	0.25	1719
28	18	3.33	2.57	0.77	1387	3.06	2.36	0.77	1472	2.94	2.26	0.77	1500
28	20	3.50	2.28	0.65	1443	3.26	2.12	0.65	1514	3.15	2.04	0.65	1557
28	22	3.71	1.96	0.53	1500	3.47	1.84	0.53	1585	3.35	1.77	0.53	1613
28	24	3.91	1.60	0.41	1557	3.67	1.51	0.41	1627	3.57	1.46	0.41	1663
28	26	4.11	1.19	0.29	1613	3.88	1.12	0.29	1684	3.76	1.09	0.29	1719
29	18	3.33	2.70	0.81	1387	3.06	2.48	0.81	1472	2.94	2.38	0.81	1500
29	20	3.50	2.42	0.69	1443	3.26	2.25	0.69	1514	3.15	2.17	0.69	1557
29	22	3.71	2.11	0.57	1500	3.47	1.98	0.57	1585	3.35	1.91	0.57	1613
29	24	3.91	1.76	0.45	1557	3.67	1.65	0.45	1627	3.57	1.61	0.45	1663
29	26	4.11	1.36	0.33	1613	3.88	1.28	0.33	1684	3.76	1.24	0.33	1719
30	18	3.33	2.83	0.85	1387	3.06	2.60	0.85	1472	2.94	2.50	0.85	1500
30	20	3.50	2.56	0.73	1443	3.26	2.38	0.73	1514	3.15	2.30	0.73	1557
30	22	3.71	2.26	0.61	1500	3.47	2.12	0.61	1585	3.35	2.04	0.61	1613
30	24	3.91	1.92	0.49	1557	3.67	1.80	0.49	1627	3.57	1.75	0.49	1663
30	26	4.11	1.52	0.37	1613	3.88	1.43	0.37	1684	3.76	1.39	0.37	1719
31	18	3.33	2.97	0.89	1387	3.06	2.72	0.89	1472	2.94	2.62	0.89	1500
31	20	3.50	2.70	0.77	1443	3.26	2.51	0.77	1514	3.15	2.42	0.77	1557
31	22	3.71	2.41	0.65	1500	3.47	2.25	0.65	1585	3.35	2.18	0.65	1613
31	24	3.91	2.07	0.53	1557	3.67	1.95	0.53	1627	3.57	1.89	0.53	1663
31	26	4.11	1.69	0.41	1613	3.88	1.59	0.41	1684	3.76	1.54	0.41	1719
32	18	3.33	3.10	0.93	1387	3.06	2.85	0.93	1472	2.94	2.74	0.93	1500
32	20	3.50	2.84	0.81	1443	3.26	2.64	0.81	1514	3.15	2.55	0.81	1557
32	22	3.71	2.56	0.69	1500	3.47	2.39	0.69	1585	3.35	2.31	0.69	1613
32	24	3.91	2.23	0.57	1557	3.67	2.09	0.57	1627	3.57	2.03	0.57	1663
32	26	4.11	1.85	0.45	1613	3.88	1.74	0.45	1684	3.76	1.69	0.45	1719

NOTE Q :Total capacity (kW) SHF :Sensible heat factor
SHC :Sensible heat capacity (kW) INPUT :Total power input (W)

11 MICROPROCESSOR CONTROL

MSC-07RV -E1 **MU-07RV -E1** **MUH-07RV -E1** **MUX-10RV -E1** **※ MXZ-18RV -E1**
MSC-09RV -E1 **MU-09RV -E1** **MUH-09RV -E1** **MUX-18RV -E1** **※ MXZ-32RV -E1**
MSC-12RV -E1 **MU-12RV -E1** **MUH-12RV -E1** **MUX-24RV -E1**

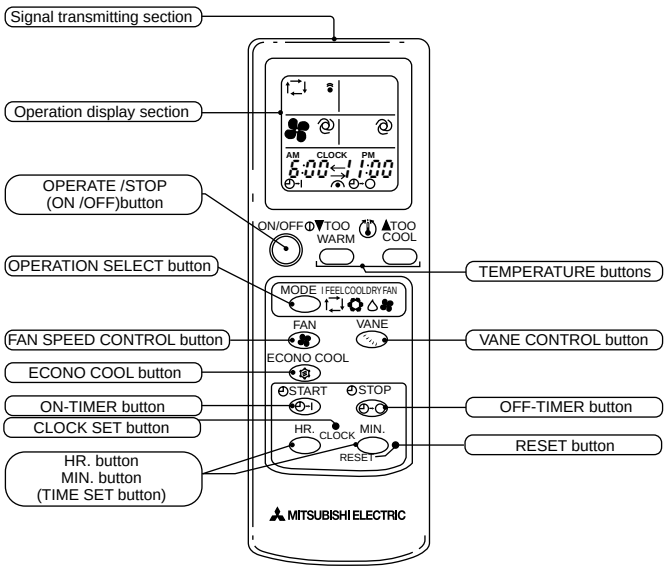
※ Refer to page 112~119 for the inverter multi system control of of this outdoor unit.

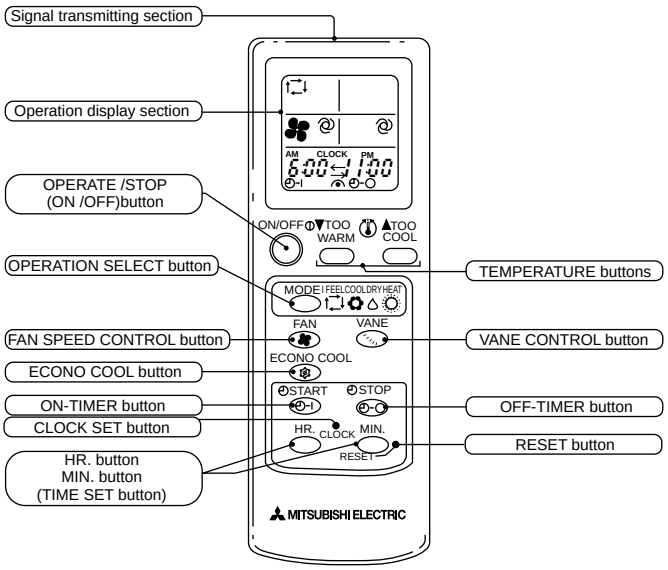
Once the operation mode are set, the same operation mode can be repeated by simply turning the OPERATE/STOP button ON. Indoor unit receives the signal with a beep tone.
When the system turns off, 3-minute time delay will operate to protect system from overload and compressor will not restart for 3 minutes.

WIRELESS REMOTE CONTROLLER

MU-07RV -E1 MUX-10RV -E1
MU-09RV -E1 MUX-18RV -E1
MU-12RV -E1 MUX-24RV -E1

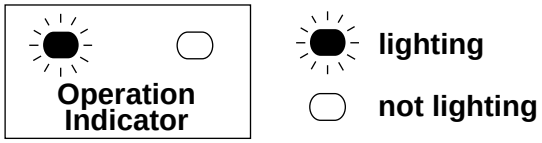
MUH-07RV -E1 MXZ-18RV -E1
MUH-09RV -E1 MXZ-32RV -E1
MUH-12RV -E1

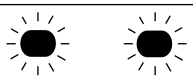




INDOOR UNIT DISPLAY SECTION

Operation indicator lamp
The operation indicator at the right side of the indoor unit indicates the operation state.



Indication	Operation state	Difference betweeen set temperature and room temperature
	This shows that the air conditioner is operating to reach the target temperature. Please wait unitil the target temperature is obtained.	Approx. 2 ℃ or more
	This shows that the room temperature is approaching the target temperature.	Approx. 2 ℃ or less

11-1. COOL (✿) OPERATION

(1) Press OPERATE/STOP(ON/OFF) button.Operation indicator lamp of the indoor unit turns on with a beep tone.

(2) Select COOL mode with the OPERATION SELECT button.

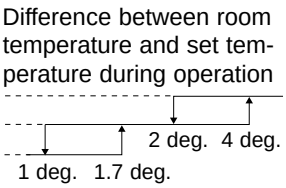
(3) Press TEMPERATURE buttons (TOO WARM or TOO COOL button)to select the desired temperature.
The setting range is 16 ~ 31°C

1. Indoor fan speed control

Indoor fan operates continuously at the set speed by FAN SPEED CONTROL button regardless of thermostat's OFF-ON.

In Auto the fan speed is as follows.

Initial temperature difference	Fan speed
Room temperature minus set temperature : 2 degrees or more	Hi
Room temperature minus set temperature : Between 1 and 2 degrees	Me
Room temperature minus set temperature : less than 1 degree	Lo



2. Coil frost prevention

① Temperature control

When the indoor coil thermistor RT12 reads 4°C or below(MSC-07/09RV) / 0°C or below(MSC-12RV) for 5 minutes, the coil frost prevention mode starts.

The indoor fan operates at the set speed and the compressor stops for 5 minutes.
After that, if RT12 still reads below 4°C (MSC-07/09RV) / 0°C (MSC-12RV), this mode is prolonged until the RT12 reads over 4°C (MSC-07/09RV) / 0°C (MSC-12RV).

② Time control

When the three conditions as follows have been satisfied for 1 hour and 45 minutes, the compressor stops for 3 minutes. The indoor fan operates at the set speed.

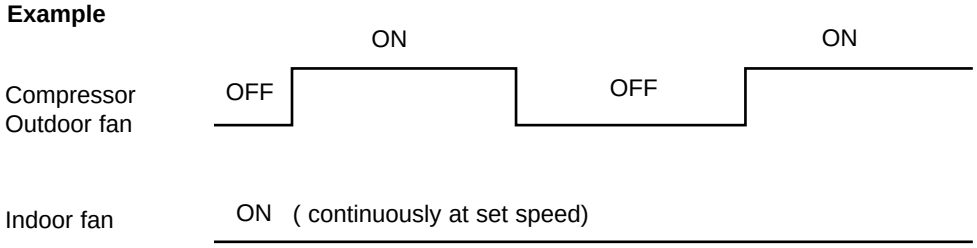
a. Compressor has been continuously operating.
b. Indoor fan speed is Lo or Me.
c. Room temperature is below 26°C.

When compressor stops, the accumulated time is cancelled. When compressor restarts, time counting starts from the beginning.

Time counting also stops temporarily when the indoor fan speed becomes Hi or the room temperature exceeds 26°C. However, when two of the above conditions (b.and c.) are satisfied again, time accumulation is resumed.

Operation chart

Example



11-2. DRY (△) OPERATION

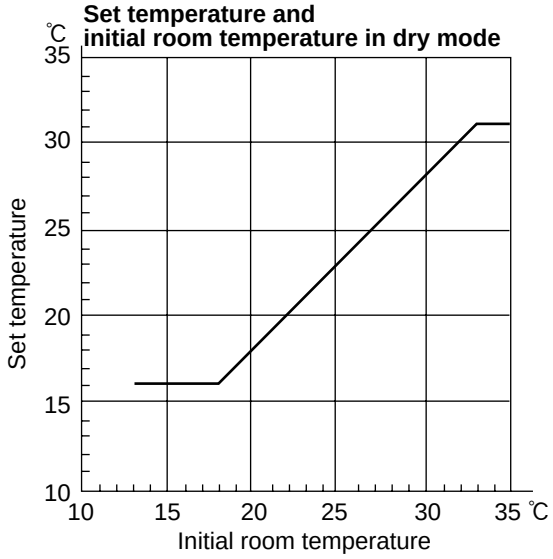
(1) Press OPERATE/STOP(ON/OFF) button.
Operation indicator lamp of the indoor unit turns on with a beep tone.

(2) Select DRY mode with the OPERATION SELECT button.

(3) The microprocessor reads the room temperature and determines the set temperature. Set temperature is as shown on the right chart.
DRY operation will not function when the room temperature is 13°C or below.

(4) When DRY operation functions the fan speed is lower than cool operation expect at (fan speed) Lo notch.

Set temperature and initial room temperature in dry mode



The system for dry operation uses the same refrigerant circuit as the cooling circuit.
The compressor and the indoor fan are controlled by the room temperature.

1. Indoor fan speed control

Indoor fan operates at the set speed by FAN SPEED CONTROL button .
In Auto fan speed becomes Lo.

2. The operation of the compressor and indoor / outdoor fan <MU-07/09/12RV,MUH-07/09/12RV,MUX-10/18/24RV>

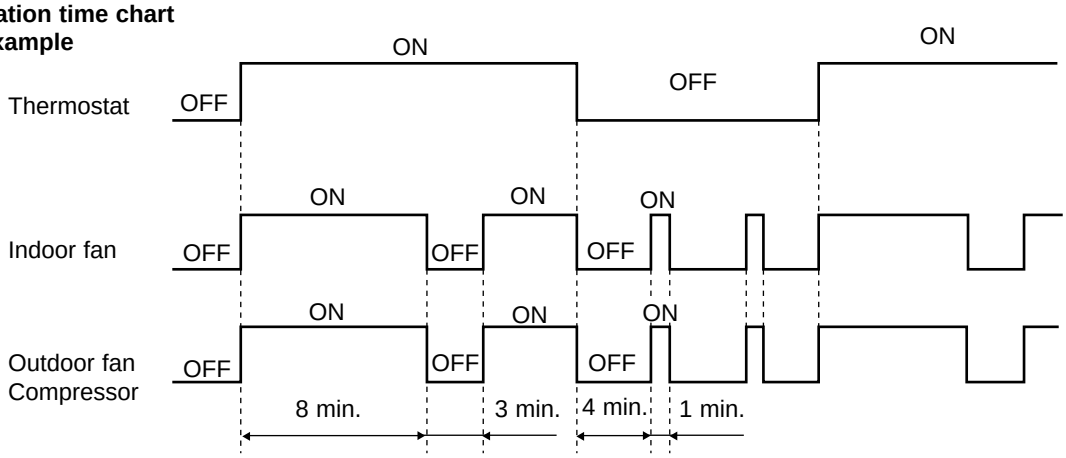
(Refer to page 114 for MXZ-18/32RV)

Compressor operates by room temperature control and time control.
Indoor fan and outdoor fan operate in the same cycle as the compressor.

- When the room temperature is 23°C or over:
  When the thermostat is ON, the compressor repeats 8 minutes ON and 3 minutes OFF.
  When the thermostat is OFF, the compressor repeats 4 minutes OFF and 1 minute ON.
- When the room temperature is under 23°C.
  When the thermostat is ON, the compressor repeats 2 minutes ON and 3 minutes OFF.
  When the thermostat is OFF, the compressor repeats 4 minutes OFF and 1 minute ON.

Operation time chart

Example



3. Coil frost prevention

The operation is as same as coil frost prevention during COOL operation.(Refer to 11-1.2.)
However when coil frost prevention works while the indoor fan is OFF, it's speed becomes set speed..

11-3. FAN (✿) OPERATION <MU-07/09/12RV,MUX-10/18/24RV>

(1) Press OPERATE/STOP(ON/OFF) button.Operation indicator lamp of the indoor unit turns on with a beep tone.
(2) Select FAN mode with the OPERATION SELECT button.
(3) Select the desired fan speed.When AUTO,it becomes Lo.
Only indoor fan operates.
Outdoor unit does not operate.

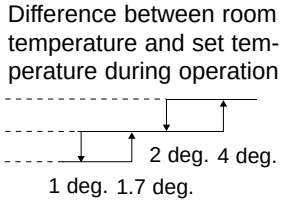
11-4. HEAT (☼) OPERATION <MUH-07/09/12RV,MXZ-18/32RV>

(1) Press OPERATE/STOP(ON/OFF) button.
Operation indicator lamp of the indoor unit turns on with a beep tone.
(2) Select HEAT mode with the OPERATION SELECT button.
(3) Press TEMPERATURE buttons (TOO WARM or TOO COOL button) to select the desired temperature.
The setting range is 16 ~ 31°C.

1. Indoor fan speed control

(1) Indoor fan operates at the set speed by FAN SPEED CONTROL button.
In Auto the fan speed is as follows.

Initial temperature difference	Fan speed
Set temperature minus room temperature: 2 degrees or more	Hi
Set temperature minus room temperature: Between 1 and 2 degrees	Me
Set temperature minus room temperature: less than 1 degree	Lo



(2) Cold air prevention control

① When the compressor is not operating,

(Ⅰ) if the temperature of indoor coil thermistor RT12 is 18°C or less, the fan stops.

(Ⅱ) if the temperature of indoor coil thermistor RT12 is more than 18°C, the fan operates at VLo.

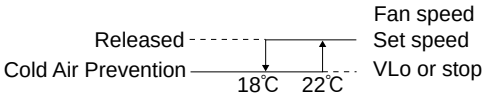
② When the compressor is operating,

(Ⅰ) if the temperature of RT12 is 22°C or more, the fan operates at set speed.

(Ⅱ) if the temperature of RT12 is less than 22°C and

(ⅰ) if the temperature of room temperature thermistor RT11 is 15°C or less, the fan stops.

(ⅱ) if the temperature of room temperature thermistor RT11 is more than 15°C, the fan operates at VLo.



NOTE : If the temperature of RT12 reads from 18°C to 22°C at the air conditioner stating and also after defrosting, this control works.

(3) Warm air control.

When the following any condition of ①(a. ~ d.) and the condition of ② are satisfied at the same time, warm air control works.

① a.) when the operation mode has been changed to HEAT mode

b.) when cold air prevention has been released

c.) when defrosting has been finished

d.) when the compressor starts in HEAT mode

② When the temperature of indoor coil thermistor RT12 is less than 37°C.

When warm air control works, the fan speed changes as follows to blow out warm air gradually.

Gradation of fan speed in initial

<Time condition>	<Indoor fan speed>
less than 2 minutes	Lo
2 minutes to 4 minutes	Me
more than 4 minutes	Hi

The upper limit of the fan speed in MANUAL is the set speed.

The upper limit of the fan speed in AUTO is the speed decided by indoor fan speed control.(Refer to 11-4.1.(1).)

When the temperature of RT12 has been 37°C or more, or when the set speed has been changed, this control is released and the fan speed is the set speed.

(4) Flow soft control

When the thermostat (compressor) is off, the indoor fan operates as follows.

RT12	fan
less than 18°C	off
18°C or more	VLo

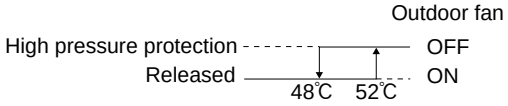
NOTE : When the thermostat(compressor) turns on, the fan will operate at set speed. But until cold air prevention and warm air control is released, the fan speed follow them.

2. High pressure protection <MUH-07/09/12RV> (Refer to page 118 for MXZ-18/32RV)

During heating operation, the outdoor fan motor is controlled by the temperature of indoor coil thermistor RT12 for excess rise protection of compressor discharge pressure.

Outdoor fan OFF: 52˚C

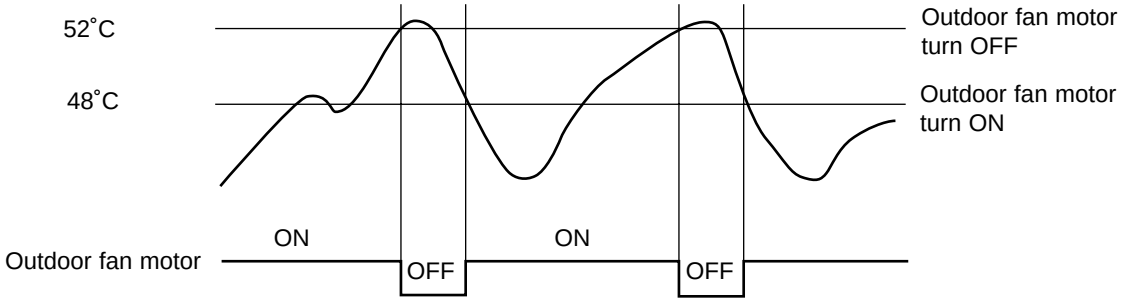
Outdoor fan ON: 48˚C



Operation chart

Example

Indoor coil thermistor RT12 temperature



NOTE : During high pressure protection and for 4 min. and 15 sec. after high pressure protection, defrosting of outdoor heat exchanger is not detected by the defrost thermistor RT61.(Refer to 11-4.3. Defrosting.)

3. Defrosting <MUH-07/09/12RV> (Refer to page 118 for MXZ-18/32RV)

Defrosting of outdoor heat exchanger is controlled by DEICER P.C. board, with detection by the defrost thermistor RT61.

(1) Starting conditions of defrost

When all conditions of a) ~ c) are satisfied, the defrosting operation starts.

a) The compressor cumulative operation time exceeds 40 minutes without the defrosting operation working.

b) RT61 reads - 3°C or less.

c) After releasing the high pressure protection 4 minutes and 15 seconds have elapsed.

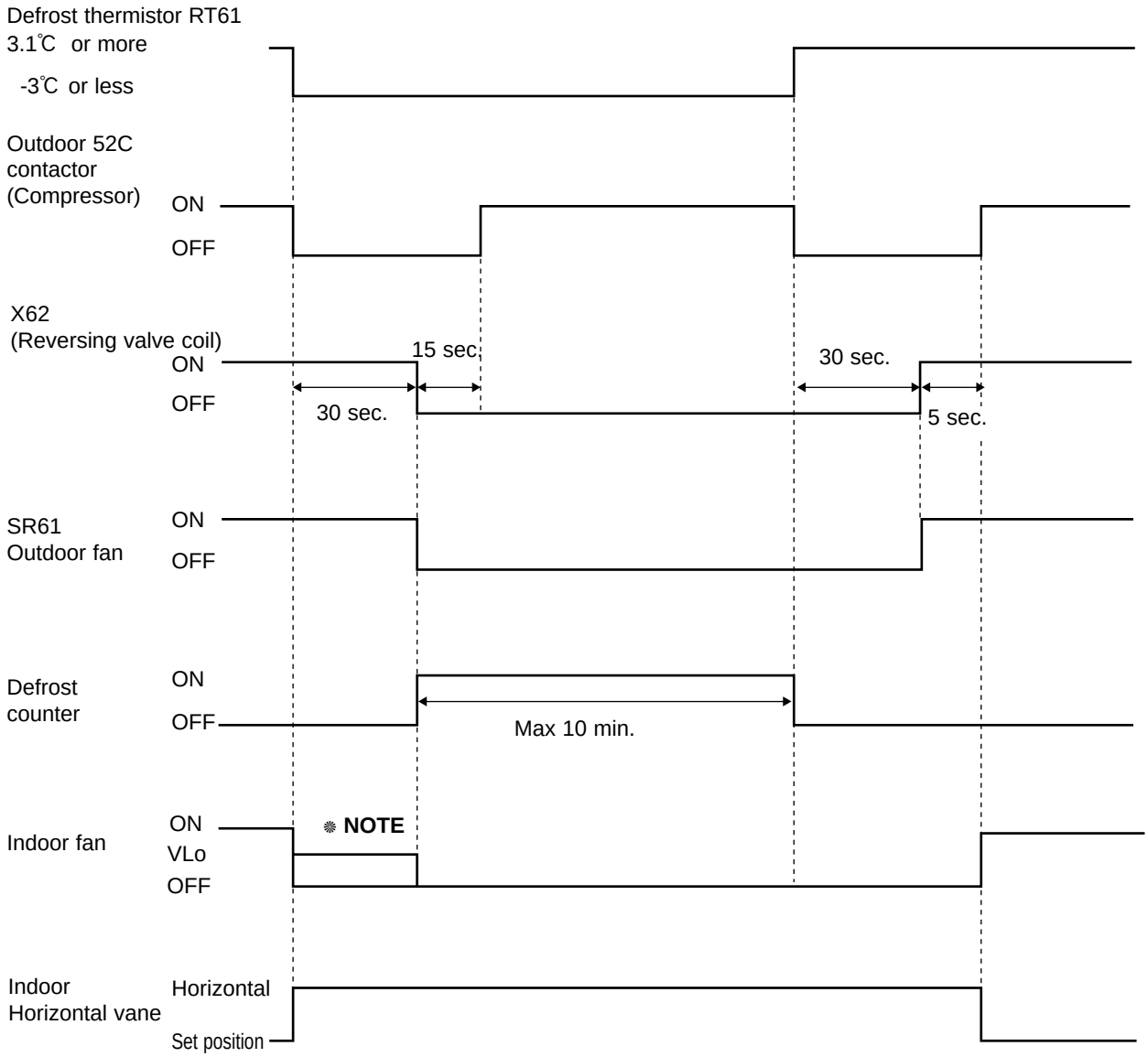
(2) Releasing conditions of defrost

When the condition d) or e) is satisfied, the defrosting operation stops.

d) RT61 reads 3.1°C or more.

e) The defrosting time exceeds 10 minutes.

Operation time chart
Example



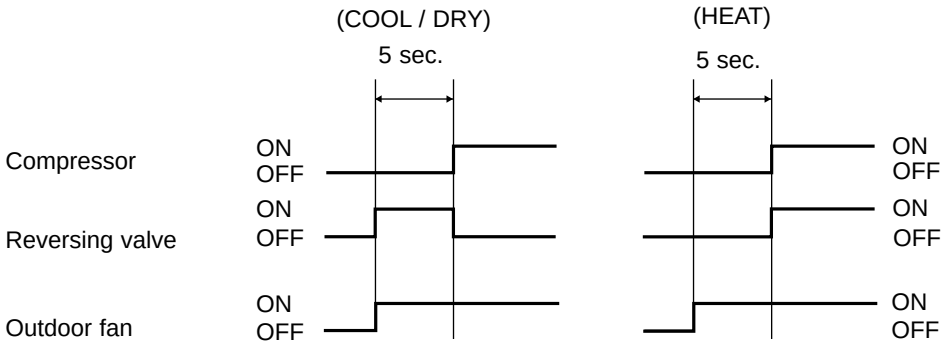
NOTE ● When the indoor coil thermistor RT12 reads above 18°C, indoor fan operates at VLo for 30 seconds.
● When the indoor coil thermistor RT12 reads 18°C or less, the indoor fan stops.

4. Reversing valve control <MUH-07/09/12RV>

Heating · · · · · ON
Cooling · · · · · OFF
Dry · · · · · · · · OFF

When operation starts, the reversing valve reverses for 5 seconds right before start-up of the compressor.

Operation time chart



11-5. "I FEEL CONTROL" (▭) OPERATION

(1) Press OPERATE/STOP(ON/OFF) butt.
Operation indicator lamp of the indoor unit turns on with a beep tone.

(2) Select "I FEEL CONTROL"(▭) mode with the OPERATION SELECT button.

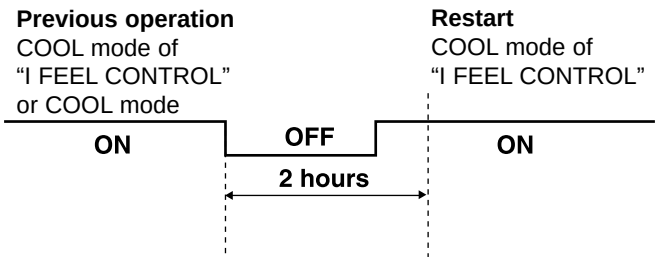
(3) The operation mode is determined by the initial room temperature at start-up of the operation, as shown on the right table.

Initial room temperature		Mode
MU&MUX type	**MUH&MXZ type**	
25℃ or more	25℃ or more	COOL mode of "I FEEL CONTROL"
more than13℃, less than 25℃	23℃ or more, less than 25℃	DRY mode of "I FEEL CONTROL"
———	less than 23℃	HEAT mode of "I FEEL CONTROL"

- Once the mode is fixed, the mode does not change by room temperature afterwards.
- Under the ON-TIMER (◴→|) operation, mode is determined according to the room temperature at set time the operation starts.
- When the system is stopped on the remote controller and restarted within 2 hours in "I FEEL CONTROL" (▭) mode, the system operates in previous mode automatically regardless of the room temperature.

Operation time chart

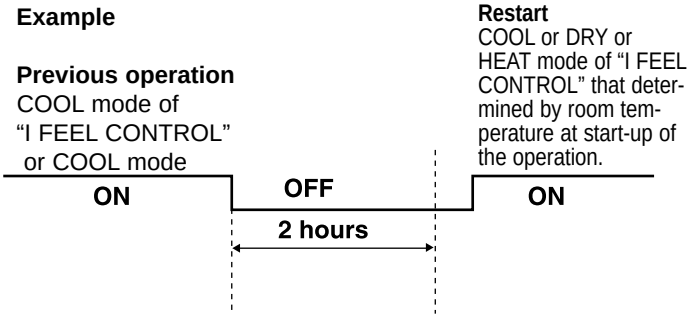
Example



When the system is restarted after 2 hours and more, the operation mode is determined by the room temperature at start-up of the operation.

Operation time chart

Example



(4) The initial set temperature is decided by the initial room temperature.

Mode	Initial room temperature		Initial set temperature	
	MU & MUX type	**MUH & MXZ type**		
COOL mode of "I FEEL CONTROL"	26℃ or more	26℃ or more	24℃	✵1
	25℃ or more, less than 26℃	25℃ or more, less than 26℃	Initial room temperature minus 2℃	
DRY mode of "I FEEL CONTROL"	more than 13℃, less than 25℃	23℃ or more, less than25℃	Initial room temperature minus 2℃	
HEAT mode of "I FEEL CONTROL"	———	less than 23℃	26℃	

✵1 When the system is restarted with the remote controller, the system operates with the previous set temperature regardless of the room temperature at restart.

(5) TEMPERATURES buttons

In "I FEEL CONTROL" (▭) mode, set temperature is decided by the microprocessor based on the room temperature. In addition, set temperature can be controlled by TOO WARM or TOO COOL buttons when you feel too cool or too warm.Each time the TOO WARM or TOO COOL button is pressed, the indoor unit receives the signal and emits a beep tone.

● **Fuzzy control**

When the TOO COOL or TOO WARM button is pressed, the microprocessor changes the set temperature, considering the room temperature, the frequency of pressing TOO COOL or TOO WARM button and the user's preference to heat or cool. So this is called "Fuzzy control", and works only in "I FEEL CONTROL" mode.

In DRY mode of "I FEEL CONTROL", the set temperature doesn't change.

▲ TOO
COOL ··· To raise the set temperature 1~2 degrees(°C)

▼ TOO
WARM ··· To lower the set temperature 1~2 degrees(°C)

— COOL mode of "I FEEL CONTROL" —

1. Indoor fan speed control
Indoor fan speed control is as same as COOL OPERATION.(11-1.1.)

2. Coil frost prevention
Coil frost prevention is as same as COOL OPERATION.(11-1.2.)

— DRY mode of "I FEEL CONTROL" —

1. Indoor fan speed control
Indoor fan speed control is as same as DRY OPERATION.(11-2.1.)

2. The operation of the compressor and indoor / outdoor fan
The operation of the compressor and indoor / outdoor fan is as same as DRY OPERATION.(8-2.2.)

3. Coil frost prevention
Coil frost prevention is as same as DRY OPERATION.(11-2.3.)

— HEAT mode of "I FEEL CONTROL" — <MUH-07/09/12RV,MXZ-18/32RV>

1. Indoor fan speed control
Indoor fan speed control is as same as HEAT OPERATION.(11-4.1.)

2. High pressure protection ✵1
High pressure protection is as same as HEAT OPERATION.(11-4.2.)

3. Defrosting ✵1
Defrosting is as same as HEAT OPERATION.(11-4.3.)

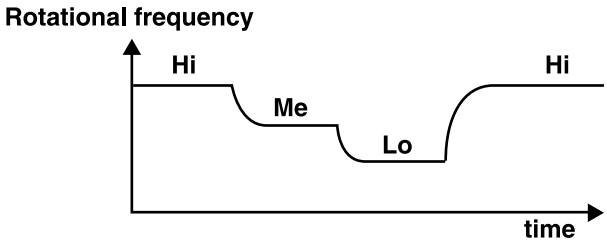
4. Reversing valve control ✵1
Reversing valve control is as same as HEAT OPERATION.(11-4.4.)

✵1 Only MUH-07/09/12RV

11-6. FAN MOTOR CONTROL

(1) Rotational frequency feedback control

The indoor fan motor is equipped with a rotational frequency sensor, and outputs signal to the microprocessor to feedback the rotational frequency. Comparing the current rotational frequency with the target rotational frequency (Hi,Me,Lo), the microprocessor controls SR141and adjusts fan motor electric current to make the current rotational frequency close to the target rotational frequency. With this control, when the fan speed is switched, the rotational frequency changes smoothly.



(2) Fan motor lock-up protection

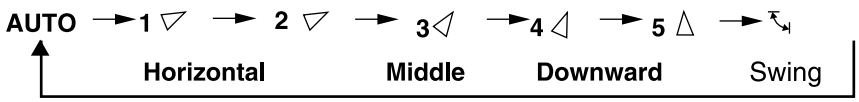
When the rotational frequency feedback signal is not output for 12 seconds, (or when the microprocessor cannot detect the signal for 12 seconds) the fan motor is regarded locked-up. Then the electric current to the fan motor is shut off. 3 minutes later, the electric current is applied to the fan motor again. During the fan motor lock-up, the Operation Indicator lamp flashes on and off to show the fan motor abnormality. (See page 32.)

11-7. AUTO VANE OPERATION

(1) Vane motor drive

These models are equipped with a stepping motor for the horizontal vane. The rotating direction, speed, and angle of the motor are controlled by pulse signals (approx. 12V) transmitted from indoor microprocessor.

(2) The horizontal vane angle and mode changes as follows by pressing the VANE CONTROL ( ) button.



(3) Positioning

The vane is once pressed to the vane stopper below to confirm the standard position and then set to the desired angle. Confirming of standard position is performed in case of follows.

(a) When the OPERATE / STOP(ON / OFF) button is pressed.
(b) When the vane control is changed from AUTO to MANUAL.
(c) When the SWING is finished.
(d) When the test run starts.
(e) When the power supply turns ON.

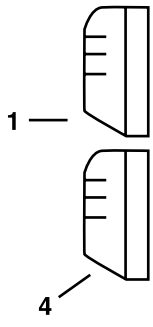
(4) VANE AUTO ( ) mode

In VANE AUTO mode, the microprocessor automatically determines the vane angle to make the optimum room-temperature distribution.

① In COOL and DRY operation

② In FAN operation **<MU-07/09/12RV>**

② In HEAT operation **<MUH-07/09/12RV>**



Vane angle is fixed to Angle 1.

Vane angle is fixed to Angle 4.

(5) Dew prevention

During COOL or DRY operation at Vane Angle 4 or 5 when the cumulative operation time of compressor exceeds 1 hour, the vane angle automatically changes to Angle 1 for dew prevention.

(6) SWING MODE ( )

By selecting SWING mode with the VANE CONTROL button, the horizontal vane swings vertically.The remote controller displays " ".SWING mode is cancelled when the VANE CONTROL button is pressed once again or in cool mode ECONO COOL button is pressed.

(7) Cold air prevention in HEAT operation**<MUH-07/09/12RV,MXZ-18/32RV>**

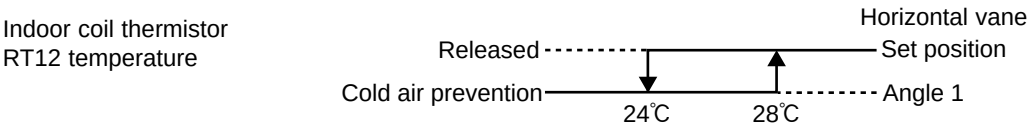
When any of the following conditions occurs in HEAT operation, the horizontal vane angle changes to Angle 1 automatically to prevent cold air blowing on users.

① Compressor is not operating.

② Defrosting is performed.

③ Indoor coil thermistor RT12 reads 24℃ or below.

④ Indoor coil thermistor RT12 temperature is raising from 24°C or below, but it does not exceed 28℃.



NOTE : If the temperature of RT12 reads from 24°C to 28°C at the air conditioner stating , this control works.

(8) ECONO COOL ( ) operation (ECONOmical operation)

When the ECONO COOL button is pressed in COOL mode, set temperature is automatically set 2°C higher than that in COOL mode.

Also the horizontal vane swings in various cycle according to the temperature of indoor heat exchanger(RT12).

SWING operation makes you feel cooler than set temperature. So, even though the set temperature is higher than that in COOL mode, the air conditioner can keep comfort. As a result, energy can be saved.

NOTE : ECONO COOL operation not work in COOL mode of “I FEEL CONTROL”.

SWING operation

In swing operation of ECONO COOL operation air flow is initially blew out upward(levelly).

According to the temperature of indoor coil thermistor RT12 at starting of this operation, next downward blow time is decided. Then when the downward blow has been finished, next upward blow time is decided.

For initial 10 min. the swing operation is performed in table G~H for quick cooling(but G : RT 12 is 24℃ or less).

Also, after 10 min. when the difference of set temperature and room temperature is more than 2 degrees, the swing operation is performed in table D~H for more cooling(but D: RT12 is 20℃ or less).

The air conditioner repeats the swing operation in various cycle as follows.

	Temperature of indoor coil thermistor RT12	Downward blow time (sec.)	Upward(level) blow time (sec.)
A	15°C or less	2	23
B	15°C to 17°C	5	20
C	17°C to 18°C	8	17
D	18°C to 20°C	11	14
E	20°C to 21°C	14	11
F	21°C to 22°C	17	8
G	22°C to 24°C	20	5
H	more than 24°C	23	2

•ECONOmical operation (SET TEMPERATURE)

When this operation is selected in MANUAL COOL mode, SET TEMPERATURE is automatically set 2°C higher than that in MANUAL COOL mode.

By above SWING operation temperature that you feel can decrease by 2°C.

So keeping comfort, energy can be saved.

11-8. TIMER OPERATION

1. How to set the timer

(1) Press OPERATE/STOP(ON/OFF) button to start the air conditioner.

(2) Check that the current time is set correctly.

NOTE : Timer operation will not work without setting the current time. Initially “AM0:00” blinks at the current time display of TIME MONITOR, so set the current time correctly with CLOCK SET button.

(3) Press ON or OFF TIMER buttons to select the operation.

“ ” button... AUTO START operation (ON timer)

“ ” button... AUTO STOP operation (OFF timer)

(4) Press HR. and MIN. button to set the timer. Time setting is 10-minute units.

HR. and MIN. button will work when " ◴→| " or " ◴→◯ " mark is flashing.
These marks disappear in 1 minute.
After setting the ON timer, check that Operation indicator lamp of the indoor unit lights.

NOTE1 : Be sure to place the remote controller at the position where its signal can reach the air conditioner even during TIMER operation, or the set time may deviate within the range of about 10 minutes.

NOTE2 : Reset the timer in the following cases, or the set time may deviate and other malfunctions may occur.

- A power failure occurs.
- The circuit breaker functions.

2. Cancel

TIMER setting can be cancelled with the ON or OFF TIMER buttons. (" ◴→| " or " ◴→◯ ")

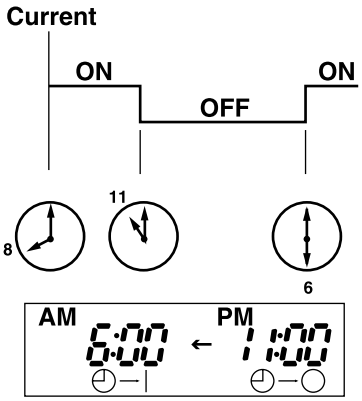
To cancel the ON timer, press the " ◴→| " button.

To cancel the OFF timer, press the " ◴→◯ " button.
TIMER is cancelled and the display of set time disappears.

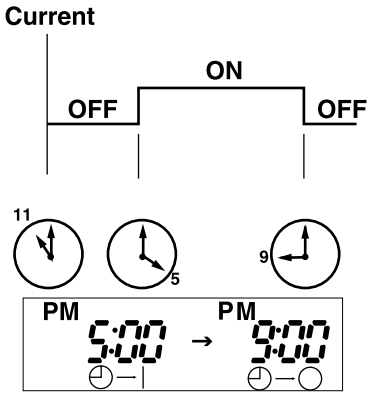
PROGRAM TIMER

- The OFF timer and ON timer can be used in combination.
- " → " and " ← " display shows the order of the OFF timer and ON timer operation.

(Example 1) The current time is 8:00 PM.
The unit turns off at 11:00 PM, and on at 6:00 AM.



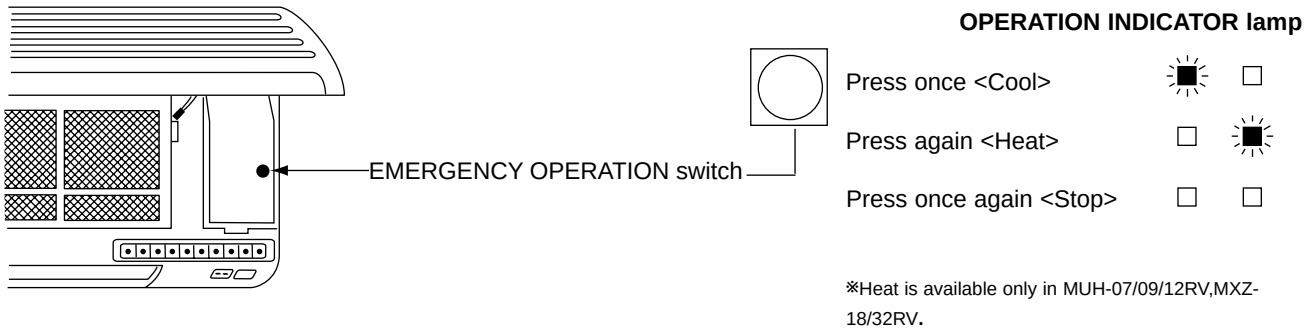
(Example 2) The current time is 11:00 AM.
The unit turns on at 5:00 PM, and off at 9:00 PM.



NOTE : TIMER setting will be cancelled by power failure or breaker functioning.

11-9. EMERGENCY-TEST OPERATION

When the remote controller is missing, has failed or the batteries run down, use the EMERGENCY OPERATION switch on the front of the indoor unit for operation. The unit will start and the Operation Indicator lamp will light.
The first 30 minutes of operation is the test run operation. This operation is for servicing. The indoor fan speed runs at Hi notch and the system is in continuous operation.(The thermostat is ON.)
After 30 minutes of test run operation the system shifts to EMERGENCY COOL / HEAT**<MUH-07/09/12RV,MXZ-18/32RV>** MODE with a set temperature of 24°C.
The fan speed shifts to Me notch.
This operation continues until the EMERGENCY OPERATION switch is pressed once again(MU-07/09/12RV,.MUX-10/18/24RV)/ once or twice(MUH-07/09/12RV, MXZ-18/32RV) or the unit receives any signal from the remote controller. In case of latter normal operation will start.
The coil frost prevention works even in this operation, and defrosting **<MUH-07/09/12RV,MXZ-18/32RV>** too.
In the test run or emergency operation, the horizontal vane operates in VANE AUTO mode.
NOTE : Do not press the EMERGENCY OPERATION switch during normal operation.

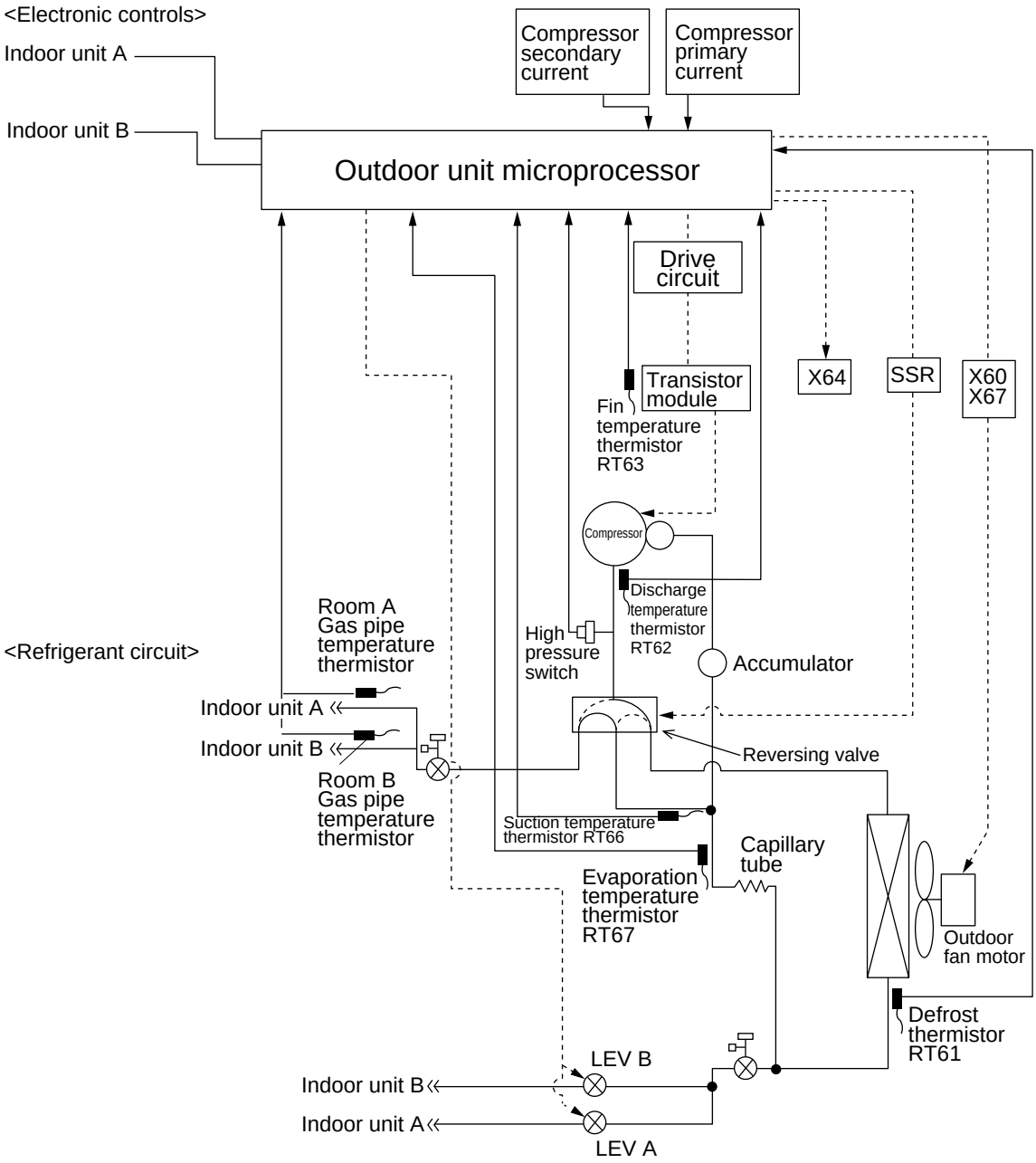


※Heat is available only in MUH-07/09/12RV,MXZ-18/32RV.

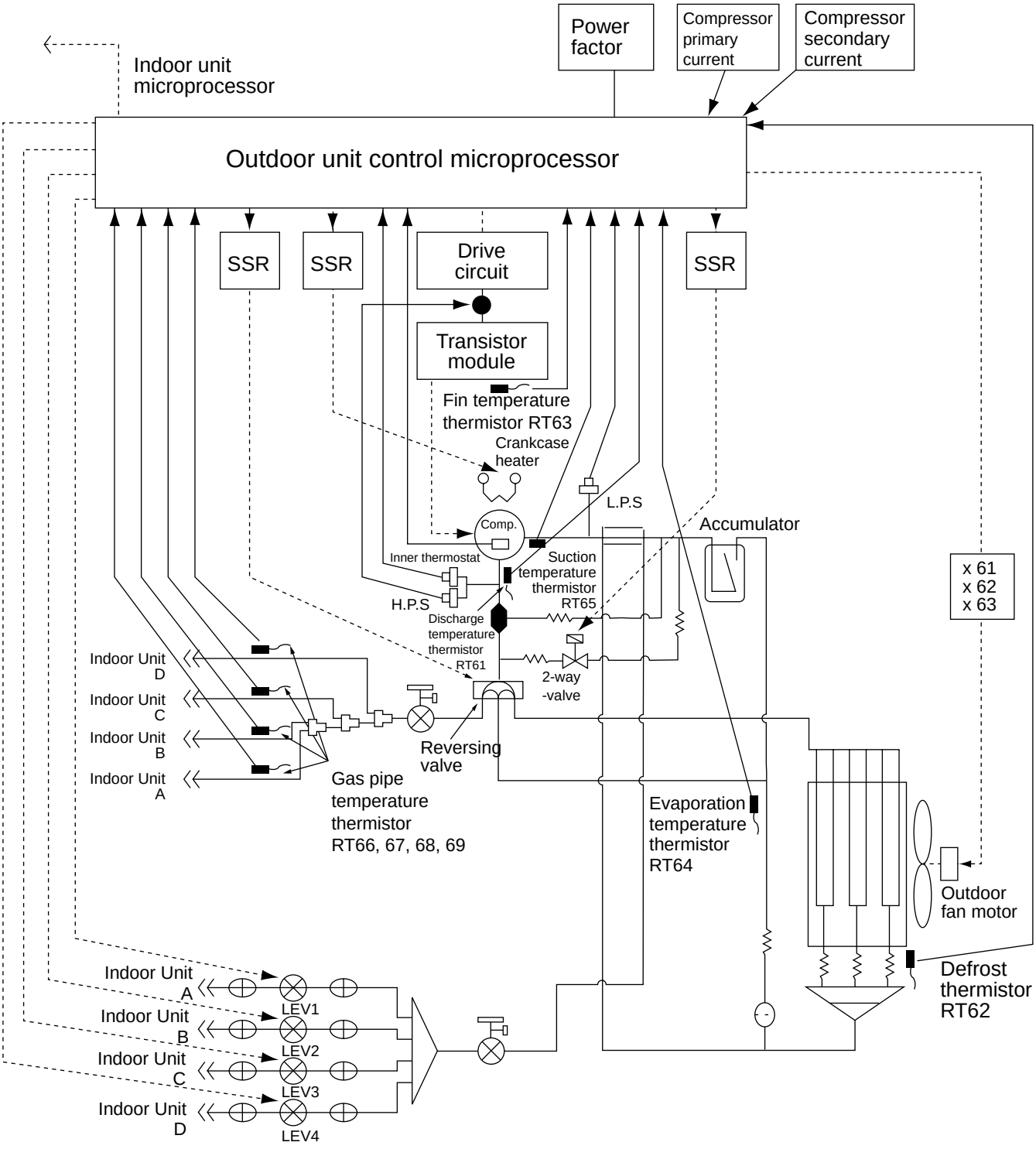
11-10.INVERTER MULTI SYSTEM CONTROL

11-10.1.System organization

MXZ-18RV - E1



MXZ-32RV - E1


Power factor
Compressor primary current
Compressor secondary current
Indoor unit microprocessor
Outdoor unit control microprocessor
SSR
SSR
Drive circuit
SSR
Transistor module
Fin temperature thermistor RT63
Crankcase heater
L.P.S
Comp.
Accumulator
Inner thermostat
Suction temperature thermistor RT65
H.P.S
Discharge temperature thermistor RT61
2-way -valve
x 61
x 62
x 63
Indoor Unit D
Indoor Unit C
Indoor Unit B
Indoor Unit A
Reversing valve
Gas pipe temperature thermistor RT66, 67, 68, 69
Evaporation temperature thermistor RT64
Outdoor fan motor
Defrost thermistor RT62
Indoor Unit A
Indoor Unit B
Indoor Unit C
Indoor Unit D
LEV1
LEV2
LEV3
LEV4

11-10.2.LEV control

Linear expansion valve (LEV) is controlled by "Thermostat ON" commands given from each unit.

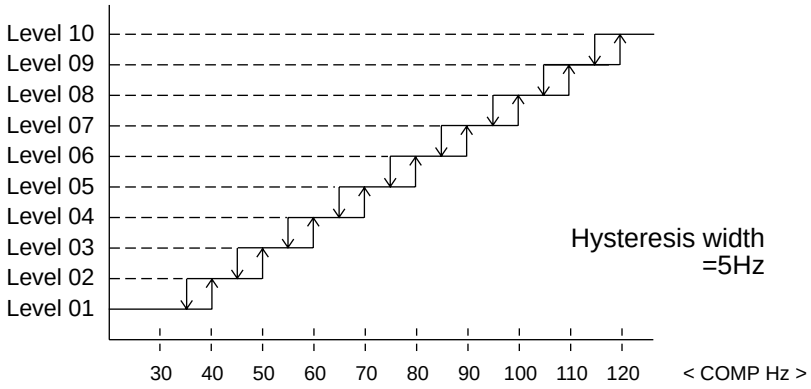
Indoor unit status	LEV opening	
	MXZ-18RV	MXZ-32RV
All indoor units OFF	Before shutdown → 350 pulse	✵ 52 → 500 pulse
Non-opening indoor unit	COOL : 5 pulse HEAT : 49 pulse	COOL : 5 pulse HEAT : 59 pulse
Thermostat OFF in COOL or DRY mode	Outdoor unit ON (Indoor unit ON) : 5 pulse Outdoor unit OFF (Indoor unit OFF or Thermostat OFF) : Before shutdown	Outdoor unit ON (Indoor unit ON) : 5 pulse Outdoor unit OFF (Indoor unit OFF or Thermostat OFF) : ✵ 52 → 500 pulse
Thermostat ON in COOL mode	Refer to the standard LEV opening as shown below. From the initial valve, the LEV opening is controlled according to suction superheat and the discharge temperature.	
Thermostat ON in DRY mode	Refer to the standard LEV opening as shown below.	
Thermostat OFF in HEAT mode	Outdoor unit ON (Indoor unit ON) : 49 pulse Outdoor unit OFF (Indoor unit OFF or Thermostat OFF) : Before shutdown	Outdoor unit ON (Indoor unit ON) : 5 pulse Outdoor unit OFF (Indoor unit OFF or Thermostat OFF) : ✵ 52 → 500 pulse
Thermostat ON in HEAT mode	Refer to the standard LEV opening as shown below. From the initial valve, the LEV opening is controlled according to the suction superheat and the discharge temperature.	

✵ For the differential start-up, the LEV is controlled at 52 pulse for the first 15 minutes after compressor stop.

Standard LEV opening

There are 10 levels specified for standard LEV opening depending on the compressor operational frequency. Based on these standard valves, the LEV opening is modified according to the suction super heat, discharge temperature, and gas pipe temperature.

<LEV opening>



<Standard LEV opening by capacity code>

Capacity class	MXZ-18RV-E1		MXZ-32RV-E1		
	07,09	12	07,09	12,13	18
Level 01	255/70	255/90	100/70	140/90	160/100
Level 02	255/70	255/90	100/70	140/90	160/100
Level 03	255/70	255/90	100/90	140/110	160/120
Level 04	255/70	255/90	100/110	140/130	160/140
Level 05	255/70	255/90	100/130	140/150	160/160
Level 06	255/80	255/100	110/150	150/170	170/180
Level 07	255/90	255/110	120/170	160/190	180/200
Level 08	255/100	255/120	130/190	170/210	190/220
Level 09	255/110	255/130	140/210	180/230	200/240
Level 10	255/120	255/140	150/230	190/250	210/260

1 LEV opening correction by suction super heat

(Suction super heat) = (Suction temperature) - (Evaporation temperature)

The LEV opening is corrected as shown in the following table.

Suction superheat (S.H.)	LEV opening correction (pulse)			
	MXZ-18RV-E1		MXZ-32RV-E1	
	Cooling	Heating	Cooling	Heating
more than 10	40	15	20	10
8 to10	30	10	15	10
7 to 8	30	10	15	10
5 to 7	16	5	7	5
4 to 5	8	3	0	0
4 or less	0	0	0	0

2.LEV opening correction by discharge temperature

The LEV opening is corrected to 55 pulse when it has been corrected consecutively 20 times due to the discharge temperature (Td) of 60℃ or below, or when the discharge temperature falls below 35°C. When such a status has continued for 10 minutes, the compressor stops and enters the 3 - minute time delay.

If the compressor stops five times during a continuous operation, the unit stops due to abnormality.

LEV opening correction (pulse)									
MXZ-18RV-E1			MXZ-32RV-E1						
			Two units or more			For capacity class 07 or 09 in single unit operation			
Discharge temperature (℃)	Cooling	Heating	Discharge temperature (℃)	Cooling	Heating	Discharge temperature (℃)	Cooling	Discharge temperature (℃)	Heating
more than 90	5	20	more than 100	10	10	more than 100	10	more than 100	10
85 to 90	1	20	95 to 100	5	10	95 to 100	10	95 to 100	10
80 to 85	0	20	90 to 95	0	5	92 to 95	10	90 to 95	10
75 to 80	-2	2	85 to 90	-2	5	85 to 92	5	85 to 90	5
70 to 75	-2	0	80 to 85	-2	0	80 to 85	5	80 to 85	5
65 to 70	-2	-3	75 to 80	-5	0	75 to 80	0	73 to 80	0
60 to 65	-2	-3	70 to 75	-5	-2	70 to 75	-2	65 to 73	-2
60 or less	-5	-12	70 or less	-5	-2	70 or less	-5	65 or less	-5

✺ For capacity class 12(13) or 18 in single-unit operation, the stabilized range shifts to the next higher level.

(I. e. Cooling : 85 to 92
Heating : 80 to 91)

3.LEV opening correction by gas pipe temperature (effective in cooling operation only.)

(1) Maximum correction width : +14 pulse

(2) Single correction width : 1, 2, or 3 pulse

(3) Control details

1) S.H. HEX of each operating unit is calculated by using the following formula.
S.H. HEX (i) = (Gas pipe temperature (i)) - (Evaporation temperature)
2) The minimum valve is selected from each S. H. HEX.
3) From S. H. HEX (i) calculated in step 1) and the minimum value obtained in step 2), the difference of each S. H. HEX (ΔS. H. HEX (i)) is calculated as follows.
ΔS. H. HEX (i) = (S. H. HEX (i) - S. H. HEX (min))
4) Each LEV opening is controlled based on ΔS. H. HEX (i) obtained in step 4).
ΔS. H. HEX (i) and LEV control width

Range of ΔS. H. HEX (i)	LEV variation for corresponding unit
ΔS. H. HEX (i) to 3 deg	0
3 to ΔS. H. HEX (i) to 6 deg	+1
6 to ΔS. H. HEX (i) to 9 deg	+2
9 to ΔS. H. HEX (i)	+3

11-10.3.Control by the number of operating indoor unit

The compressor operational frequency and the LEV opening are controlled depending on the number of operating indoor units.

1.Compressor operational frequency

- The variable range of compressor operational frequency changes according to the operation signal (capacity code and temperature difference) given from the operating indoor unit (s).
  When the number of operating indoor units is reduced during heating operation, the operational frequency will decrease by 20 Hz in one minute. After that, the operational frequency will return to the variable status.

2.LEV opening

- The LEV opening varies according to the operation signal given from the operating indoor unit (s).
  When the number of operating indoor units is reduced during heating operation, the LEV opening will be fixed to the current valve for one minute. After that, the LEV opening will return to the variable status.

11-10.4.Selection of operation mode

(1) When a single indoor unit is operating, the system operates in the mode as selected by that indoor unit.
(2) When two indoor units are operating in the same mode, the system operates in that mode.
(3) Simultaneous COOL and HEAR operation is unavailable within a system. The indoor unit activated earlier has the priority to decide the operation mode of the system. The other unit enters the standby status when it receives the order to operate in a different mode. To operate these units in the same mode from such a status, reset both units to the same operation mode, turned them off, and then turn them back on.
(4) Simultaneous COOL and DRY operation is available within a system. In this case, the outdoor unit operates in the COOL mode. (The outdoor unit operates in the DRY mode only when all the indoor units are operating in the DRY mode.)

11-10.5.Outdoor fan control

The outdoor fan turns ON according to "Compressor ON" commands given from each indoor unit.

	MXZ-18RV-E1	
Number of operating indoor unit	One unit	Two unit
Cooling	Hi	Hi
Heating	Hi	Hi

	MXZ-32RV-E1			
Total capacity code \ Number 05 operating indoor unit	One unit	Two unit	Three unit	Four unit
1	Low	Low	Me	Me
2				
3				
4				
5		Me		
6				
7				
8				
9				
10				

Indoor unit capacity class	Capacity code
07/09	1
12(13)	3
18	4

✺ The outdoor fan is controlled at High speed for the first 10 seconds after start-up. In addition, the outdoor fan speed temporarily changes to High during the compressor and inverter protection.

1.Compressor shell overheat protection

When a single unit is operating in a system with the LEV fully open and the discharge temperature at 95℃ or above, the outdoor fan speed changes to High. It is released when the number of operating indoor units has changed, the operation mode has changed, or the power has turned OFF.

2.Inverter overheat protection

When the fin temperature thermistor detects 88℃ or above, the indoor fan speed changed to High. It is released when the compressor has turned OFF.

3.After defrosting during heating operation, the outdoor fan speed shifts to the next higher level.

(I. e. Low to Me
Me to High)

11-10.6.Operational frequency range

Compressor operational frequency range
(1) COOLING

MXZ-18RV-E1					
Number of operating unit	Indoor unit capacity class	Minimum	Maximum	DRY mode	Rating
1	07 or 09	34	58	43	43
	12		66		58
2	07+12 or 09+09	34	80	43	76

MXZ-32RV-E1					
Number of operating unit	Total capacity code	Minimum	Maximum	DRY mode	Rating
1	1 2	30	52	40	40
	3		73		52
	4				
2	2	35	90	58	58
	3				75
	4 5 6 7 8		110		105
3	-	40	120	75	102
4	-	40	120	75	102

(2) HEATING

MXZ-18RV-E1					
Number of operating unit	Indoor unit capacity class	Minimum	Maximum	DEFROST mode	Rating
1	07 or 09	34	70	70	62
	12				66
2	09+09	34	86	86	82
	07+12				84

MXZ-32RV-E1					
Number of operating unit	Total capacity code	Minimum	Maximum	DEFROST mode	Rating
1	1 2	30	58	105	45
	3		73		65
	4				
2	2	40	95		58
	3				75
	4 5 6 7 8		115		107
3	-	48	120		112
4	-	48	120		105

11-10.7.Defrosting in heating

<Conditions to start defrosting>

The system starts defrosting when it satisfies both of the following conditions :

① The defrost thermistor detects -3°C or below.

② Defrost interval (I. e. the accumulated compressor operation time) counted by the controller board has reached the prescribed value.

<Details of defrosting>

① The compressor stops for 32.5 seconds and the indoor fan turns OFF.

② The reversing value reverses and the compressor runs at the defrosting frequency.

③ After the defrosting termination conditions are satisfied, the compressor stops for 32.5 seconds and the reversing valve reverses. This is the end of defrosting.

<Conditions to terminate defrosting>

The system terminates defrosting when it satisfies, either of the following conditions :

① The defrost thermistor detects +10°C or above.

② Defrosting time has reached 10 minutes.

11-10.8.High and low pressure protection

(1) High pressure protection in heating

- The operational frequency, 2 - way valve (only MXZ-32RV), and outdoor fan motor are controlled according to the indoor coil temperature.
  When it rises to nearly 50°C, the operational frequency will be fixed to the value at the moment and the outdoor fan speed will change to low.
  When it rises to nearly 53°C, the operational frequency will be reduced by 4 Hz from the current value and the 2 - way valve will open.

(2) High pressure protection by high pressure switch (H.P.S : MXZ-18RV , 63H1 : MXZ-32RV)

- The operational frequency, 2 - way valve (only MXZ-32RV), and outdoor fan motor are controlled by the high pressure switch to protect excessive high pressure.

<Condition to active the protection>

The high pressure protection starts when the high pressure switch turns ON, that is the discharge pipe pressure rises to $2.75\ ^{+0.05}_{-0.1}$ MPa ($28\ ^{+0.5}_{-1.0}$ kg/cm^2) or above.

<Protection details>

a) In COOL or DRY mode
- The 2 - way valve opens.
- The compressor operational frequency decreases at a rate of 10 Hz/minute.

b) In HEAT mode
- The 2 - way valve opens.
- The compressor operational frequency decreases at a rate of 10 Hz/minute.
- The outdoor fan runs at the Low speed.

<Condition to release the protection>

The protection is released when the high pressure switch turns OFF, that is, the discharge pipe pressure falls to 2.4±0.15MPa (24.5 ± 1.5 kg/cm^2) or below.

(3) Low pressure protection by low pressure switch (only MXZ-32RV)

- The compressor ON/OFF, operational frequency, 2 - way valve, and LEV opening are controlled by the low pressure switch to protect excessive low pressure.

<Condition to active the protection>

The protection starts when the low pressure switch turns ON, that is, the suction pipe pressure falls to 0.05 ± 0.04MPa (0.5 ± 0.4 kg/cm^2) or below.

<Protect details>

- The 2 - way valve opens.
- The compressor operational frequency decreases at a rate of 10 Hz/minute.
- The LEV opens at a rate of 20 pulse/minute. When such a status has continued for five minutes, the compressor will turn OFF and the error content will be displayed.

<Condition to release the protection>

The protection is released when the low pressure switch turns OFF, that is, the suction pipe pressure falls to 0.15±0.04MPa (1.5 ± 0.4 kg/cm^2).

(4) High pressure protection by high pressure switch (63H2 : MXZ-32RV)

- The compressor is turned OFF by the high pressure switch to prevent excessive high pressure.

<Condition details>

The compressor stops operation.

<Condition to release the protection>

- The compressor is turned OFF once and turned ON again.

11-10.9.Discharge temperature protection

- The compressor ON/OFF and operational frequency are controlled according to the discharge temperature.

(1) Compressor ON/OFF

The compressor turns OFF when the discharge temperature thermistor rises above 120°C. The compressor turns ON when the discharge temperature thermistor falls below 80°C.

(2) Compressor operational frequency

When the estimated discharge temperature is high than 120°C, the compressor operational frequency will decrease by 8 Hz from the current operational frequency. When the estimated discharge temperature is over 115°C to 120°C inclusive, the compressor operational frequency will decrease by 4 Hz from the current operational frequency.

When the estimated discharge temperature is over 107°C to 115°C inclusive, the compressor operational frequency will be fixed to the current operational frequency.

11-10.10.Refrigerant recovery in heating

<Conditions to active refrigerant recovery>

The system activates refrigerant recovery when it satisfies all the following conditions :

- One or more indoor unit are standstill during heating operation. (It does not include the "Thermostat OFF" starts.)
- The discharge temperature rises to 107°C or above.
- Sixty minutes or more have passed since the operation start-up or the last refrigerant recovery.

<Control details>

- The LEV opening is controlled at 80 pulse for the non-operating indoor unit(s).

<Conditions to discontinue refrigerant recovery>

The system discontinues refrigerant recovery when it satisfies either of the following conditions. Then the LEV opening is controlled to 59(MXZ-32RV) / 49(MXZ-18RV) pulse.

- Sixty seconds have passed since the start-up of refrigerant recovery.
- The discharge temperature falls to 90℃(MXZ-32RV) / 100℃(MXZ-18RV) or below.

11-10.11.Sensors and actuators

Relation between major sensors and actuators.

Sensor	Purpose	Actuator				
		Compressor	LEV	Outdoor fan motor	Reversing valve	2-way valve (MXZ-32RV)
Discharge temperature thermistor	Protection	○	○			
Defrost thermistor	Defrosting	○	○	○	○	
Suction temperature thermistor	Control		○			
Evaporation temperature thermistor	Control					
Gas pipe temperature thermistor	Control		○			
High pressure switch	Protection	○		○		○
Low pressure switch (MXZ-32RV)	Protection	○	○			○
Fin temperature thermistor	Protection	○		○		
Capacity code	Control	○	○	○		

12 SERVICE FUNCTIONS

MSC-07RV -E1 MU-07RV -E1 MUH-07RV -E1 MUX-10RV -E1 MXZ-18RV -E1
MSC-09RV -E1 MU-09RV -E1 MUH-09RV -E1 MUX-18RV -E1 MXZ-32RV -E1
MSC-12RV -E1 MU-12RV -E1 MUH-12RV -E1 MUX-24RV -E1

12-1. COMPULSORY DEFROSTING MODE FOR SERVICE<MUH-07/09/12RV>

By short circuit of the connector JP607 and R853 on the outdoor deicer P.C. board, defrosting mode can be accomplished regardless of the defrost interval restriction. (See page 143.)
Defrost thermistor RT61 must read below -3°C.

12-2. CHANGE IN DEFROST SETTING<MUH-07/09/12RV>※ MXZ-18/32RV is not equipped with this function.

<JPC> when the JPC wire of the deicer P.C. board is cut, the defrost interval time will be changed. (See page 143.)
<JPE> when the JPE wire of the deicer P.C. board is cut, the defrost temperature will be changed. (See page 143.)

MODEL	Jumper wire	Change point
MUH-07RV - E1 MUH-09RV - E1	JPC	Defrost interval time changes from 40 minutes to 15 minutes
MUH-12RV - E1	JPE	Deforst start temperature changes from -3℃ to 0℃ Deforst finish temperature changes from 3.1℃ to 10.1℃.

12-3. TIMER SHORT MODE

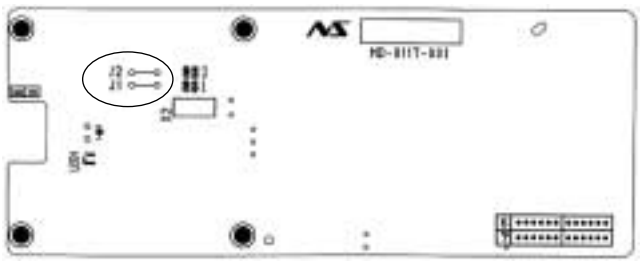
For service, set time can be shortened by short circuit of JPG and JPS the electronic control P.C. board.
The time will be shortened as follows.
3-minutes delay : 3-minutes → 3-seconds.
AUTO START : 1 hour → 1-minute
AUTO STOP : 1 hour → 1-minute
} Short the connector during the timer mode.

12-4. P.C. BOARD MODIFICATION FOR INDIVIDUAL OPERATION

A maximum of 4 indoor units with wireless remote controllers can be used in a room.
In this case, to operate each indoor unit individually by each remote controller, P.C. boards of remote controller must be modified according to the number of the indoor unit.

How to modify the remote controller P.C. board

Remove batteries before modification.
The board has a print as shown below :



NOTE : For remodelling, take out the batteries at first. After finish remodelling, put back the batteries then push the RESET button.

The P.C.board has the print “J1” and “J2”.Jumper wires are mounted to each “J1” and “J2”.Cut J1 and J2 according to the number of indoor unit as shown in Table 1.
After modification,push the reset button.

Table.1

	1 unit operation	2 units operation	3 units operation	4 units operation
No. 1 unit	No modification	Same as at left	Same as at left	Same as at left
No. 2 unit	–	Cut J1	Same as at left	Same as at left
No. 3 unit	–	–	Cut J2	Same as at left
No. 4 unit	–	–	–	Cut both J1 and J2

NOTE : At power supply failure or installation, indoor unit deletes the memory about remote controller. When the power supply is turned on and indoor unit receives the first signals from the remote controller, the remote controller number is designated as the indoor unit number. Therefore at and after the second time indoor unit accepts the remote controller of the initial setting number.
At setting - error, turn the power supply off to cancel the individual operation and then turn the power supply on to restart the setting.

12-5. MU TYPE / MUH TYPE SWITCH OVER AND AUTO RESTART FUNCTION

1. MU TYPE / MUH TYPE SWITCH OVER

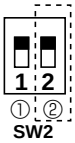
The indoor units for MU type and MUH type are common specifications. Set switch according to the type of outdoor unit.The units are set for MUH type when they are shipped from the factory.

How to switch over MU TYPE / MUH TYPE

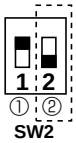
⑴ Turn off the main power for the unit.

⑵ Pull out the electronic control P.C. board, and change switch(SW2-②) on the indoor electronic control P.C. board according to the type of outdoor unit as following figures.

Outdoor unit
MU & MUX type
Set ② switch upside.

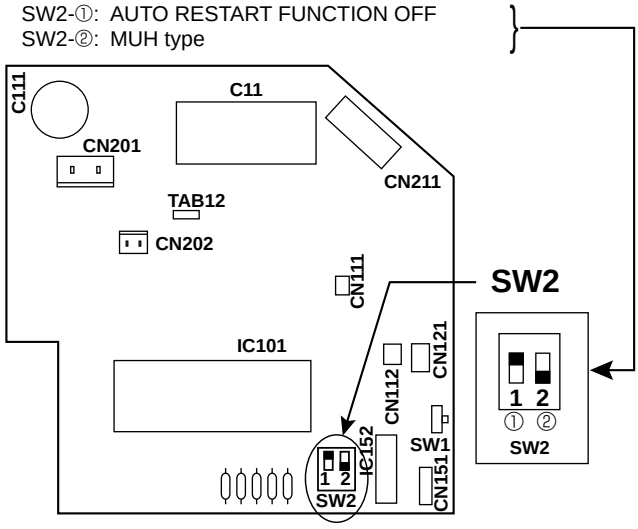


Outdoor unit
MUH& MXZ type
Set ② switch downside.



SW2-① sets the AUTO RESTART FUNCTION ON / OFF.
SW2-② switches over the MU type/ MUH type.

When the units are shipped from the factory, SW2 is as follows.
SW2-①: AUTO RESTART FUNCTION OFF
SW2-②: MUH type



INDOOR ELECTRIC CONTROL P.C. BOARD

NOTE:•If the indoor-outdoor connecting wire is incorrectly connected on the terminal block, the unit does not operate normally.
•If a ground is incorrect, it may cause an electric shock.

2. AUTO RESTART FUNCTION

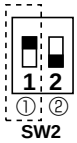
When the indoor unit is controlled with the remote controller, the operation mode, set temperature, and the fan speed are memorized by the indoor electronic control P.C.board. The “AUTO RESTART FUNCTION” sets to work the moment power has restored after power failure.Then, the unit will restart automatically. However if the unit is operated in “I FEEL CONTROL” mode before power failure, the operation is not memorized. In “I FEEL CONTROL” mode, the operation is decided by the initial room temperature. “AUTO RESTART FUNCTION” is OFF when the units are shipped from the factory.

How to set “AUTO RESTART FUNCTION”

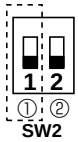
⑴ Turn off the main power for the unit.

⑵ Pull out the electronic control P.C. board, and change switch(SW2-①) on the indoor electronic control P.C. board as follow figures.

AUTO RESTART
FUNCTION OFF
Set ① switch upside.



AUTO RESTART
FUNCTION ON
Set ① switch downside.



Operation

⑴ If the main power (220/240V AC) has been cut, the operation settings remain.

⑵ After the power is restored, the unit restarts automatically according to the memory.(However, it takes at least 3 minutes for the compressor to start running.)

NOTE

•The operation settings are memorized when 10 seconds have passed after the remote controller was operated.
•If main power is cut while AUTO START/STOP timer is active ,the timer setting is cancelled.
•If the unit has been off with the remote controller before power failure, the auto restart function does not works as the power button of the remote controller is off.
•To prevent breaker off due to the rush of starting current, systematize other home appliance not to turn on at the same time.
•When some air conditioners are connected to the same supply system, if they are operated before power failure, the starting current of all the compressors may flow simultaneously at restart.
Therefore, the special counter-measures are required to prevent the main voltage-drop or the rush of the starting current by adding to the system that allows the units to start one by one.

13 TROUBLESHOOTING

MSC-07RV -E1 MU-07RV -E1 MUH-07RV -E1 MXZ-18RV -E1
MSC-09RV -E1 MU-09RV -E1 MUH-09RV -E1 MXZ-32RV -E1
MSC-12RV -E1 MU-12RV -E1 MUH-12RV -E1

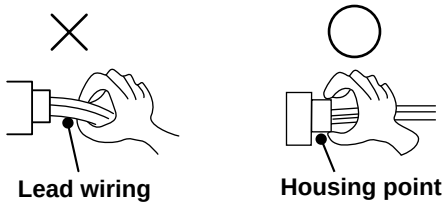
13-1. Cautions on troubleshooting

1. Before troubleshooting, check the following:

1) Check the power supply voltage.
2) Check the indoor/outdoor connecting wire for mis-wiring.

2. Take care the following during servicing.

1) Before servicing the air conditioner, be sure to first turn off the remote controller to stop the unit, and then after confirming the horizontal vane is closed, turn off the breaker and / or disconnect the power plug.
2) Be sure to unplug the power cord before removing the front panel, the cabinet, the top panel, and the electronic control P.C. board.
3) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
4) When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.

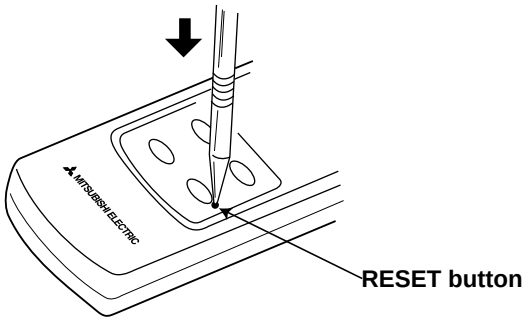


3. Troubleshooting procedure

1) First, check if the OPERATION INDICATOR lamp on the indoor unit is flashing on and off to indicate an abnormality. To make sure, check how many times the abnormality indication is flashing on and off before starting service work.
2) If the electronic control P.C. board is supposed to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.
3) When troubleshooting, refer to the flow chart on page 123, 124 and the check table on page 125~127.

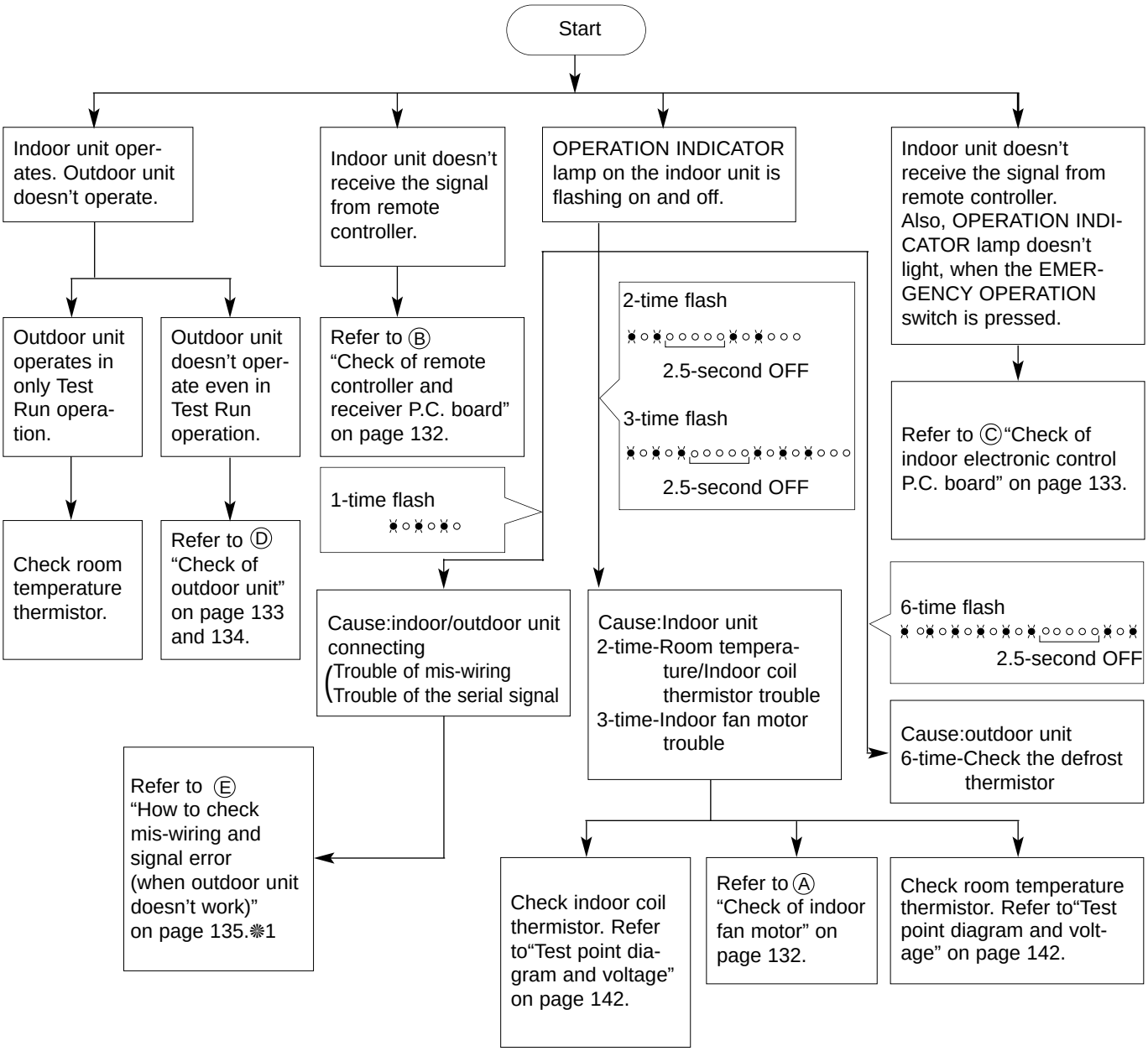
4. How to replace batteries

Weak batteries may cause the remote controller malfunction.
In this case, the remote controller can not be repaired only by the battery replacement. To operate the remote controller normally, discharge the remote controller in the following order.
This remote controller has the RESET button. After refilling new batteries, press the RESET button with tip end of ball point pen or the like, and then use the remote controller.



13-2. Instruction of troubleshooting

<MU-07/09/12RV,MUH-07/09/12RV,MUX-10/18/24RV> (Refer to page 124 for MXZ-18/32RV)



※1<The case of the trouble of the serial signal>
When the power is turned off and then turned on again, the indication shows "the trouble of mis-wiring."

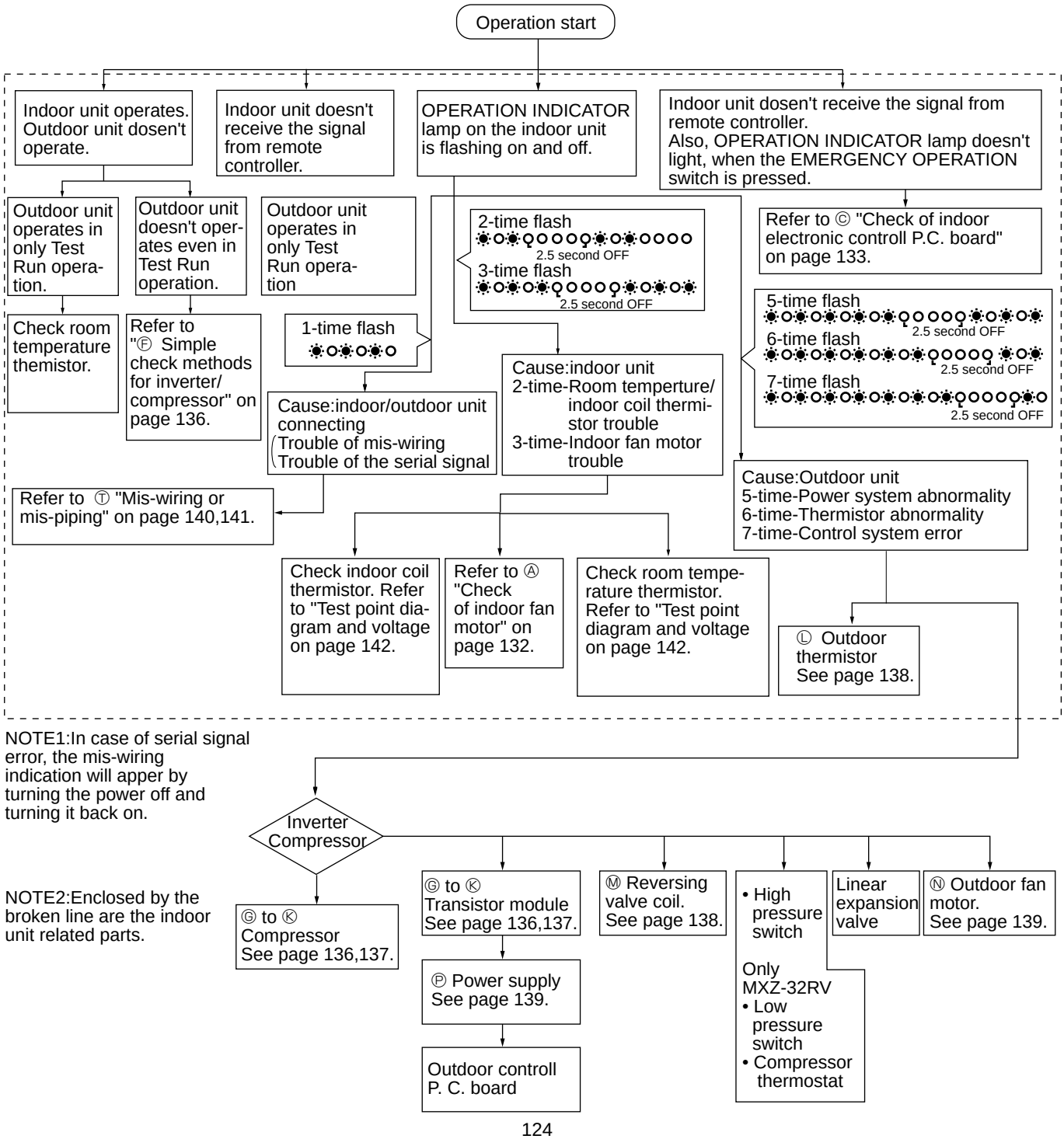
<MXZ-18RV,MXZ32RV>

The other cases

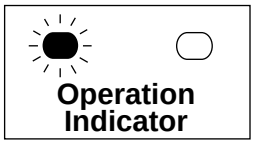
Indoor unit dose not operate.(different modes)

- When you try to operate two or more indoor units with one outdoor unit simultaneously, one for the cooling and the other for heating, the operation mode of the indoor unit that operates earlier is selected. The other indoor units that will start the operation later cannot operate, indicating as shown in the figure below. In this case, please set all the indoor units to the same operation mode.

- When indoor units starts the operation while the defrosting of outdoor unit is being done, it takes a few minutes (max.10 minutes) to blow out the warm air.
- In the heating operation, though indoor unit that dose not operate may get warm or the sound of refrigerant flowing may be heard, they are not malfunction. The reason is that the refrigerant continuously flows into it.



13-3. troubleshooting check table <INDOOR UNIT>



lighting

not lighting

❋ Before taking measures, make sure that the symptom reappears, for accurate troubleshooting.

Self check table

NO.	Abnormal point	Indication	Symptom	Detect method	Check point
1	Mis-wiring	0.5-second ON 0.5-second OFF	Outdoor unit does not run.	When serial signal stops for 4 to 5 seconds after 1st on of 52C relay by POWER turning on.	● Check switch SW2-②.(MU type or MUH type) ● Check wiring (visual check and conductivity check). ● Check indoor electronic control P.C.board. ● Check outdoor DEICER P.C. board. ● Check electrical parts.
	Serial signal	1-time flash 2.5-second OFF		When serial signal from outdoor unit stops for 4 to 5 seconds.	
2	Indoor coil thermistor Room temperature thermistor	2-time flash 2.5-second OFF	Outdoor unit does not run.	Detect Indoor coil/room temperature thermistor short or open circuit every 8 seconds during operation.	● Check resistance of thermistor. ● Reconnect connector. ● Check indoor electronic control P.C.board.
3	Indoor fan motor	3-time flash 2.5-second OFF	Indoor fan motor repeats 12 seconds ON and 3 minutes OFF. When the indoor fan motor breaks, the fan keeps stopping.	When rotational frequency feedback pulse signal is not emit during 12-second indoor fan operation.	● Disconnect connector CN211 and then check connector CN121②-③to make sure rotational frequency feedback signal of 1.5V or over exists. ● Check indoor electronic control P.C. board. ● Check indoor fan motor. ● Reconnect connector.
4	Outdoor power system	5-time flash 2.5-second OFF	Outdoor unit does not run	When compressor has stopped due to over current protection or start-up failure protection 3 times in a row within 1 min. after start-up.	● Check inverter and compressor.
5	Defrost thermistor	6-time flash 2.5-second OFF	Outdoor unit does not run	When the defrost thermistor shorts or opens after the compressor start-up.	● Check outdoor DEICER P.C. board.(MUH) ● Check outdoor control P.C. board. (MXZ) ● Check resistance of thermistor. ● Reconnect connector.
6	Out door control system error	7-time flash 2.5-second OFF	Outdoor unit does not run		● Check outdoor control P.C. board.
7	Out door refrigerant system error	10-time flash 2.5-second OFF	Outdoor unit does not run	When the compressor operation has been interrupted by LEV protection continuously 5 times, the compressor stops operation.	● Amount of gas. ● Outdoor control P. C. board. ● Contact of LEV board connectors.

<OUTDOOR UNIT> (Only MXZ-18/32RV)

(1) Troubleshooting table

Note . LED indicates "00" in the normal status.

7-segment LED display	Error mode
00	Normal

※ <MXZ-32RV> If there is defect in the following parts(electronic control P.C. board, relay P.C. board, high pressure switches(63H1,63H2),indoor /outdoor fan motor , or indoor coil thermistor), the compressor may stop even with the display remained at " 00 ".In any case, reset the breaker and check the above-stated parts.

Symptom	Outdoor unit does not operate.		
Display	Detecting method	Detecting method	Check points
A4 (A4)	Outdoor power system abnormality	When the compressor operation has been interrupted by overcurrent protection continuously three times within 1 minute after start-up, the compressor stops operation.	• Inverter output • Compressor
A1 (A1)	Outdoor refrigerant system abnormality (LEV abnormality)	When the compressor operation has been interrupted by LEV protection continuously five times, the compressor stops operation.	• Amount of gas • Outdoor control P.C. board • Contact of LEV board connectors
A3 (A3)	Outdoor controller board abnormality	When the nonvolatile memory data cannot be read properly on the outdoor controller board	• Outdoor control P.C. board
P3 (P3)	<Only MXZ-32RV> Compressor temperature abnormality	When the compressor has remained OFF for continuous thirty minutes by inner thermostat function	• Outdoor air cycle • Amount of gas • Outdoor fan motor • Outdoor heat exchanger (dust adherence)
P1 (P1)	Indoor unit and LEV abnormality	When the drain abnormality is detected in the indoor unit and the indoor main coil temperature is too low, or when any abnormality is detected in the components of indoor unit	• Check the abnormality indication on the indoor unit. • LEV

Symptom	Outdoor unit stops and restarts every 3 minutes.		
Display	Detecting method	Detecting method	Check points
E8 (E8)	Suction temperature thermistor abnormality	The compressor stops when a short or open circuit occurs in the suction temperature thermistor during compressor running.	• Check the characteristic of the suction temperature thermistor. Refer to Ⓛ on page 138. • Check the contact of P. C. board connectors.
E9 (E9)	Evaporation temperature thermistor abnormality	The compressor stops when a short or open circuit occurs in the evaporation temperature thermistor during compressor running.	• Check the characteristic of the evaporation temperature thermistor. Refer to Ⓛ on page 138. • Check the contact of P. C. board connectors.
E6 (E6)	Discharge temperature thermistor abnormality	The compressor stops when a short or open circuit occurs in the discharge temperature thermistor during compressor running.	• Check the characteristic of the discharge temperature thermistor. Refer to Ⓛ on page 138. • Check the contact of P. C. board connectors.
F8 (F8)	Fin temperature thermistor abnormality	The compressor stops when a short or open circuit occurs in the fin temperature thermistor during compressor running.	• Check the characteristic of the fin temperature thermistor. Refer to Ⓛ on page 138. • Check the contact of P.C. board connectors.
A8 (A8)	Overcurrent protection	When over current is applied to the power module, the compressor stops and restarts in 3 minutes.	• Check the inverter and compressor. Refer to Ⓖ to Ⓚ on page 136,137. • Check the amount of gas. • Check the indoor/outdoor air flow for short cycle. • Check the indoor unit air filter for clogging
d6 (d6)	Discharge temperature overheat protection	When the discharge temperature thermistor detects 120˚C or above, the compressor stops and restarts operation in 3 minutes. ((Protection will be released at 80℃ or below.)	• Check the amount of gas and the refrigerant cycle. • Check the outdoor unit air passage.
d4 (d4)	Fin temperature overheat protection	When the fin temperature thermistor detects 88˚C or above, the compressor stops and restarts operation in 3 minutes.	• Check the outdoor unit air passage. • Check the power module. • Check the outdoor fan motor. Refer to Ⓝ on page 139.

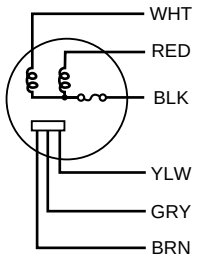
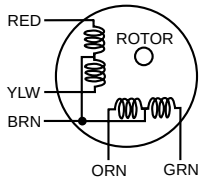
d2 (d2)	<Only MXZ-32RV> Low pressure switch protection	When the low pressure has been 0.05Mpa(0.5 kgf/cm^2-G) for 5 minutes or more, the compressor stops and restarts in 3 minutes.	• Check the ball valve. • Check the pipes for bending or clogging • Check the LEV operation. • Replace the outdoor controller board.
d1 (d1)	Low discharge temperature protection	When the discharge temperature has been 35˚C or below for 50 minutes or more, the compressor stops and restarts operation in 3 minutes.	• Check the amount of gas. • Replace the outdoor controller board. • Check the contact of LEV board connectors.
P4 (P4)	<Only MXZ-32RV> Compressor stop by thermostat function	When the compressor inner thermostat detects 130˚C or above, the compressor stops and restarts operation in 3 minutes.	• Check the inverter output. Refer to Ⓖ to Ⓚ. • Check the compressor. • Check the amount of gas. • Check the indoor unit air filter for clogging. • Check the indoor/outdoor air flow for short cycle.

Symptom	Outdoor unit operates. (The compressor operates at reduced frequency.)		
Display	Detecting method	Detecting method	Check points
d8 (d8)	Frequency drop by current protection	When the outdoor unit input current exceeds 16A(MXZ-18RV) 22.5 A (MXZ-32RV), the compressor operates at reduced frequency.	These symptoms do not mean any abnormality of the product, but check the follingpoints. • Air filter clogging • Amount of gas • Short cycle of indoor/outdoor air flow
d9 (d9)	Frequency drop by overload protection	When the compressor load exceeds the specified value, the compressor operates at reduced frequency.	
d7 (d7)	Frequency drop by high pressure protection	When indoor pipe temperature exceeds 55˚C during heating, the compressor operates at reduced frequency.	
	Frequency drop by defrosting in cooling	When the indoor pipe temperature falls to 6˚C or below during cooling, the compressor operates at reduced frequency.	
d6 (d6)	Frequency drop by discharge temperature protection	When the discharge temperature exceeds 115˚C, the compressor operates at reduced frequency.	
d3 (d3)	Frequency drop by high pressure switch protection	When the high pressure exceeds 2.75MPa (28 kgf/cm^2-G), the compressor operates at reduced frequency. In addition, the two-way valve reverses and the fan speed changes.	• Amount of gas • Outdoor unit air passage
d2 (d2)	<Only MXZ-32RV> Frequency drop by low pressure switch protection	When the low pressure falls to 0.05Mpa or below, the compressor operates at reduced frequency. In addition, the two-way valve opens.	• Ball valve • LEV operation • Pipe bending or clogging • Outdoor control P.C. board

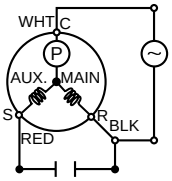
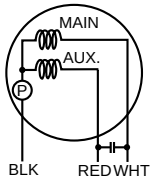
Symptom	Outdoor unit operates.		
Display	Detecting method	Detecting method	Check points
E7 (E7)	Defrost thermistor abnormality	When a short or open circuit occurs in the defrost thermistor during heating * In this case, the compressor continues to operate.	• Defrost thermistor characteristic • Contact of P. C. board connectors
F5 (F5)	Room-A pipe temperature thermistor abnormality	When a shot or open circuit occurs in the Room-A pipe temperature thermistor * In this case, the compressor keeps running.	• Room A pipe temperature thermistor characteristic • Contact of P.C. board connectors
F6 (F6)	Room-B pipe temperature thermistor abnormality	When a short or open circuit occurs in the Room-B pipe temperature thermistor * In this case, the compressor keeps running.	• Room B pipe temperature thermistor characteristic • Contact of P.C. board connectors
F7 (F7)	<Only MXZ-32RV> Room-C pipe temperature thermistor abnormality	When a short or open circuit occurs in the Room-C pipe temperature thermistor * In this case, the compressor keeps running.	• Room C pipe temperature thermistor characteristic • Contact of P.C. board connectors
P9 (P9)	<Only MXZ-32RV> Room-D pipe temperature thermistor abnormality	When a short or open circuit occurs in the Room-D pipe temperature thermistor * In this case, the compressor keeps running.	• Room D pipe temperature thermistor characteristic • Contact of P.C. board connectors
h4 (h4)	Power factor detection abnormality	When the compressor power factor cannot be detected * In this case, the compressor keeps running.	• Compressor wiring
P2 (P2)	Shell temperature overheat protection	When the discharge temperature rises to 95˚C or above in single-unit cooling operation, the outdoor fan speed changes.	• Outdoor unit air passage • Pipe length
h6 (h6)	Dry protection	When five degrees or more of temperature difference have been detected between the indoor main temperature and the auxiliary pipe temperature for 10 minutes, the target discharge temperature is reduced.	This symptom does not mean any abnormality in the product, but check the followings. • Amount of gas • Pipe length

10-4. . Trouble criterion of main parts

MSC-07RV - E1
MSC-09RV - E1
MSC-12RV - E1

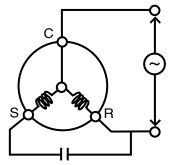
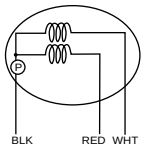
<table>
<tr><th>Part name</th><th colspan="2">Check method and criterion</th><th>Figure</th></tr>
<tr><td>Room temperature thermistor
Indoor coil thermistor</td><td colspan="2">Measure the resistance with a tester.
(Part temperature 10°C ~ 30°C)
<table>
<tr><th>Normal</th><th>Abnormal</th></tr>
<tr><td>MSC-07/09/12RV
8kΩ ~ 20kΩ</td><td>Opened or short-circuited</td></tr>
</table></td><td></td></tr>
<tr><td rowspan="2">Indoor fan motor</td><td>Motor part</td><td>Measure the resistance between the terminals with a tester.
(Coil wiring temperature10°C ~ 30°C)
<table>
<tr><th></th><th>Normal
MSC-07/09/12RV</th><th>Abnormal</th></tr>
<tr><td>WHT-BLK</td><td>280 ~ 304Ω</td><td rowspan="2">Opened or short-circuited</td></tr>
<tr><td>BLK-RED</td><td>311 ~ 338Ω</td></tr>
</table></td><td rowspan="2"> 
</td></tr>
<tr><td>Sensor part</td><td>Measure the voltage Power ON.
<table>
<tr><th></th><th>Normal
MSC-07/09/12RV</th><th>Abnormal</th></tr>
<tr><td>BRN-YLW</td><td>4.5 ~ 5.5V</td><td rowspan="2">Remain 0V or 5V</td></tr>
<tr><td>YLW-GRY</td><td>(When fan revolved one time)
0V→5V→0V
(Approx.)</td></tr>
</table></td></tr>
<tr><td>Vane motor</td><td colspan="2">Measure the resistance between the terminals with a tester.
(Part temperature10°C ~ 30°C)
<table>
<tr><th>Normal</th><th>Abnormal</th></tr>
<tr><td>MSC-07/09/12RV
282 ~ 306Ω</td><td>Opened or short-circuited</td></tr>
</table></td><td> 
</td></tr>
</table>

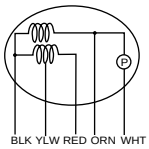
MU-07RV -E1 **MUH-07RV -E1**
MU-09RV -E1 **MUH-09RV -E1**
MU-12RV -E1 **MUH-12RV -E1**

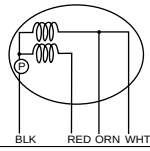
<table>
<tr><th>Part name</th><th>Check method and criterion</th><th>Figure</th></tr>
<tr><td>Defrost thermistor
<MUH-07/09/12RV></td><td>Measure the resistance with a tester.
(Part temperature –10°C ~ 40°C)
<table>
<tr><th>Normal</th><th>Abnormal</th></tr>
<tr><td>MUH-07/09/12RV</td><td rowspan="2">Opened or short-circuited</td></tr>
<tr><td>5kΩ ~ 60kΩ</td></tr>
</table></td><td></td></tr>
<tr><td>Compressor</td><td>Measure the resistance between the terminals with a tester.
(Coil wiring temperature –10°C ~ 40°C)
<table>
<tr><th></th><th colspan="3">Normal</th><th>Abnormal</th></tr>
<tr><th></th><th>MU-07RV</th><th>MU-09RV</th><th>MU-12RV</th><th></th></tr>
<tr><td>C-R</td><td>3.68~4.51Ω</td><td>3.55~4.35Ω</td><td>1.87~2.30Ω</td><td rowspan="2">Opened or short-circuited</td></tr>
<tr><td>C-S</td><td>5.08~6.22Ω</td><td>5.03~6.16Ω</td><td>3.44~4.22Ω</td></tr>
</table>
<table>
<tr><th></th><th colspan="3">Normal</th><th>Abnormal</th></tr>
<tr><th></th><th>MUH-07RV</th><th>MUH-09RV</th><th>MUH-12RV</th><th></th></tr>
<tr><td>C-R</td><td>3.68~4.51Ω</td><td>2.91~3.56Ω</td><td>1.87~2.30Ω</td><td rowspan="2">Opened or short-circuited</td></tr>
<tr><td>C-S</td><td>5.08~6.22Ω</td><td>5.11~6.26Ω</td><td>3.44~4.22Ω</td></tr>
</table></td><td> 
</td></tr>
<tr><td>Outdoor fan motor</td><td>Measure the resistance between the terminals with a tester.
(Coil wiring temperature –10°C ~ 40°C)
<table>
<tr><th></th><th colspan="2">Normal</th><th>Abnormal</th></tr>
<tr><th></th><th>MU-07/09RV</th><th>MU-12RV</th><th></th></tr>
<tr><td>WHT-BLK</td><td>227~279Ω</td><td>155 ~ 191Ω</td><td rowspan="2">Opened or short-circuited</td></tr>
<tr><td>BLK-RED</td><td>339~416Ω</td><td>363 ~ 445Ω</td></tr>
</table>
<table>
<tr><th></th><th colspan="2">Normal</th><th>Abnormal</th></tr>
<tr><th></th><th>MUH-07/09RV</th><th>MUH-12RV</th><th></th></tr>
<tr><td>WHT-BLK</td><td>227~279Ω</td><td>155 ~ 191Ω</td><td rowspan="2">Opened or short-circuited</td></tr>
<tr><td>BLK-RED</td><td>339~416Ω</td><td>363 ~ 445Ω</td></tr>
</table></td><td> 
</td></tr>
</table>

Ⓟ INNER PROTECTOR

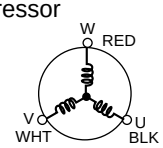
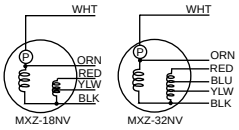
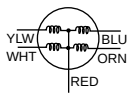
MUX-10RV -E1 MUX-18RV -E1 MUX-24RV -E1

<table>
<tr><th>Part name</th><th>Check method and criterion</th><th>Figure</th></tr>
<tr><td>Compressor</td><td>Measure the resistance between the terminals with a tester.
(Coil wiring temperature-10°C ~ 40°C)
<table>
<tr><td rowspan="2"></td><td colspan="3">Normal</td><td rowspan="2">Abnormal</td></tr>
<tr><td>MUX-10RV-E1
MUX-18RV-E1</td><td colspan="2">MUX-24RV-E1</td></tr>
<tr><td></td><td>KH-134VLL</td><td>RH-174VGH</td><td>RH-231VHA</td><td rowspan="3">Opened or short-circuited</td></tr>
<tr><td>C-R</td><td>4.1 ~ 5.0Ω</td><td>2.9 ~ 3.6Ω</td><td>1.9 ~ 2.3Ω</td></tr>
<tr><td>C-S</td><td>7.2 ~ 8.8Ω</td><td>5.1 ~ 6.3Ω</td><td>3.4 ~ 4.2Ω</td></tr>
</table></td><td> 
</td></tr>
<tr><td>Outdoor fan motor</td><td>Measure the resistance between the terminals with a tester.
(Coil wiring temperature -10°C ~ 40°C)
<table>
<tr><td rowspan="2"></td><td colspan="3">Normal</td><td>Abnormal</td></tr>
<tr><td>MUX-10RV-E1</td><td>MUX-18RV-E1</td><td>MUX-24NV-E1</td><td rowspan="5">Opened or short-circuited</td></tr>
<tr><td>WHT-BLK</td><td>287 ~ 351Ω</td><td>103 ~ 127Ω</td><td>125 ~ 153Ω</td></tr>
<tr><td>BLK-RED</td><td>347 ~ 424Ω</td><td>——</td><td>119 ~ 146Ω</td></tr>
<tr><td>BLK-YLW</td><td>——</td><td>57 ~ 71Ω</td><td>——</td></tr>
<tr><td>YLW-RED</td><td>——</td><td>43 ~ 54Ω</td><td>——</td></tr>
</table></td><td>MUX-10NV
 

MUX-18RV
 

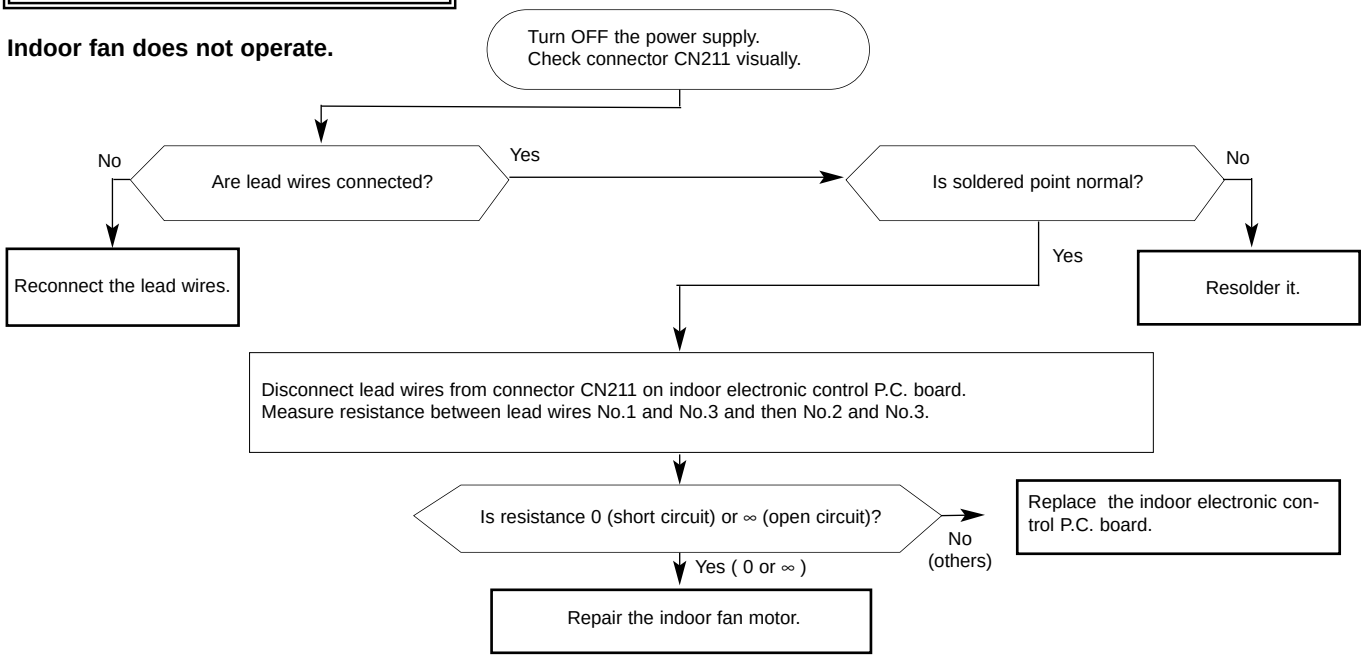
MUX-24RV
 
</td></tr>
<tr><td>Solenoid coil
(21R, 21RA,
21RB)</td><td>Measure the resistance with a tester. (Part temperature -10°C ~ 40°C)
<table>
<tr><th>Normal</th><th>Abnormal</th></tr>
<tr><td>602 ~ 749Ω</td><td>Opened or short-circuited</td></tr>
</table></td><td></td></tr>
<tr><td>Solenoid coil
(21R1, 21R2,
21R3, 21R4)</td><td>Measure the resistance with a tester. (Part temperature -10°C ~ 40°C)
<table>
<tr><th>Normal</th><th>Abnormal</th></tr>
<tr><td>1498 ~ 1834Ω</td><td>Opened or short-circuited</td></tr>
</table></td><td></td></tr>
</table>

MXZ-18RV - E1 MXZ-32RV - E1

<table>
<tr><th>Part name</th><th>Check method and criterion</th></tr>
<tr><td>Defrost thermistor
Suction / Evaporation /
Gas pipe temperature thermistor</td><td>Measure the resistance using a tester.
(Part temperature -10°C ~ 40°C)
<table><tr><th>Normal</th><th>abnormal</th></tr><tr><td>5kΩ ~ 55kΩ</td><td>Opened or short-circuited</td></tr></table></td></tr>
<tr><td>Discharge temperature thermistor</td><td>Measure the resistance using a tester, after warming up the thermistor by holding by hand.
(Part temperature : 20°C ~40°C)
<table><tr><th>Normal</th><th>abnormal</th></tr><tr><td>100kΩ ~ 250kΩ</td><td>Opened or short-circuited</td></tr></table></td></tr>
<tr><td>Compressor
 
</td><td>Measure the resistance between terminals using a tester.
(Winding temperature : -10°C ~ 40°C)
<table><tr><th colspan="2">Normal</th><th>abnormal</th></tr><tr><td>MXZ-18RV</td><td>MXZ-32RV</td><td rowspan="2">Opened or short-circuited</td></tr><tr><td>Each phase 1.05Ω ~ 1.29Ω</td><td>Each phase 0.47Ω ~ 0.58Ω</td></tr></table></td></tr>
<tr><td>Outdoor fan motor
 
</td><td>Measure the resistance between lead wires using a tester.
(Part temperature : -10°C ~ 40°C)
<table><tr><th colspan="3">Normal</th><th>abnormal</th></tr><tr><td>WHT - BLK</td><td>MXZ-18RV</td><td>MXZ-32RV</td><td rowspan="6">Opened or short-circuited (Not including WHT - ORN)</td></tr><tr><td>WHT - BLK</td><td>143.0Ω ~ 176.0Ω</td><td>69.0Ω ~ 86.0Ω</td></tr><tr><td>BLK - YLW</td><td>63.0Ω ~ 78.0Ω</td><td>23.0Ω ~ 30.0Ω</td></tr><tr><td>YLW - BLU</td><td>-</td><td>10.0Ω ~ 13.0Ω</td></tr><tr><td>RED - BLK</td><td>-</td><td>73.0Ω ~ 91.0Ω</td></tr><tr><td>YLW - RED</td><td>31.0Ω ~ 39.0Ω</td><td>-</td></tr></table></td></tr>
<tr><td>Reversing valve coil</td><td>Measure the resistance using a tester. (Part temperature -10°C ~ 40°C)
<table><tr><th colspan="2">Normal</th><th>abnormal</th></tr><tr><td>MXZ-18RV</td><td>MXZ-32RV</td><td rowspan="2">Opened or short-circuited</td></tr><tr><td>1320Ω ~ 1620Ω</td><td>1190Ω ~ 1715Ω</td></tr></table></td></tr>
<tr><td><Only MXZ-32RV>
Solenoid coil</td><td>Measure the resistance using a tester.
(Part temperature -10°C ~ 40°C)
<table><tr><th>Normal</th><th>abnormal</th></tr><tr><td>873Ω ~ 1068Ω</td><td>Opened or short-circuited</td></tr></table></td></tr>
<tr><td>Linear expansion valve
 
</td><td>Measure the resistance using a tester.(Part temperature -10°C ~ 40°C)
<table><tr><th rowspan="2">Lead wire color</th><th colspan="2">Normal</th><th rowspan="2">Abnormal</th></tr><tr><th>MXZ-18RV</th><th>MXZ-32RV</th></tr><tr><td>WHT - RED</td><td rowspan="4">22 ~ 29Ω</td><td rowspan="4">21 ~ 26Ω</td><td rowspan="4">Opened or short-circuited</td></tr><tr><td>RED - ORN</td></tr><tr><td>YLW - RED</td></tr><tr><td>RED - BLU</td></tr></table></td></tr>
<tr><td>High pressure switch (HPS)
Low pressure switch (LPS)
Compressor thermistor
❋ Only MXZ-32RV</td><td>Measure the resistance using a tester.
(Part temperature -10°C ~ 40°C)
<table><tr><th colspan="2">Pressure (HPS, LPS)</th><th>Inner thermistor</th><th>Normal</th><th>abnormal</th></tr><tr><td colspan="2">Operation OFF</td><td>Operation OFF</td><td rowspan="4">Short</td><td rowspan="7">Other than those listed at left</td></tr><tr><td>HPS1</td><td>2.35 ± 0.15MPa (24 ± 1.5kg / cm^2)</td><td rowspan="3">108 ± 11°C</td></tr><tr><td>❋ HPS2</td><td>2.55 ± 0.2MPa (26 ± 2kg / cm^2)</td></tr><tr><td>❋ LPS</td><td>0.15 ± 0.05MPa (1.5 ± 0.5kg / cm^2)</td></tr><tr><td>HPS1</td><td>$2.75^{+0.05}_{-0.1}$ MPa ($28^{+0.5}_{-1.0}$ kg / cm^2)</td><td rowspan="3">130 ± 5°C</td><td rowspan="3">Open</td></tr><tr><td>❋ HPS2</td><td>$3.43^{+0}_{-0.15}$ MPa ($35^{+0}_{-1.5}$ kg / cm^2)</td></tr><tr><td>❋ LPS</td><td>0.05 ± 0.04MPa (0.5 ± 0.4kg / cm^2)</td></tr></table></td></tr>
</table>

Ⓐ Check of indoor fan motor

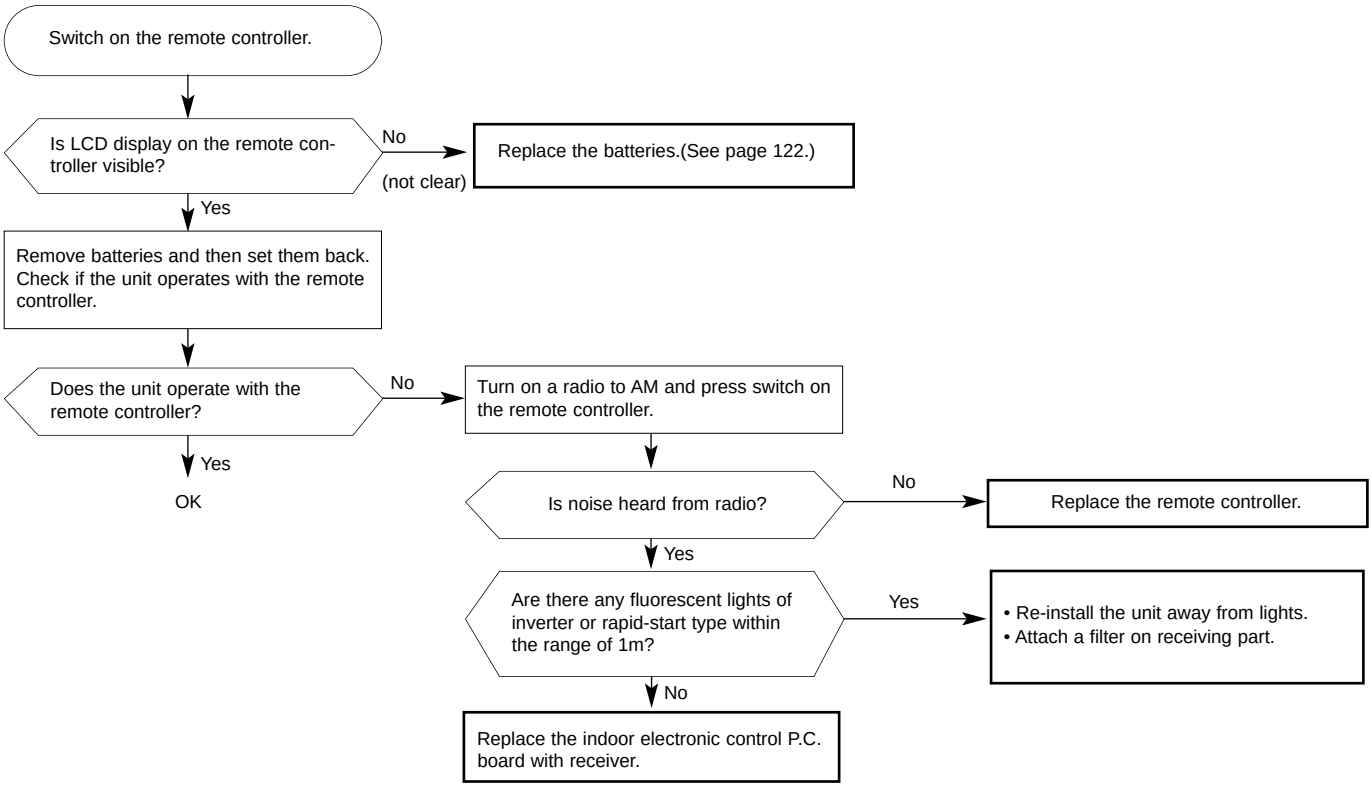
Indoor fan does not operate.



Ⓑ Check of remote controller and receiver P.C. board

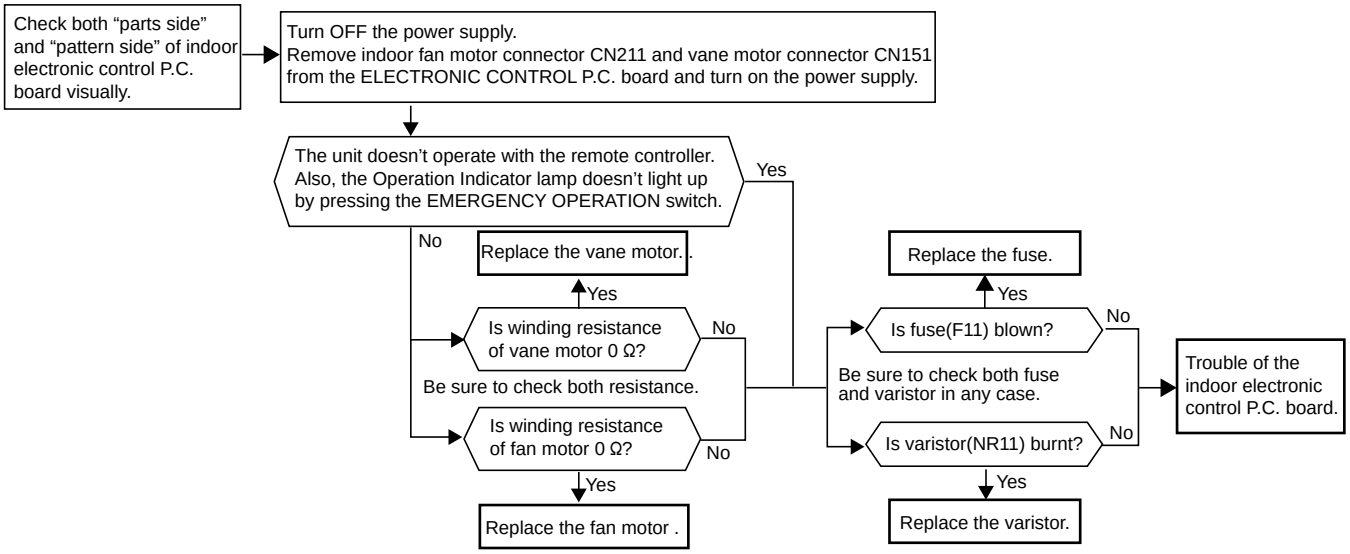
Indoor unit operates by pressing the EMERGENCY OPERATION switch, but does not operate with the remote controller.

※Check the remote controller is exclusive for this air conditioner.
※Replace the receiver P.C. board together with the indoor control P.C. board.



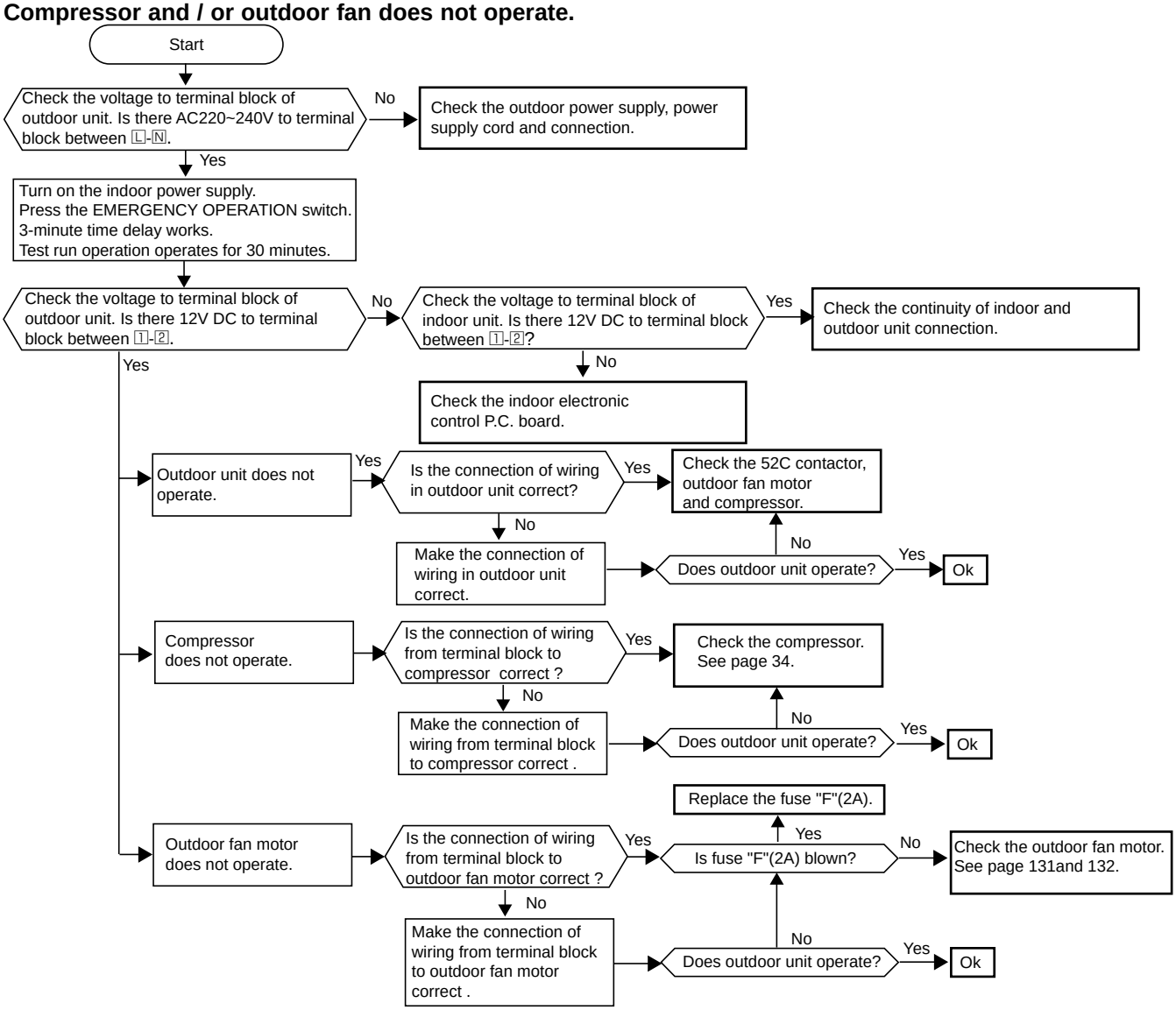
Ⓒ Check of indoor electronic control P.C. board

The unit doesn't operate with the remote controller.
Also, the POWER MONITOR lamp doesn't light up by pressing the EMERGENCY OPERATION switch.



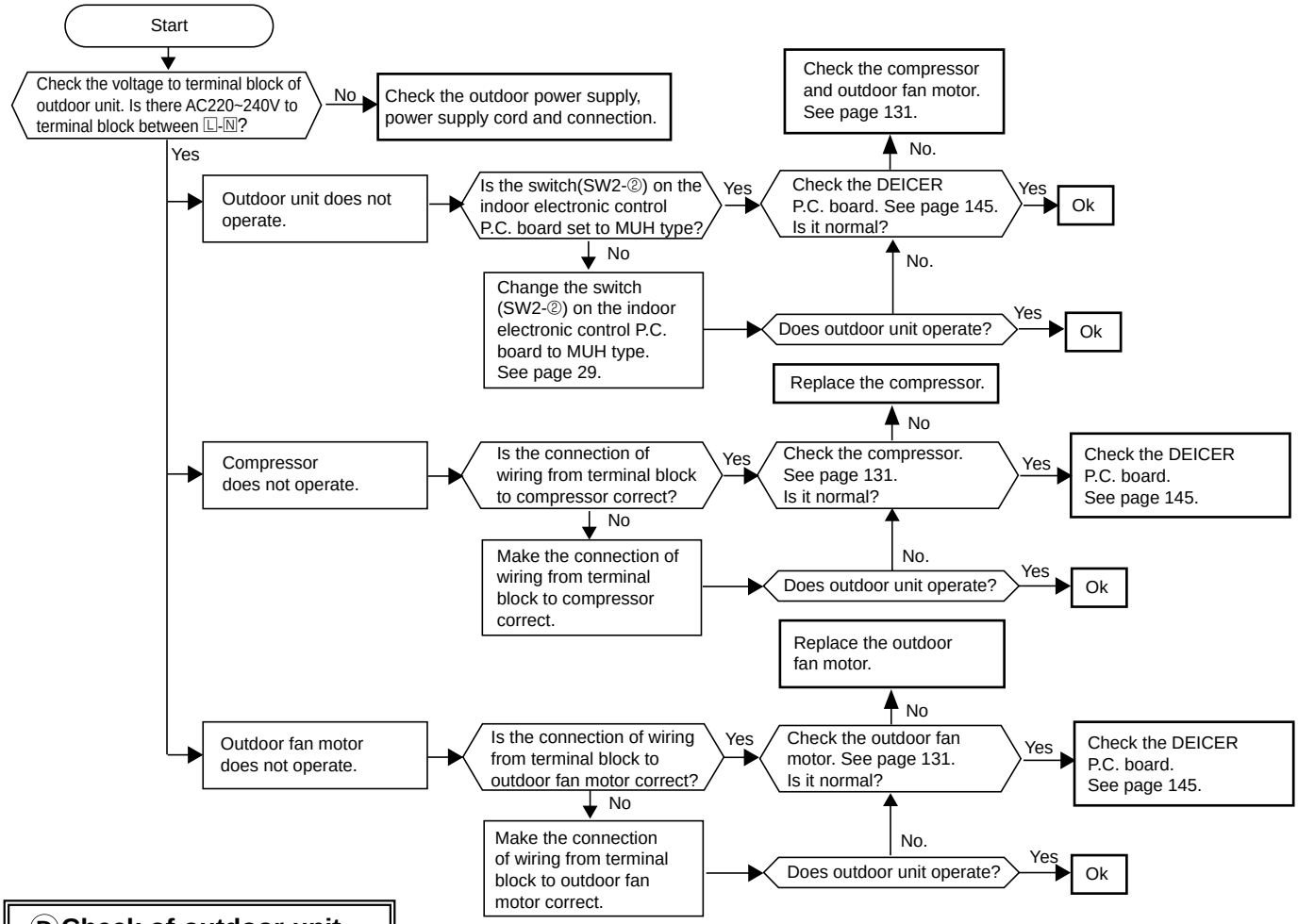
Ⓓ Check of outdoor unit <MU-07/09/12RV>

Compressor and / or outdoor fan does not operate.



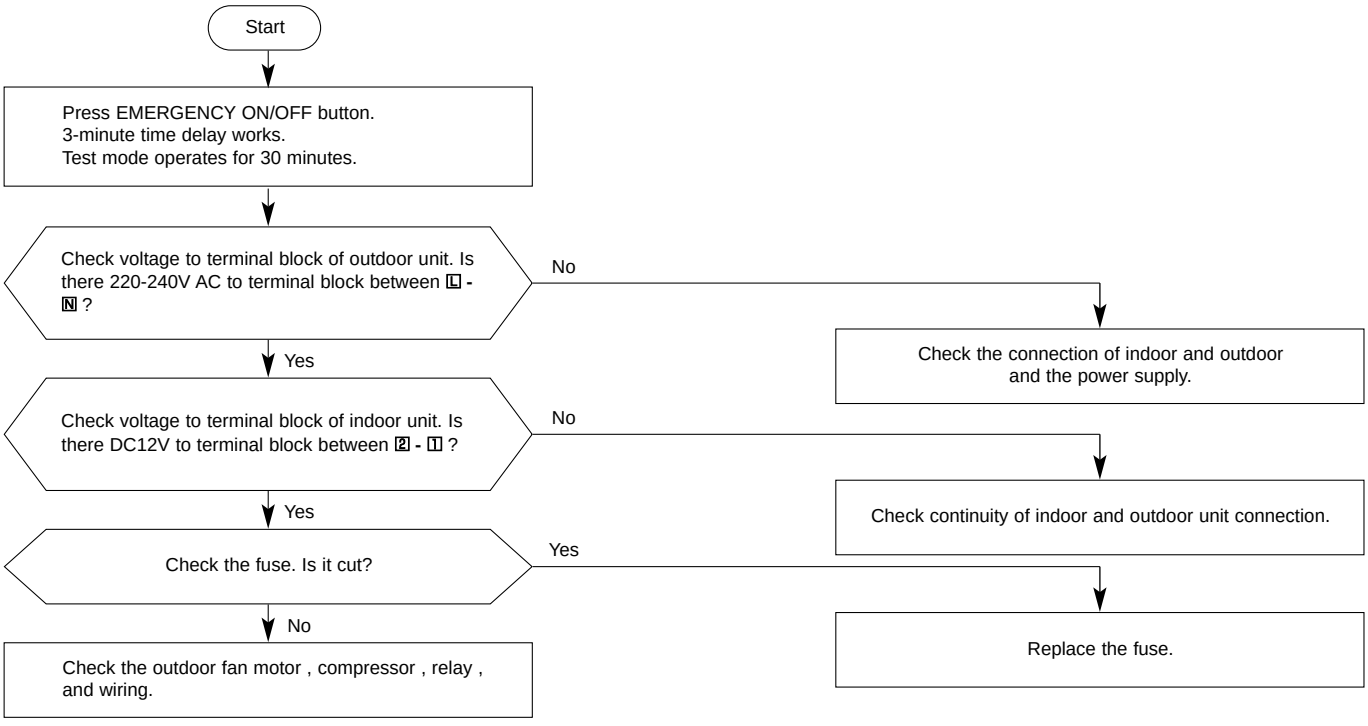
Ⓓ Check of outdoor unit <MUH-07/09/12RV>

Compressor and / or outdoor fan does not operate.



Ⓓ Check of outdoor unit <MUX-10/18/24RV>

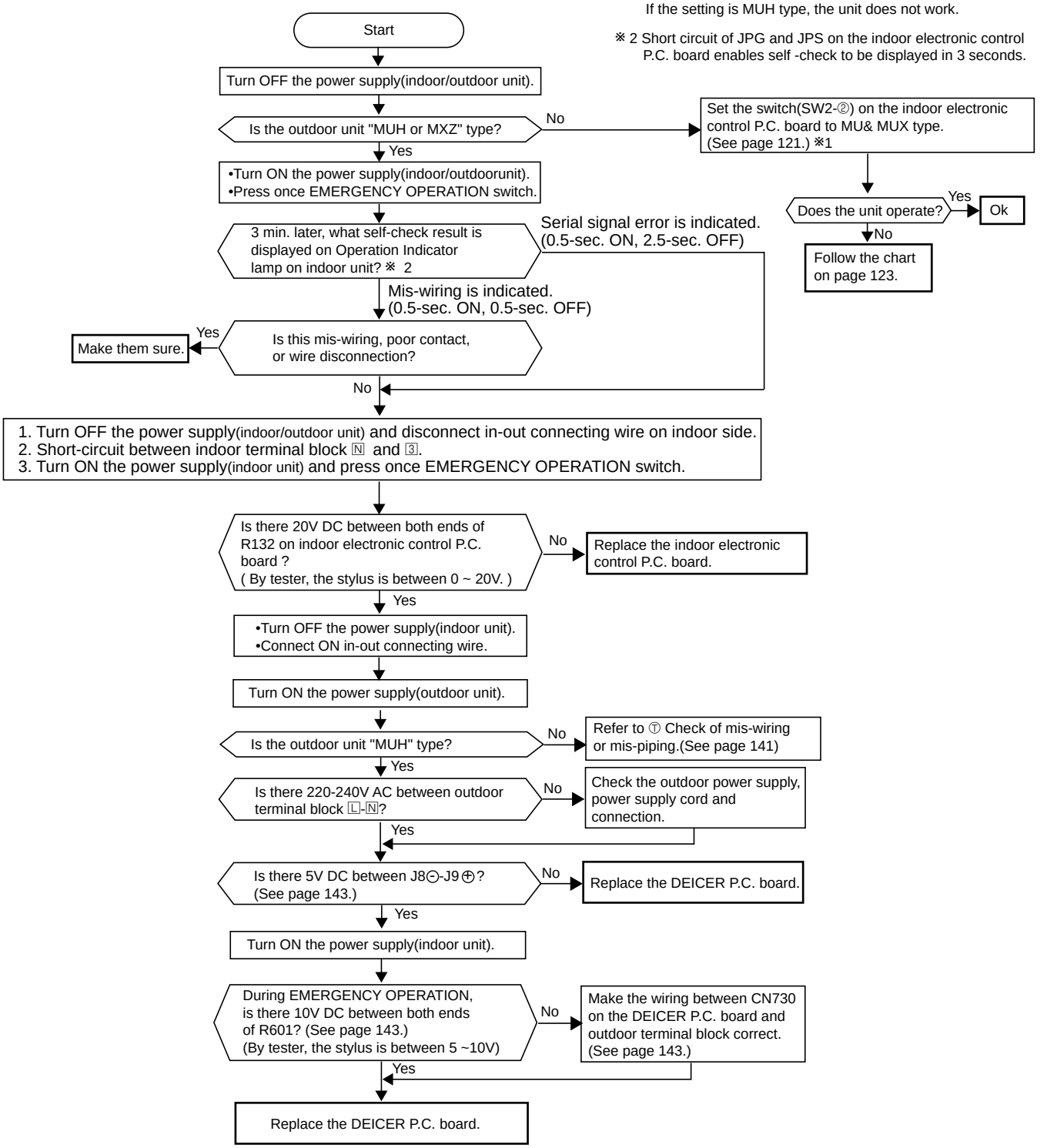
Compressor and outdoor fan do not operate.(Only indoor fan operates.)



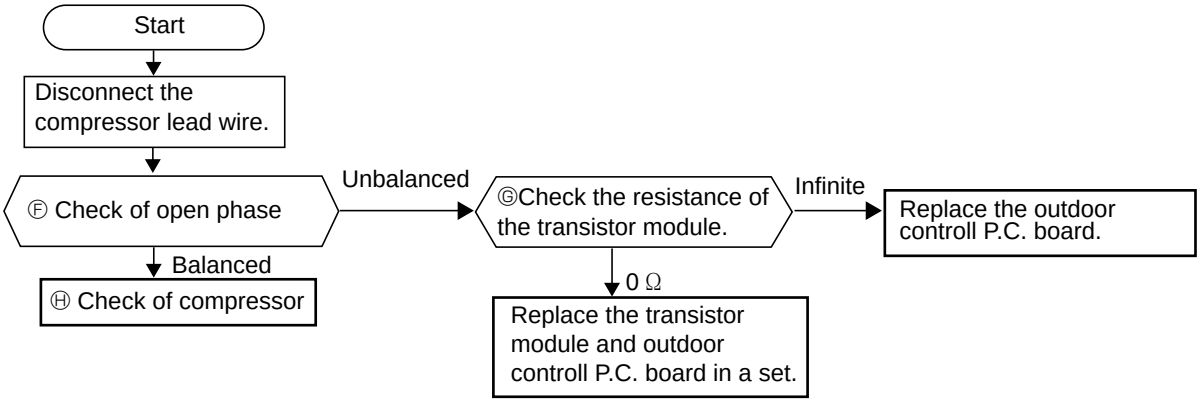
Ⓔ How to check mis-wiring and serial signal error (when outdoor unit does not work)

※ 1 Set the switch(SW2-②) on indoor electronic control P.C. board to MU type, when the outdoor unit is MU type.
If the setting is MUH type, the unit does not work.

※ 2 Short circuit of JPG and JPS on the indoor electronic control P.C. board enables self -check to be displayed in 3 seconds.



Ⓕ Simple check methods for inverter/ compressor <MXZ-18/32RV>



Ⓖ Check of open phase <MXZ-18/32RV>

Be sure to use the analog tester for measurement.

• With the lead wire disconnected, activate the inverter and check the balance of voltage between terminals.

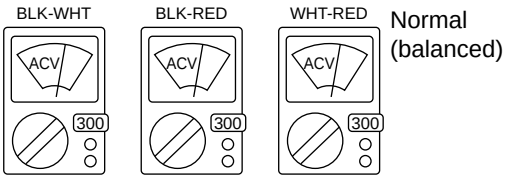
MXZ-18RV

Operation mode	Operational frequency (Hz)	Output voltage (V)
COOL	58	110
HEAT	58	70

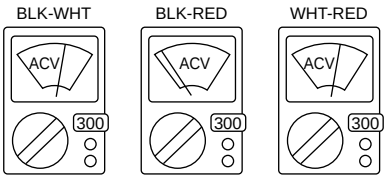
MXZ-32RV

Operation mode	Operational frequency (Hz)	Output voltage (V)
COOL	58	110
HEAT	40	70

Tester indication



Normal (balanced)



Faulty (unbalanced)

<Operation method>

Perform the test run in the heating mode by using the emergency run switch on the indoor unit.

<Measure point>

Measure the AC voltages at the following three points on the transistor module

- BLK - WHT
- BLK - RED
- WHT - RED

<Judgment>

Balanced : Normal

Unbalanced : Faulty (Open phase)

Shut off by overcurrent : Faulty (Short)

NOTE 1 : After the outdoor fan starts running, wait for one minute or more before measuring the voltages.

NOTE 2 : The output voltage values in the above table have the tolerance of ± 20%.

Ⓗ Check of resistance (transistor module) <MXZ-18/32RV>

• Disconnect the lead wires and check the resistance of terminals at the transistor module.

<Measure points>

Measure the AC voltage at the following six points on the transistor module.

BLK - WHT, WHT - BLK

BLK - RED, RED - BLK

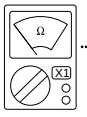
WHT - RED, RED - WHT

<Judgment>

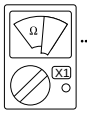
Infinite (Ω) : Normal

Zero to dozens (Ω) : Faulty (Short)

Tester indication

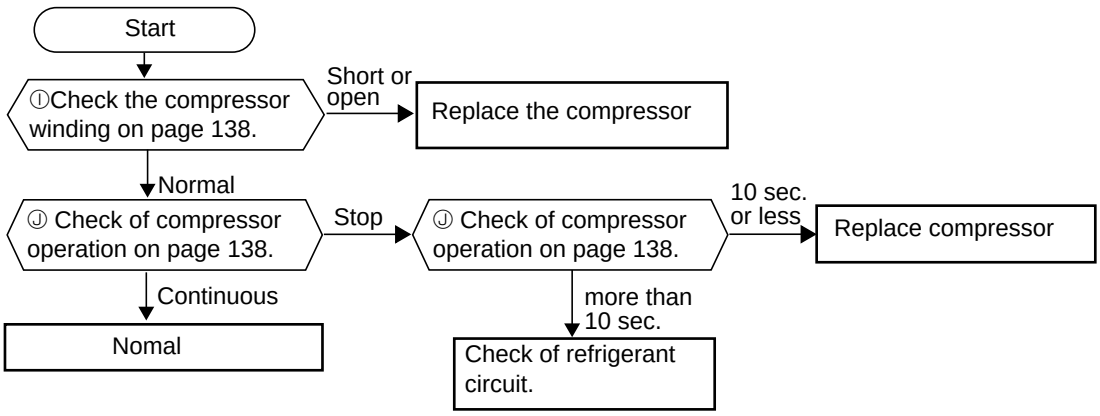


..... Normal (Infinite)



..... Faulty (Zero to dozens of ohms)

Ⓘ Check of compressor <MXZ-18/32RV>



Ⓙ Check of compressor winding <MXZ-18/32RV>

Disconnect the lead wires and check the resistance between the compressor terminals.

<Measuring points>

Measure the AC voltages at the following three points on the transistor module.

BLK - WHT

BLK - RED

WHT - RED

<Judgment>

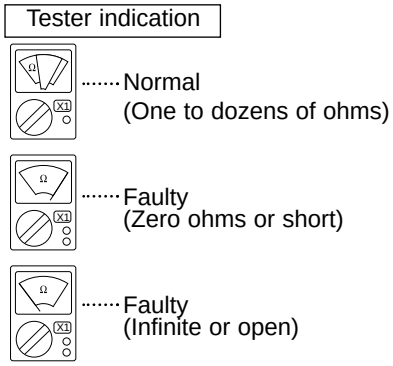
1.05 ~ 1.29Ω (MXZ-18RV), 0.47 ~ 0.58Ω (MXZ-32RV) at -10 °C ~ 40 °C of winding temperature.

Zero (Ω) : Faulty (Short)

Infinite (Ω) : Faulty (Open)

NOTE 1 : Be sure to zero the tester before measurement.

NOTE 2 : The winding resistance is 1.2Ω(MXZ-18RV),0.54Ω(MXZ-32RV) at 20°C for each phase.



Ⓚ Check of compressor operation <MXZ-18/32RV>

• Connect the compressor, activate the inverter, and count time until the inverter stops due to overcurrent.

<Operating method>

Perform the test run in the cooling or heating mode by using the emergency operation switch on the indoor unit.

<Measuring point>

Count time from when the outdoor fan starts up until the inverter stops due to overcurrent.

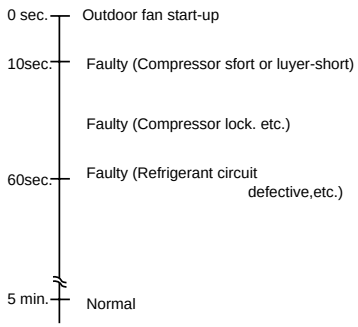
<Judgment>

Inverter stops in 0 to 10 seconds : Faulty (Short)

Inverter stops in 10 to 60 seconds : Faulty (Compressor lock)

Inverter stops in 60 seconds to 5 minutes : Faulty (Refrigerant circuit defective)

Inverter operates for 5 minutes or more : Normal



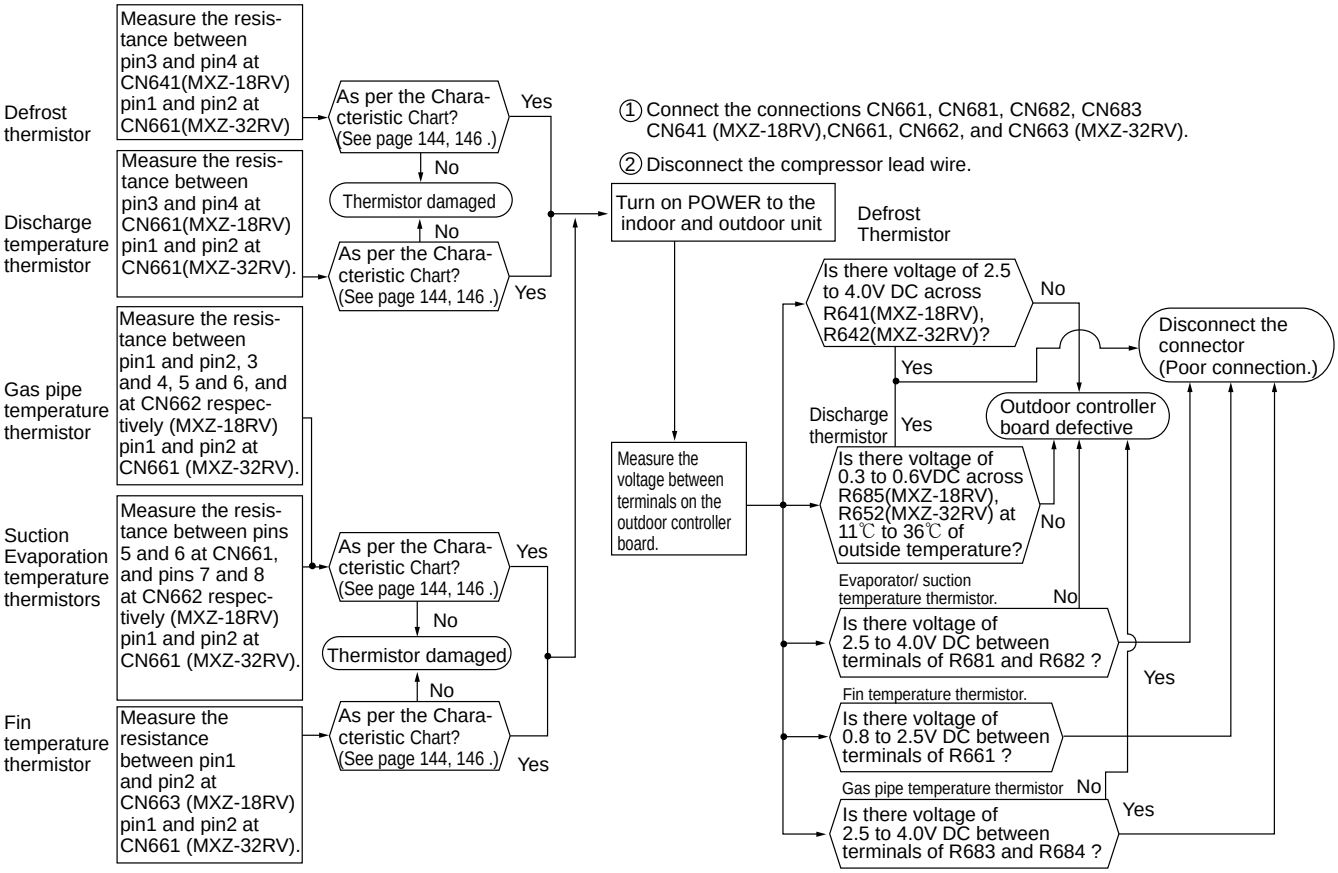
Ⓛ Check of outdoor thermistor <MXZ-18/32RV>

(Simple check method for main components)

Outdoor thermistor abnormality

MXZ-18RV:Disconnect the connectors CN641, CN661 and CN681,CN682,CN683 from the outdoor controller.
MXZ-32RV:Disconnect the connectors CN661, CN662 and CN663 from the outdoor controller.

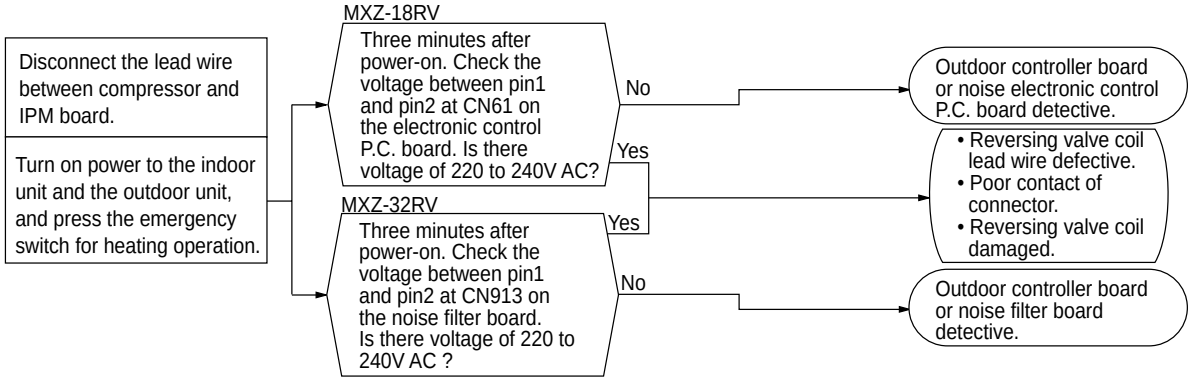
(Check the characteristic of thermistors.)



Ⓜ Check of reversing valve coil <MXZ-18/32RV>

Cooling operation works when heating is expected.

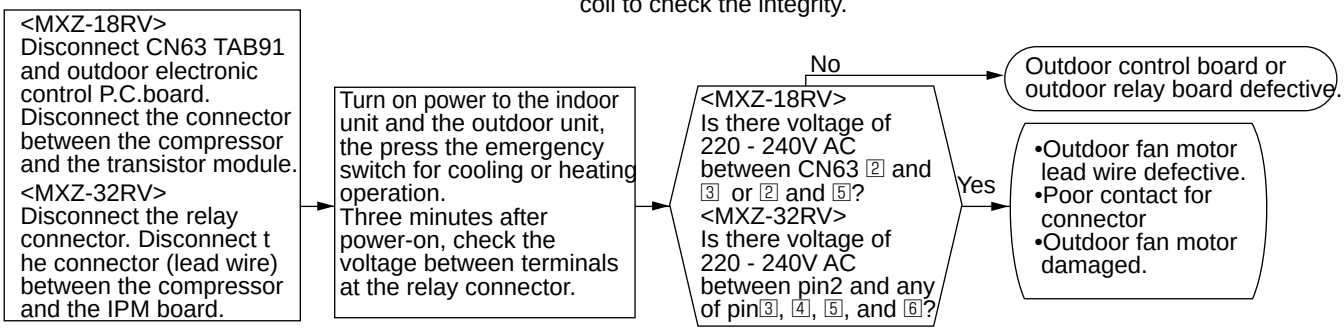
- First, measure the resistance of the reversing valve coil to check the integrity.
- If connector CN61(MXZ-18RV), CN913(MXZ-32RV) is not connected or the reversing valve coil is open, voltage occurs between terminals even when the control is OFF.



Ⓝ Check of outdoor fan motor <MXZ-18/32RV>

The outdoor fan motor remains stopped.

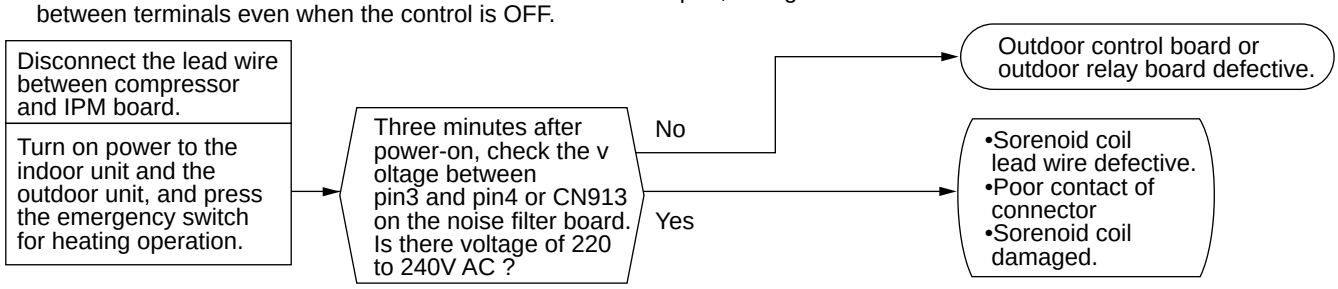
• First, measure the resistance of the 4-way valve coil to check the integrity.



Ⓞ Check of solenoid coil <Only MXZ-32RV>

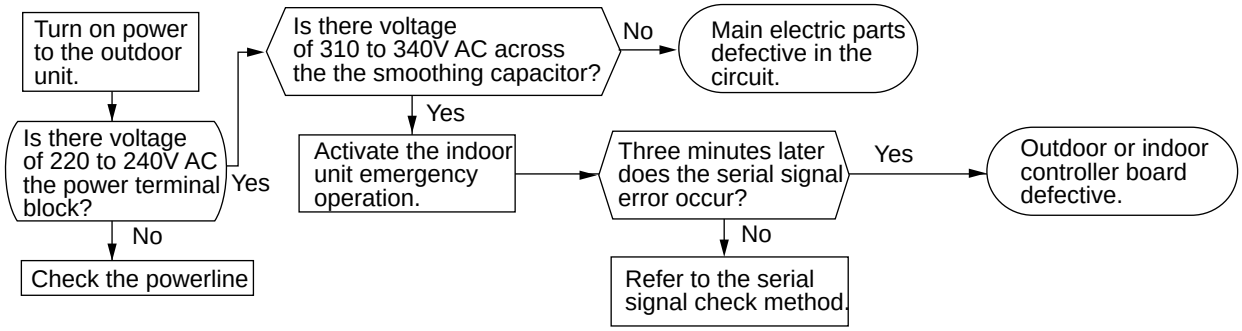
Poor heating/cooling. The compressor stops frequently.

•First measure the resistance of the reversing valve coil to check the integrity.
•If connector CN913 is not connected or the sorenoid coil is open, voltage occurs between terminals even when the control is OFF.



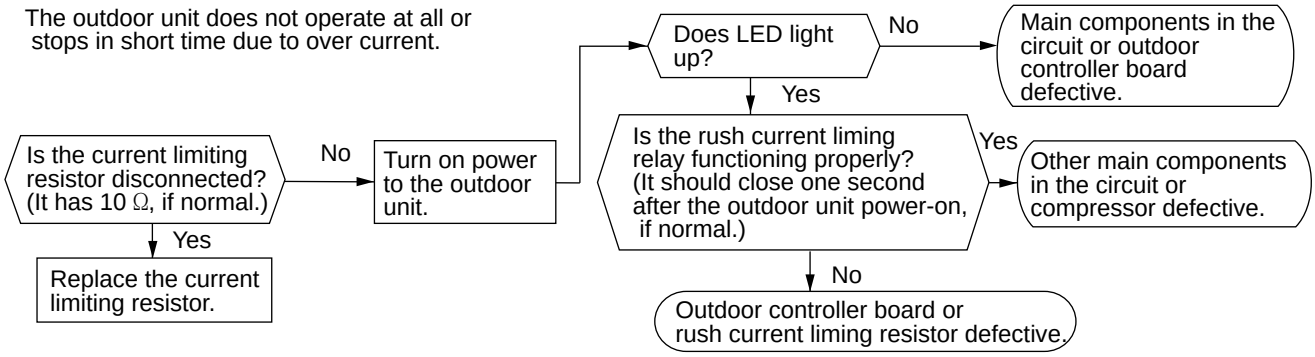
Ⓟ Check of power supply <MXZ-18/32RV>

The inverter does not operate.



Ⓠ Check of rush current control circuit <MXZ-18/32RV>

The outdoor unit does not operate at all or stops in short time due to over current.



● Check other main circuit parts at the same time when you replace the current limiting resistor.

Ⓡ Check of hi/ low pressure switch and compressor thermostat circuits <MXZ-18/32RV>

No heating/cooling

•Three minutes after the unit stops, check that the high and low pressure switch open and close properly.
•After the unit stops, remove the sound-proof material around the compressor.
•60 minutes after that, check that the compressor thermostat opens and closed properly.

Open status → Yes → High/low pressure switch, compressor or refrigerant circuit defective.

No → Turn on power to the outdoor unit and press the emergency switch for cooling or heating operation.

Right after compressor start-up, does the LED indication appear to show the low-speed-operation due to high/low switch protection?

No → (see table)

Yes → Outdoor controller board defective

Causes	HPS	LPS (MXZ-32)	Compressor thermistor
Gas undercharged		○	○
Gas overcharged	○		
Liner expansion valve	○	○	○
Ball valve		○	
Indoor air filter clogged	○	○	
Pipe length too long		○	○
Short cycle of outdoor air flow	○		
Outdoor heat exchanger (dust adherence)	○	○	

Ⓢ Check of liner expansion valve (LEV) <MXZ-18/32RV>

The outdoor control system stops due to abnormality.

<MXZ-18RV>

Turn OFF the power supply and make sure that LEDs on outdoor electronic control P.C. board turn OFF. Then turn ON power supply.

→ LEV operates for the first 30 seconds after power supply is turned ON.
While LEV is operating, check that there is 12V DC pulse amplitude between both ends oh LEV diode. Repeat this for 4 diodes each in unit A and B.
•When no pulse amplitude, the outdoor electronic control P.C. board is defective.
•When checking, LEV connectors must be connected.

<MXZ-32RV>

Turn off the breaker and short-circuit pin1 and pin3 at CN605 on the out-door control board. (CN605 ▽ Short-circuit)

→ Turn on the breaker and operate the air conditioner with the remote controller.

→ About 10 seconds after start-up, does LEV click?

Yes → Normal

No → Disconnect the LEV relay connector and check the voltage at the following points between terminals on the controller board side. Does the voltage fluctuate between 7.5 and 8.5V DC at any points?

Yes → LEV defective

Measuring point (+) (–)
•RED-WHT
•RED-BLU
•RED-ORN
•RED-YLW

No → Outdoor controller board defective

(Operation status
Indoor unit:Normal
Outdoor unit:Compressor and outdoor fan stop running and LEV closes repeatedly.)

Ⓣ Check of mis-wiring or mis-piping <Only MXZ-18RV>

Incorrect connection of indoor units results in no cooling/heating. In the all unit operation, however, the system seems to operate normally even if wires or pipes are connected incorrectly.
Therefore, use the single-unit operation, not the all-unit operation, to check mis-wiring or mis-piping.

<Check of mis-wiring or mis-piping>

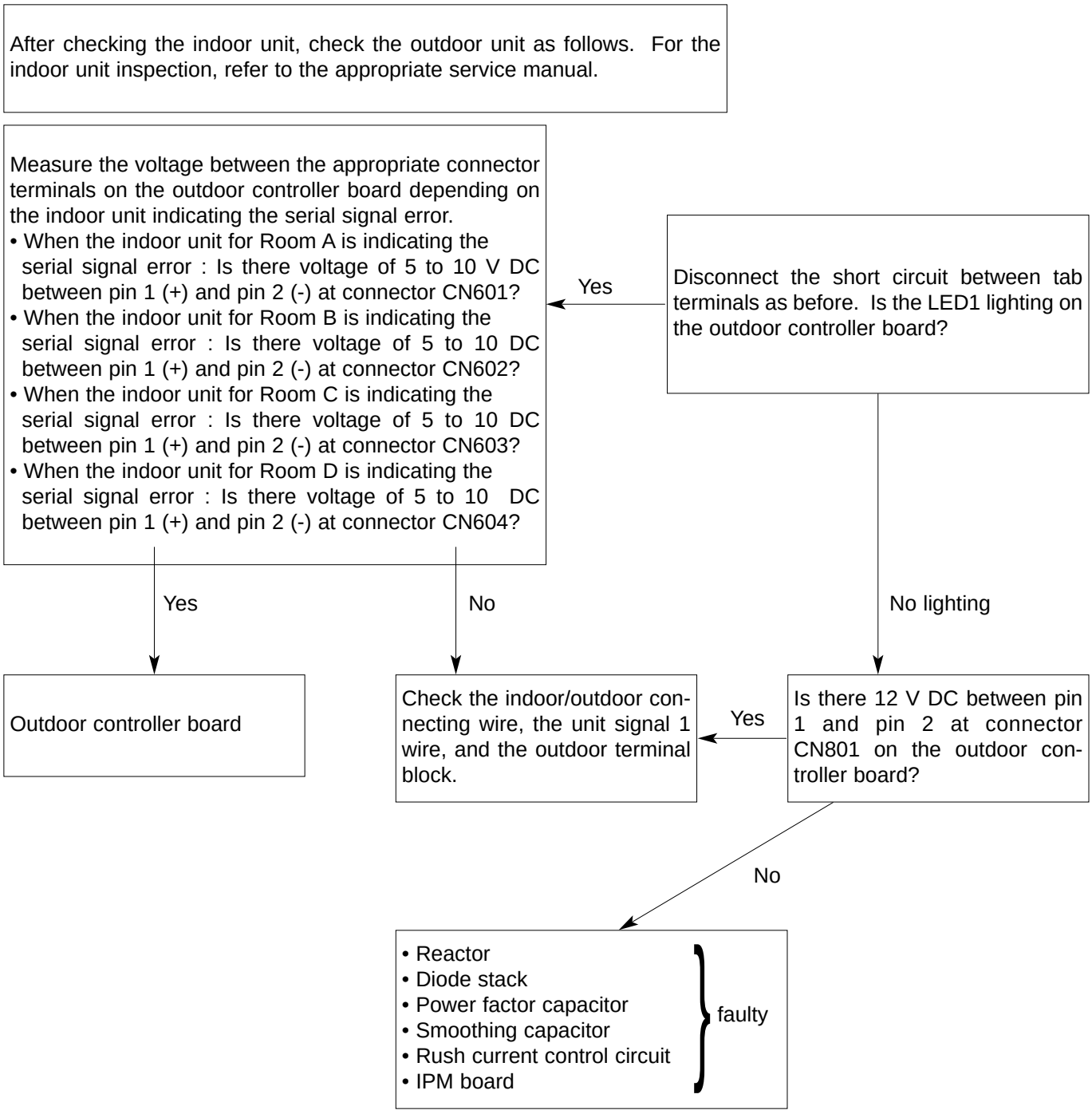
The following symptoms appears if wires or pipes are wrongly connected.
In the single-unit operation in HEAT mode, the compressor stops due to high pressure protection or it operates at the lowest frequency at the normal working temperature, causing no heating.
In the single-unit operation in COOL mode, the indoor unit blows out air but it is not cooling, causing no cooling. The heat exchanger freezes in non-operating unit(s).

<EFFECT>

In the heating operation, the compressor stops and restarts operation too frequency due to high pressure protection, and finally gets damaged.
In the cooling operation, the compressor operates with liquid back, and finally gets damaged.

Ⓣ Check of mis-wiring or mis-piping <Only MXZ-32RV>

Checking the mis-wiring and serial signal error (Only MXZ-32RV)
<The outdoor unit does not operate.>
Single or repeated blinks appears on the operation indicator (on the left-hand side).
❋ Using the light emitting diode LED1 on the indoor controller board (See the indoor unit service manual) , locate the defect in the following procedure.

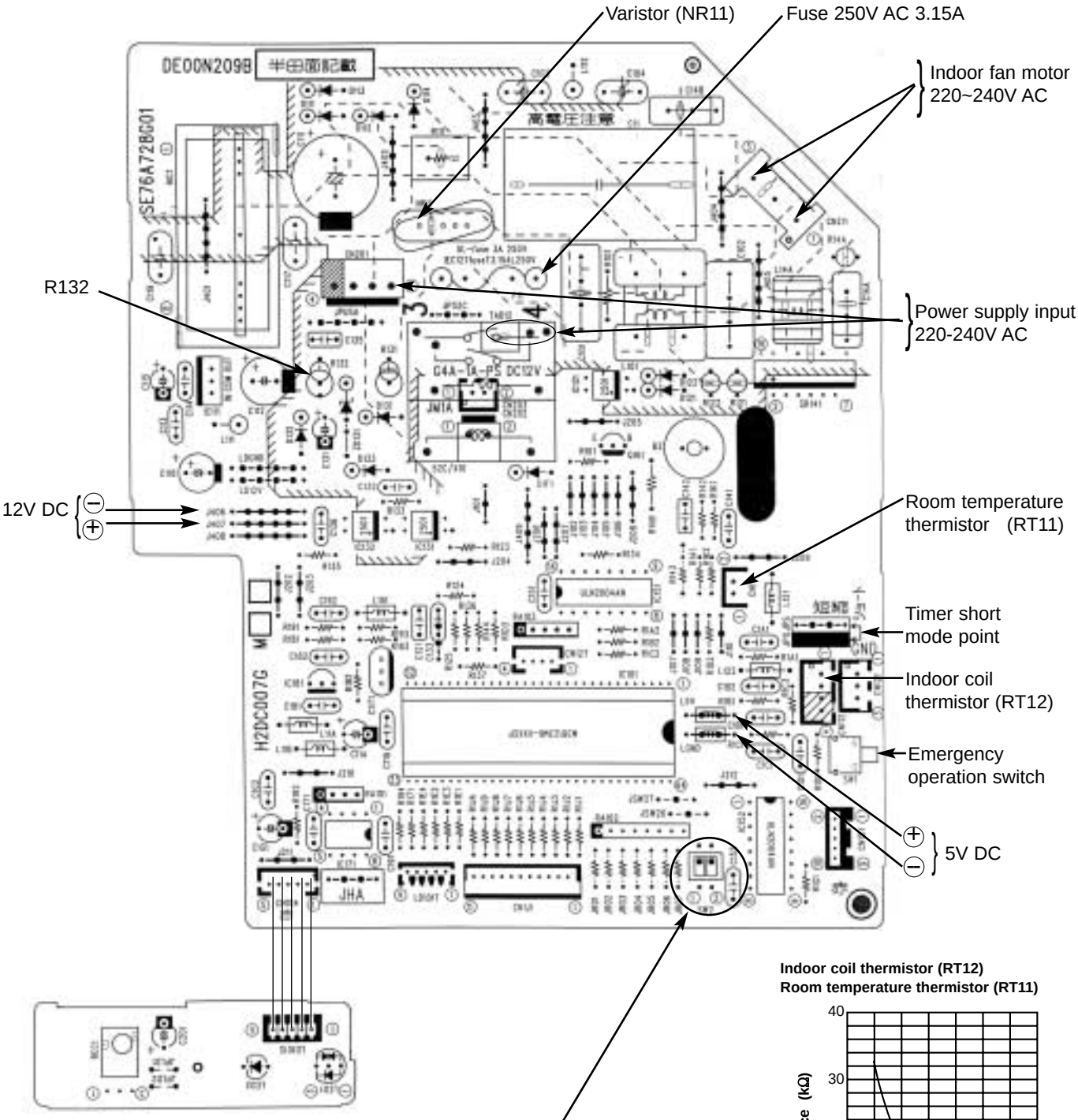


Ⓤ The other cases <MXZ-18/32RV>

In the case that the indoor fan and outdoor fan operate but the compressor does not operate,it causes that the high pressure switch can be operated once.
First of all,check the high pressure switch can be shorted, turn OFF the power and turn ON again 1 minute later.

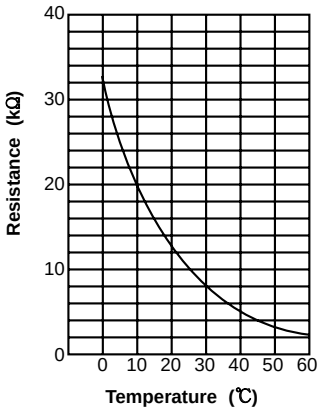
TEST POINT DIAGRAM AND VOLTAGE

MSC-07RV - E1
MSC-09RV - E1
MSC-12RV - E1
Indoor electronic control P.C. board

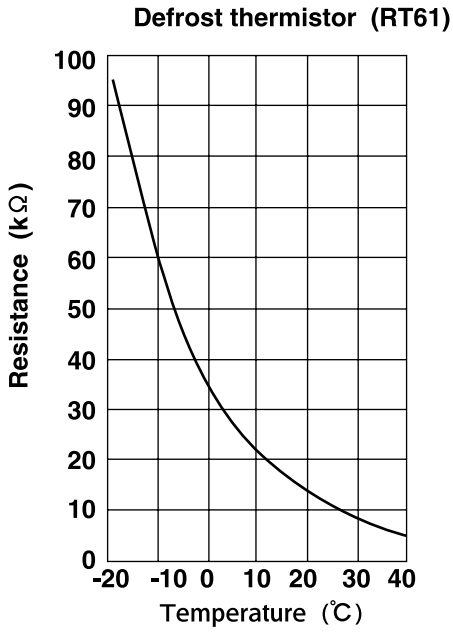


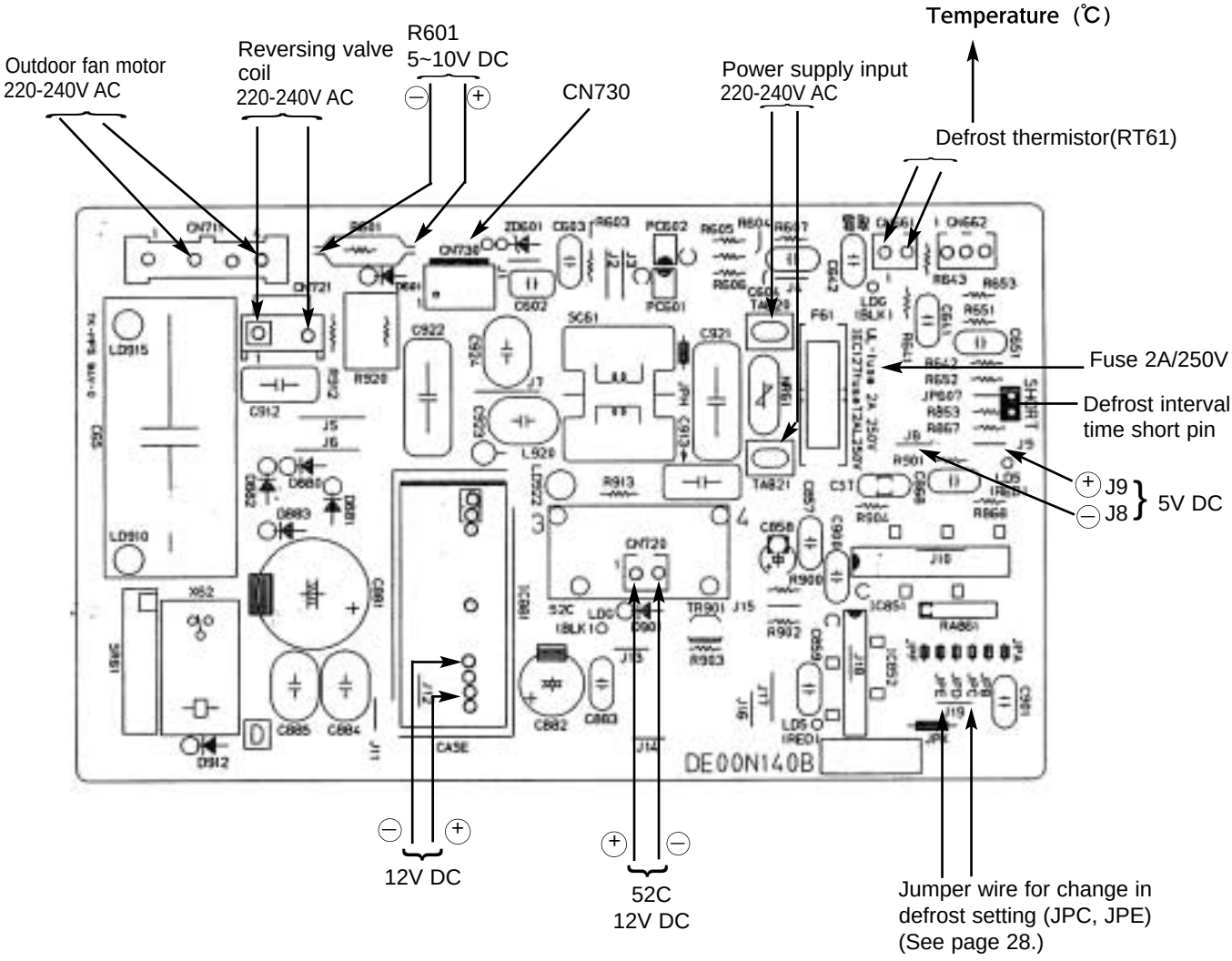
SW2 (See page 121.)
① sets the Auto restart function ON/ OFF.
② switches over MU&MUX type/ MUH&MXZ type.

Indoor coil thermistor (RT12)
Room temperature thermistor (RT11)



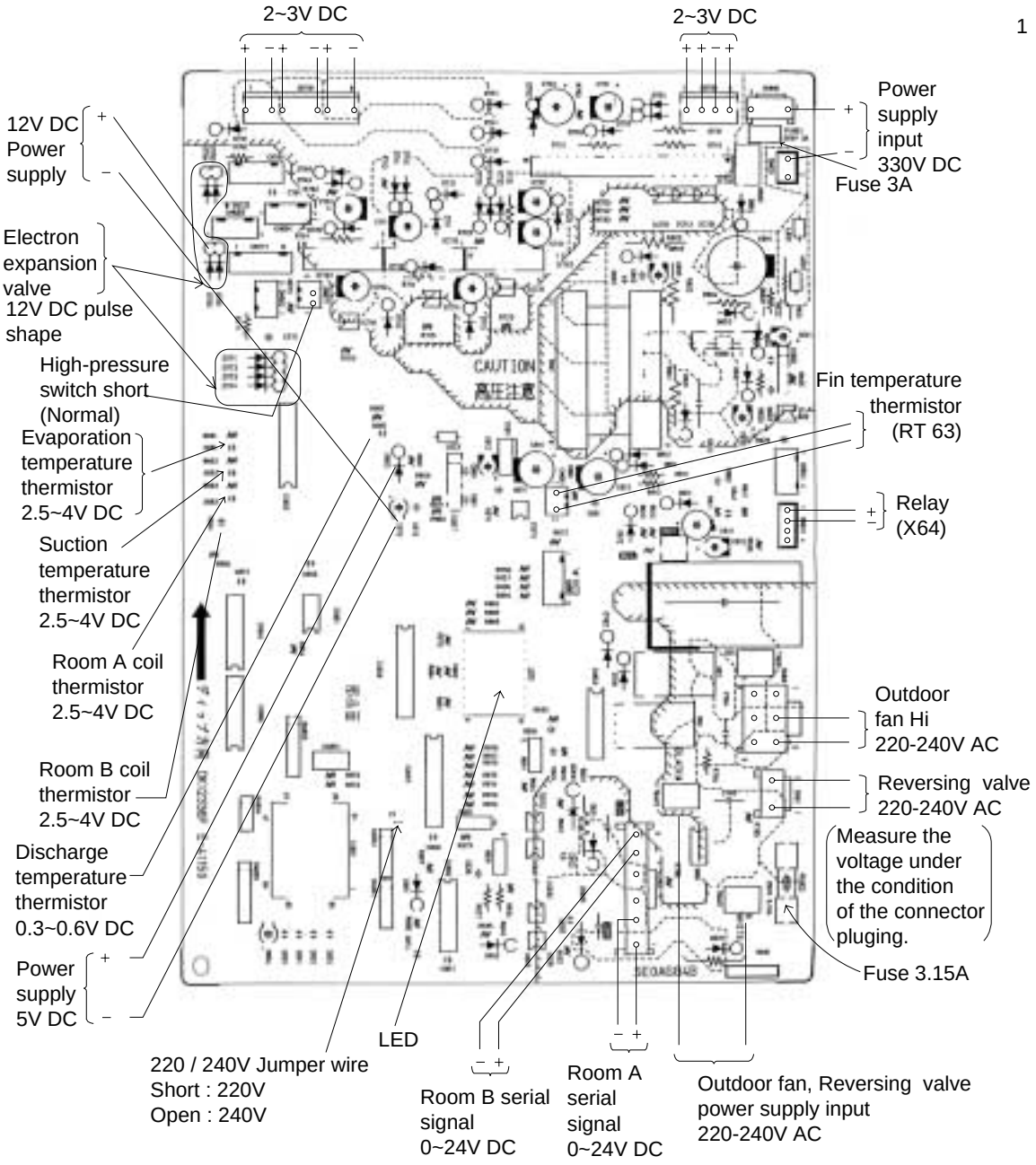
MUH-07RV - E1
MUH-09RV - E1
MUH-12RV - E1
Outdoor deicer P.C. board

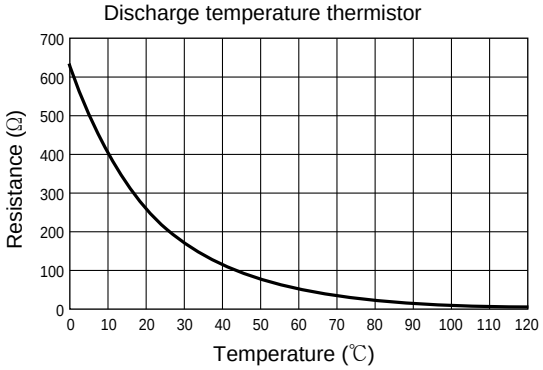


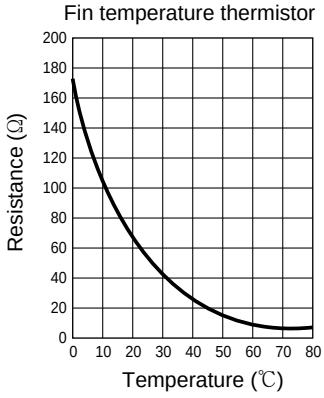


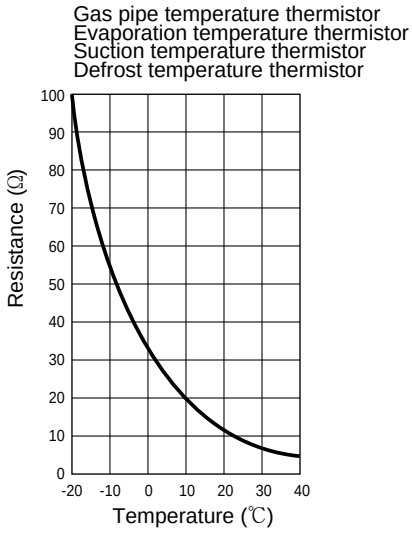
MXZ-18RV - E1

Outdoor unit electronic control P.C. board

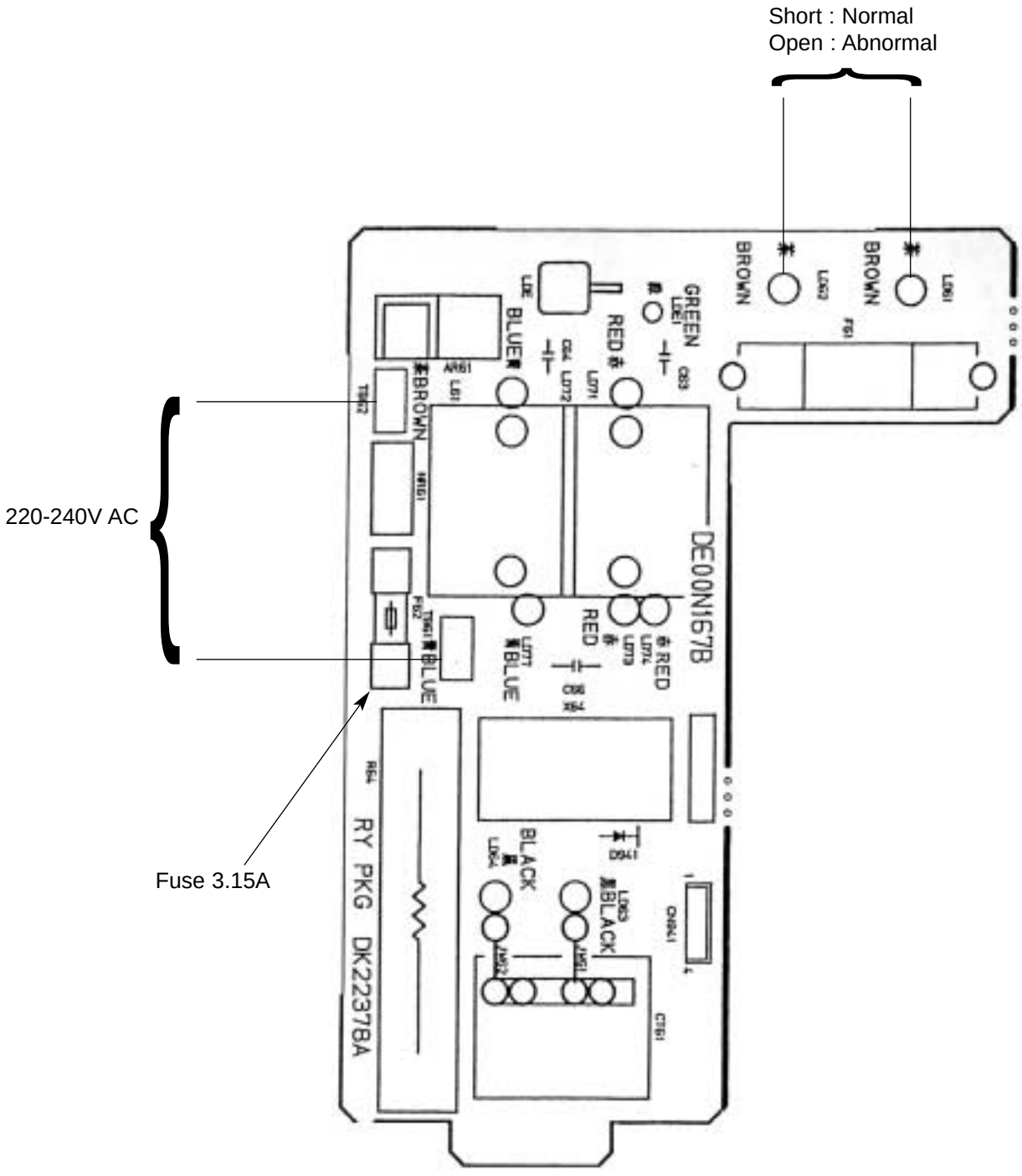








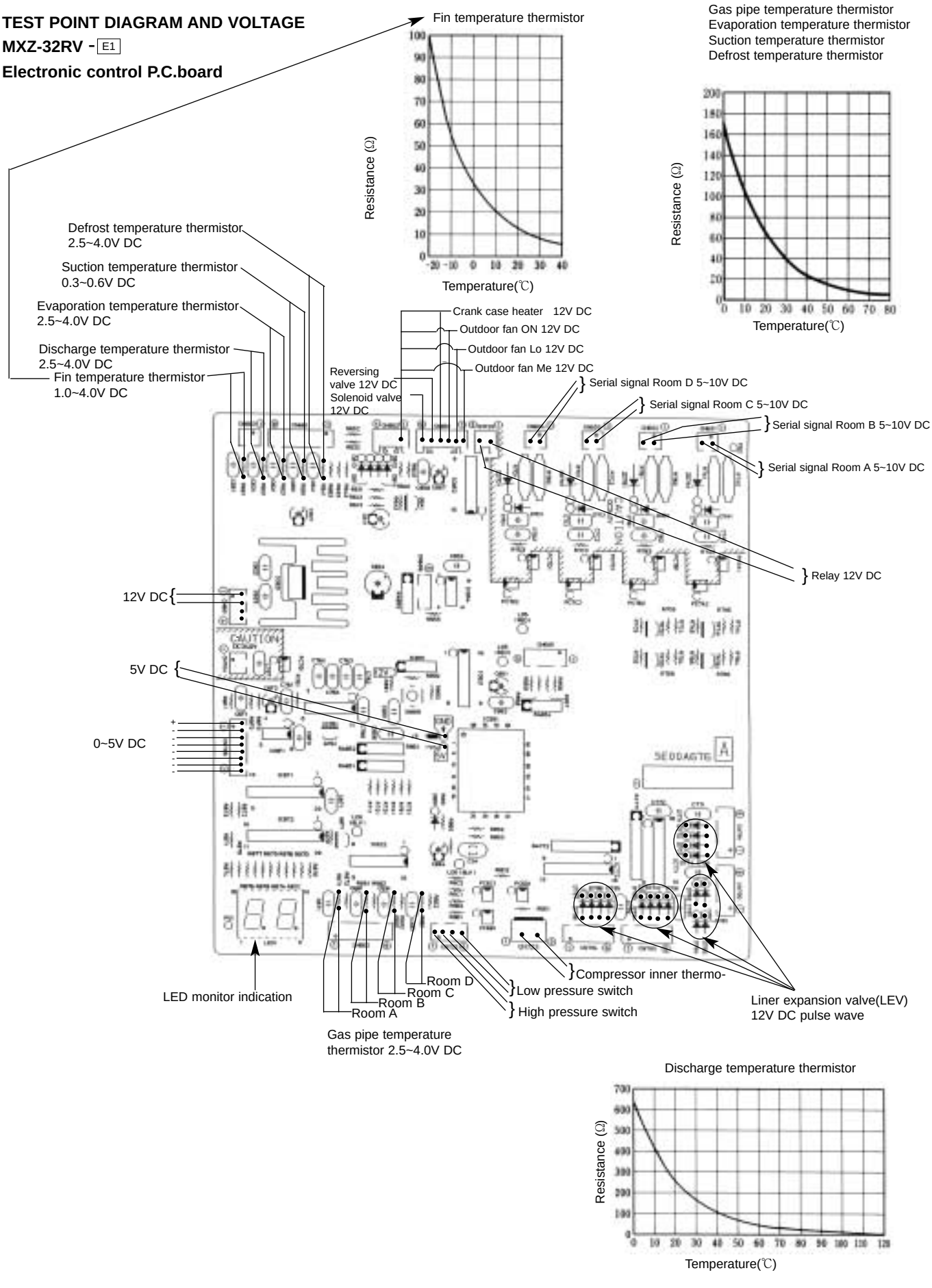
MXZ-18RV - E1
Relay P.C. board



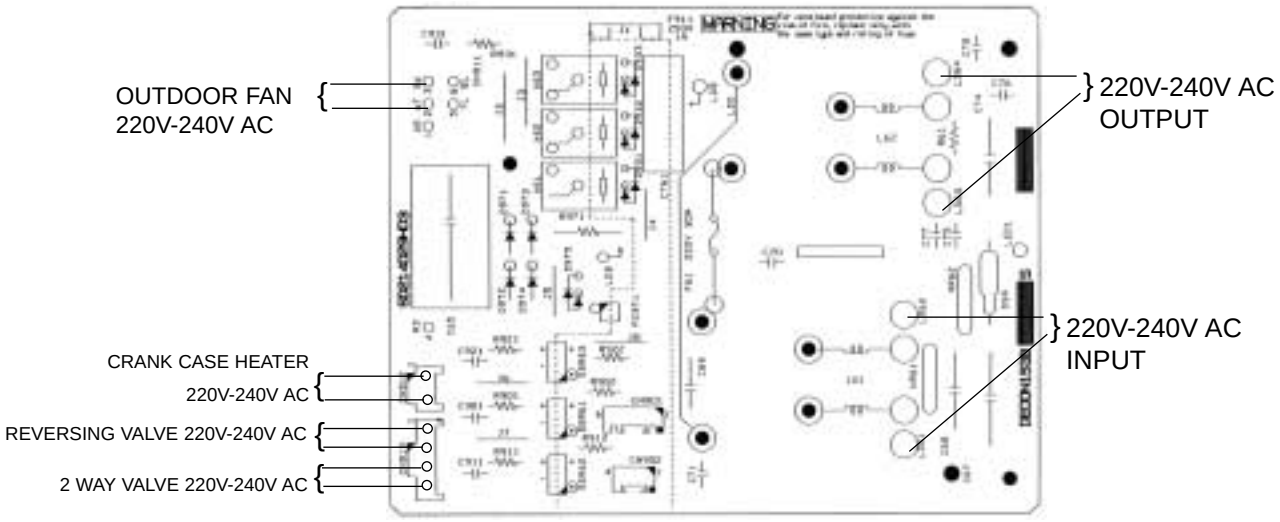
TEST POINT DIAGRAM AND VOLTAGE

MXZ-32RV - E1

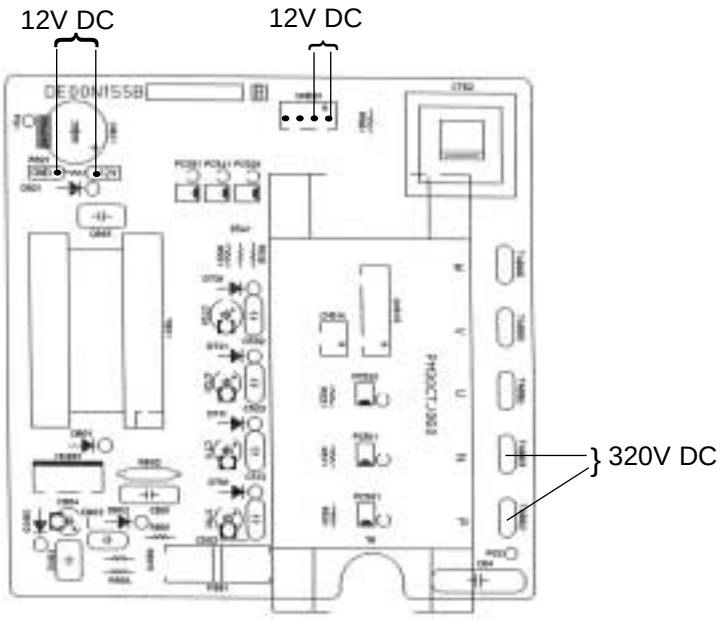
Electronic control P.C.board



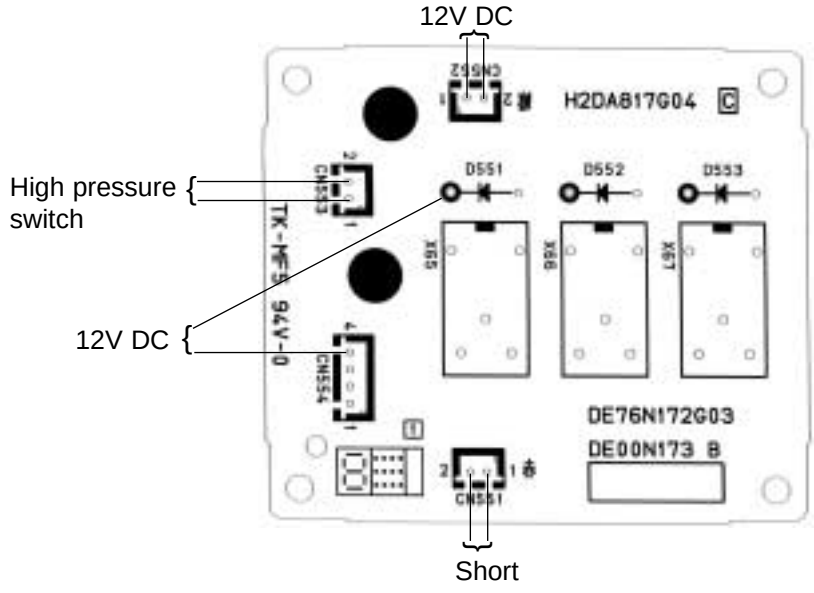
Noise filter P.C.board



I.P.M. P.C.board



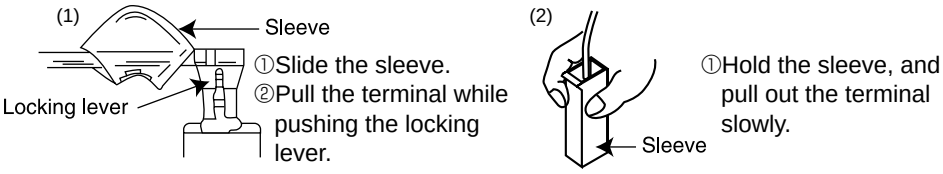
Relay P.C.board



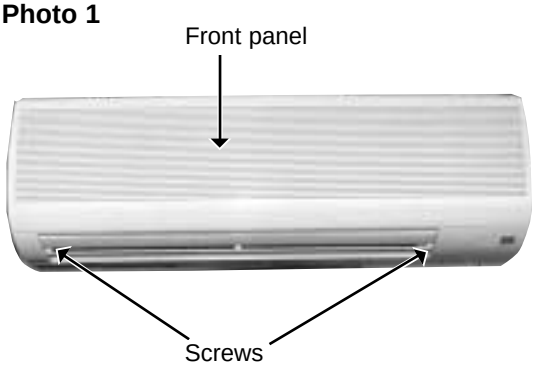
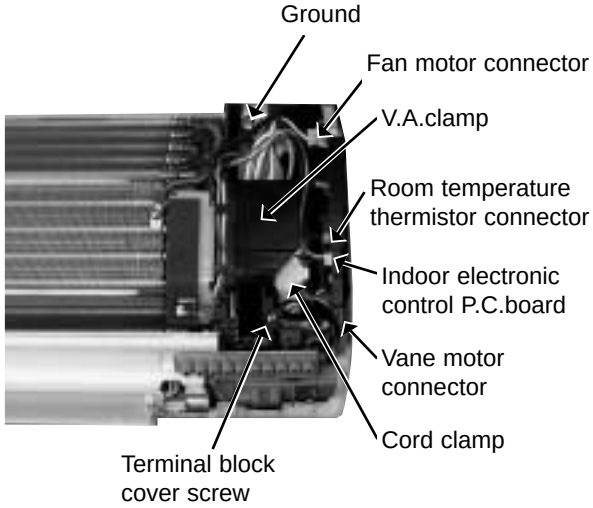
14 DISASSEMBLY INSTRUCTIONS

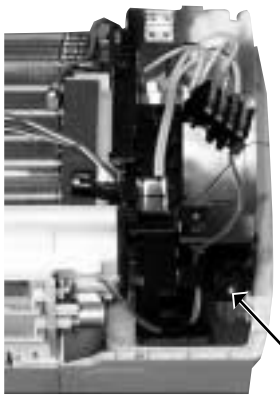
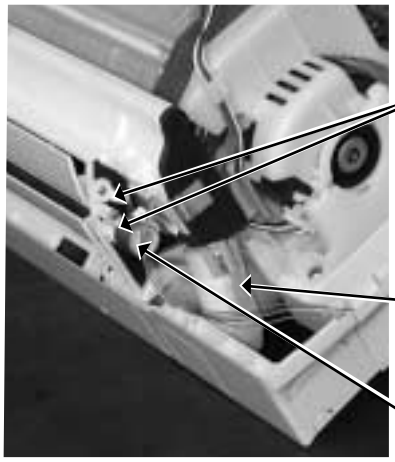
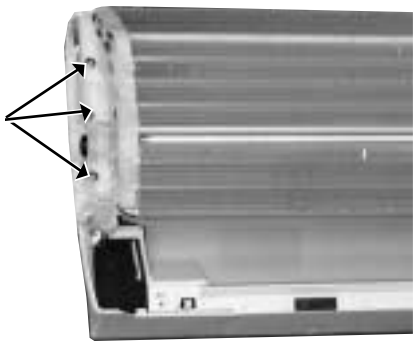
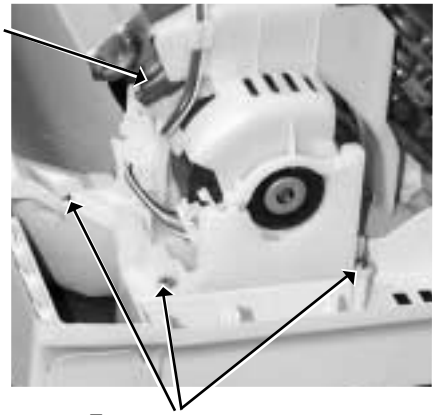
<"Terminal with lock mechanism" Detaching points>

In case of terminal with lock mechanism detach the terminal as shown below.

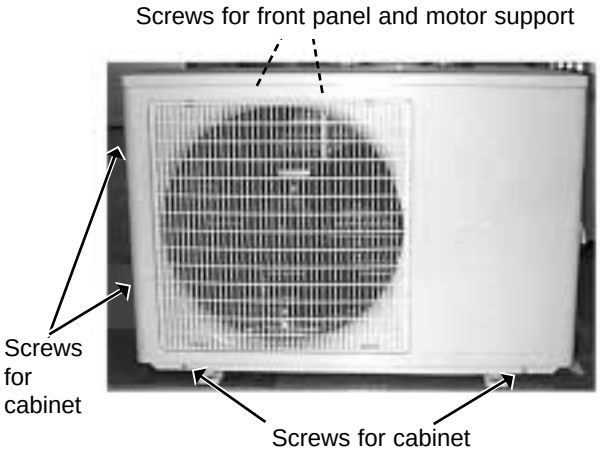
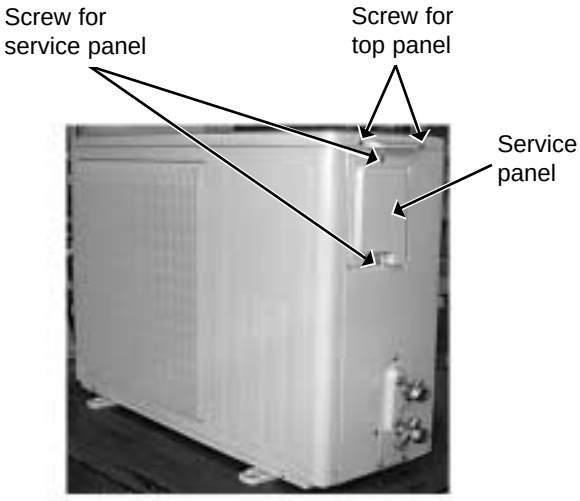
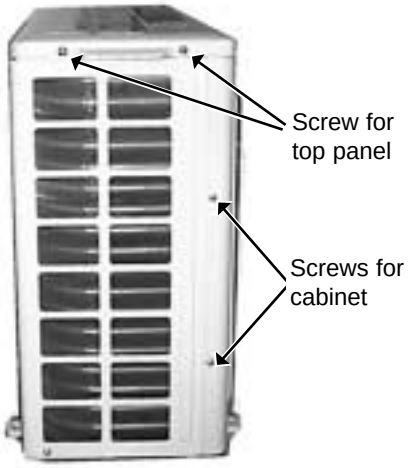
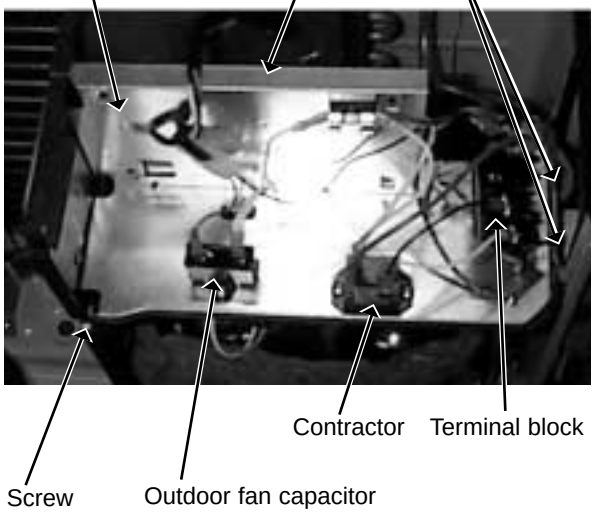


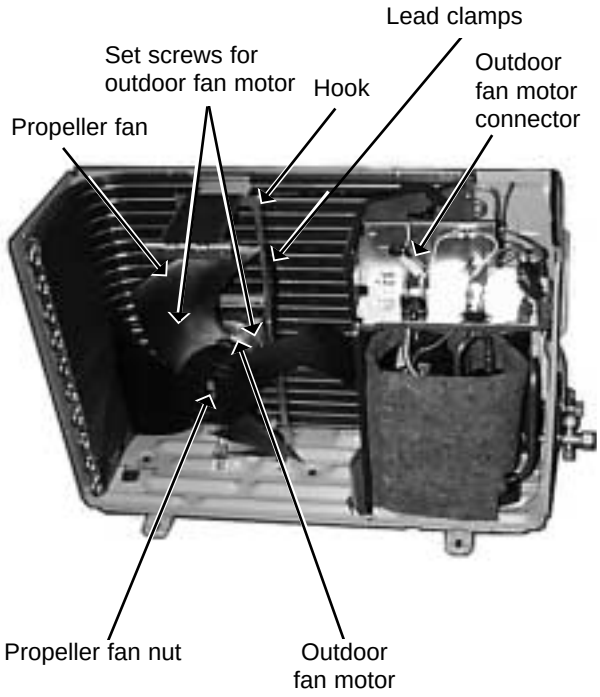
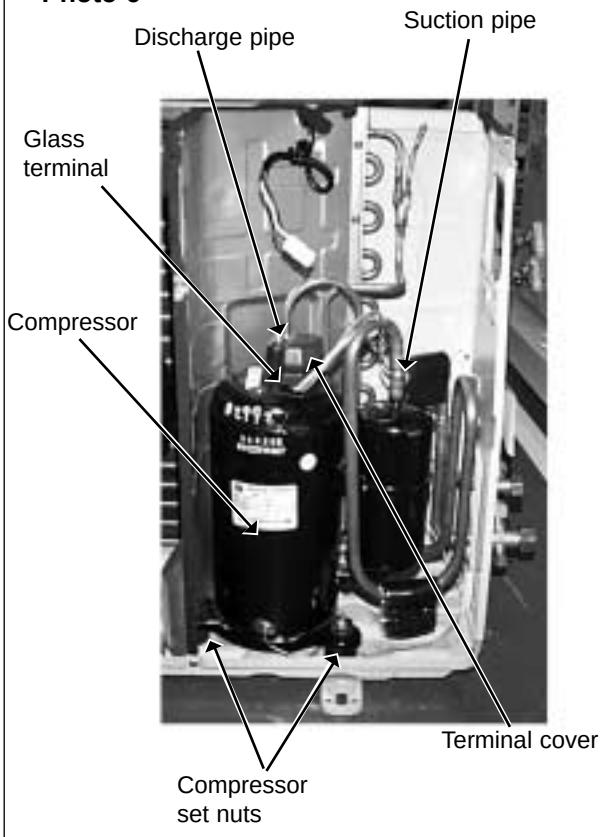
14-1. MSC-07RV -E1 MSC-09RV -E1 MSC-12RV -E1 INDOOR UNIT

OPERATING PROCEDURE	PHOTOS
1. Removing the front panel (1) Remove the screws caps of the front panel. Remove the screws. (2) Pull the panel down to your side slightly and unhook the catches at the top.	**Photo 1** 
2. Removing the electronic control P.C. board and the display P.C. board. (1) Remove the front panel. (Refer to 1) (2) Remove the screw of the electrical cover. Remove the electrical cover. (3) Remove the V.A. clamp. Remove the screw of the terminal block. (4) Remove the cord clamp. (5) Remove the screw of the ground wire. (6) Disconnect all the connectors and all the lead wires on the electronic control P.C. board. (7) Remove the electronic control P.C. board and the display P.C. board.	**Photo 2** 

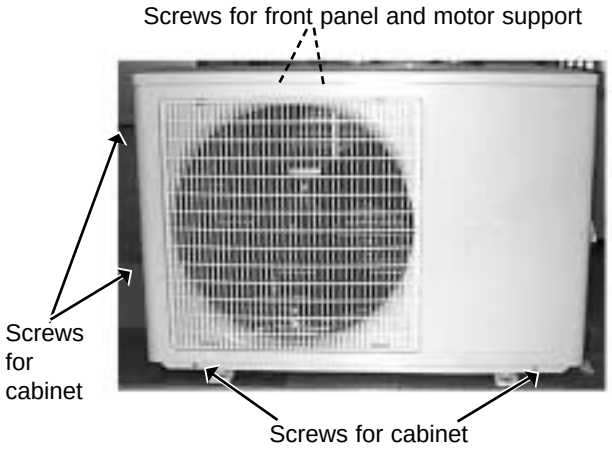
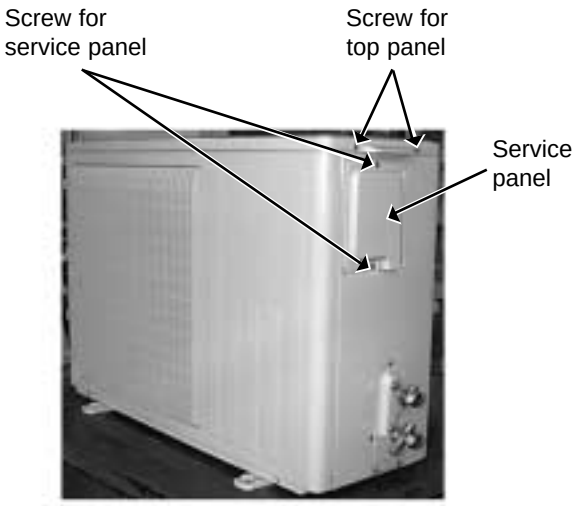
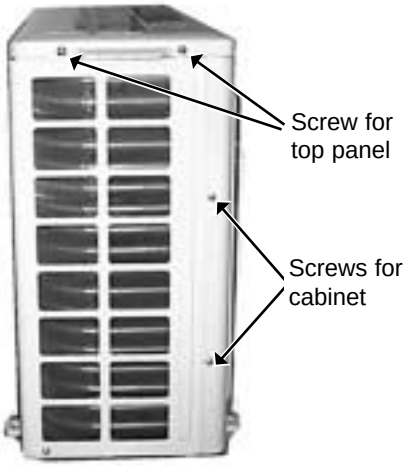
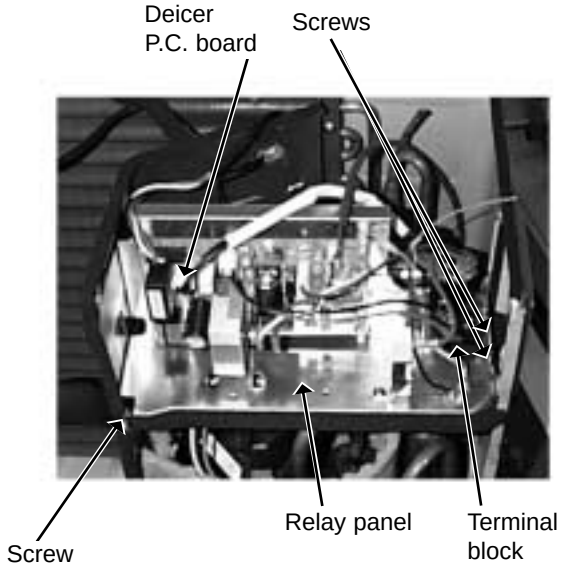
OPERATING PROCEDURE	PHOTOS
3. Removing the electrical box (1) Remove the front panel. (Refer to 1) (2) Remove the electrical cover. (3) Disconnect the connector of the indoor coil thermistor. (4) Disconnect the motor connector (CN211) and the vane motor connector (CN151) on the electronic control P.C. board. (5) Remove the screw fixing the electrical box, remove the electrical box.	**Photo 3** 
4. Removing the vane motor (1) Remove the front panel. (2) Remove the screws (both upper and lower) of the vane motor, disconnect the connector. (3) Remove the vane motor.	**Photo 4** 
5. Removing the line flow fan and the indoor fan motor (1) Remove the front panel. (Refer to 1) (2) Remove the electrical box. (3) Pull out the drain hose from the nozzle assembly, remove the nozzle assembly. (4) Remove the screws fixing the fan motor. (5) Remove the screws fixing the left side of the heat exchanger. (6) Lifting the left side of the heat exchanger. (7) Remove the hexagon socket set screws. (8) Remove the fan motor, and remove the line flow fan.	**Photo 5**  

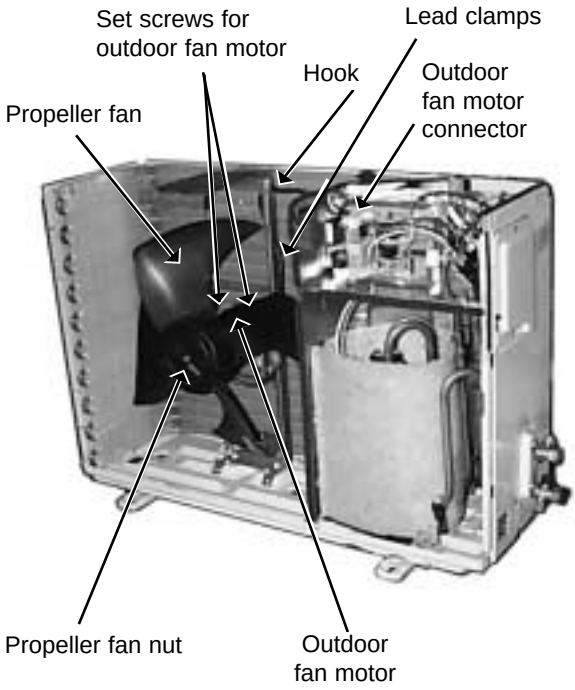
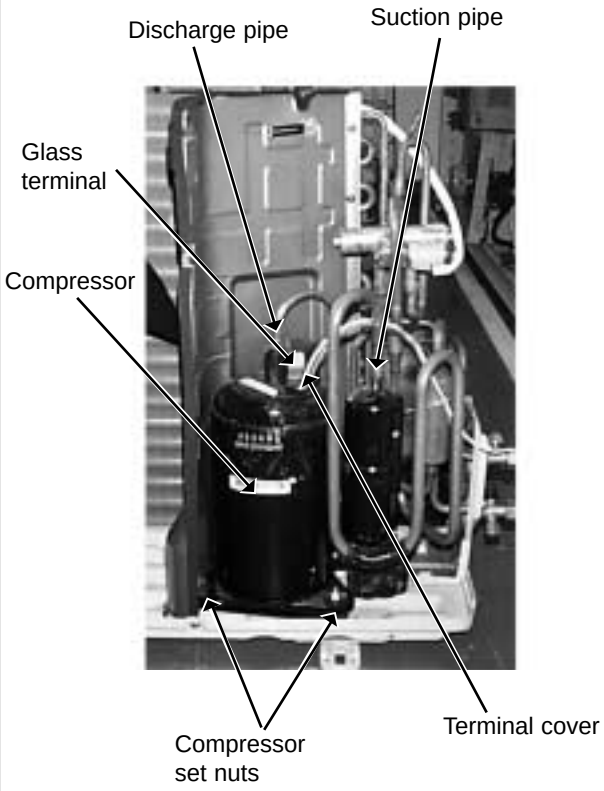
14-2. MU-07RV -E1 MU-09RV -E1 MU-12RV -E1
OUTDOOR UNIT

OPERATING PROCEDURE	PHOTOS
1. Removing the cabinet (1) Remove the screws for the top panel. (2) Remove the screw for the service panel. (3) Remove the screws for the cabinet. (4) Remove the screws for the front panel and motor support. (5) Remove the service panel, and remove the screw from the insides. (6) Remove the top panel. (7) Remove the cabinet.	**Photo 1** 
Photo 3  	**Photo 2** 
2. Removing the electrical parts (1) Remove the service panel and the cabinet.(Refer to 1) (2) Remove the following parts. •Compressor capacitor (C1) •Outdoor fan capacitor (C2) •Terminal block	**Photo 4** 

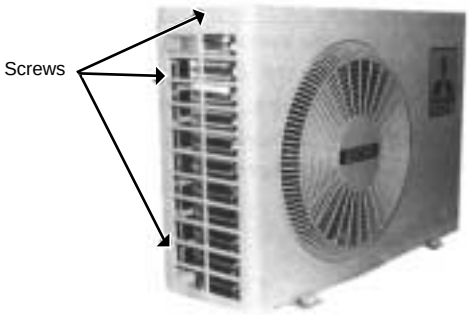
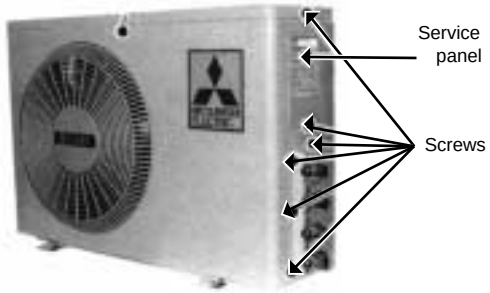
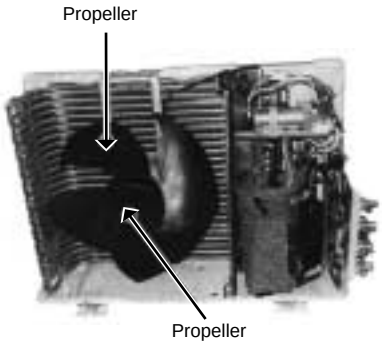
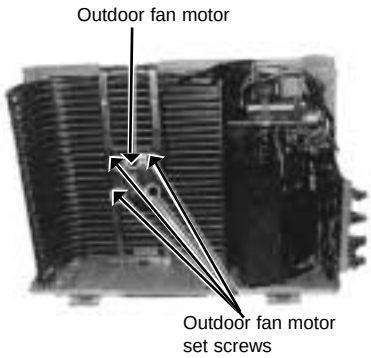
OPERATING PROCEDURE	PHOTOS
3. Removing the propeller fan and the outdoor fan motor (1) Remove the cabinet. (Refer to 1.) (2) Remove the propeller fan nut. (3) Remove the propeller fan. **NOTE : Loose the propeller fan in the rotating direction for removal.** When attaching the propeller fan, align the mark on the propeller fan and the motor shaft cut section. Set the propeller fan in position by using the cut on the shaft and the mark on the propeller fan. (4) Remove lead clamps and disconnect the outdoor fan motor connector. (5) Remove screws fixing the fan motor. (6) Remove the outdoor fan motor.	**Photo 5** 
4. Removing the compressor (1) Remove the cabinet. (Refer to 1) (2) Remove the relay panel. (3) Remove the soundproof felt. (4) Remove the terminal cover on the compressor. (5) Disconnect lead wires from the glass terminal of the compressor. (6) Release gas from the refrigerant circuit. (7) Disconnect the welded part of the discharge pipe. (8) Disconnect the welded part of the suction pipe. (9) Remove nuts fixing the compressor. (10) Remove the compressor. **NOTE** ● Before using a burner, purge gas from the pipes until the pressure gauge shows 0 kg/cm^2. ● Use the burner under the condition that gas can be released even when the inner pressure rises by heat.	**Photo 6** 

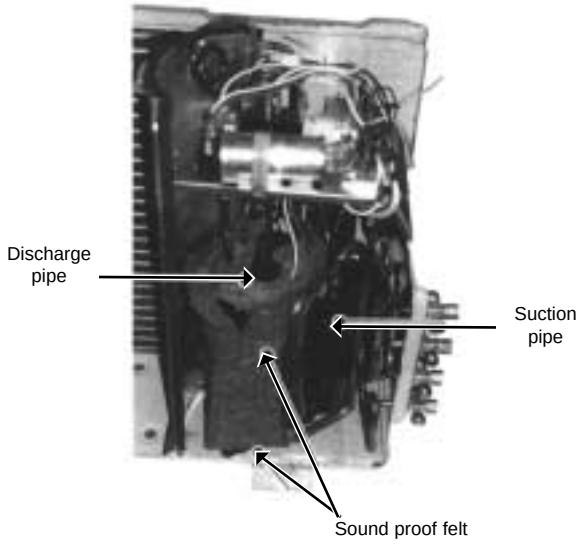
14-3. MUH-07RV -E1 MUH-09RV -E1 MUH-12RV -E1
OUTDOOR UNIT

OPERATING PROCEDURE	PHOTOS
1. Removing the cabinet (1) Remove the screws for the top panel. (2) Remove the screw for the service panel. (3) Remove the screws for the cabinet. (4) Remove the screws for the front panel and motor support. (5) Remove the service panel, and remove the screw from the insides. (6) Remove the top panel. (7) Remove the cabinet.	**Photo 1** 
Photo 3  	**Photo 2** 
2. Removing the deicer P.C. board (1) Remove the service panel and the cabinet. (2) Disconnect all the connectors and the terminals on the deicer P.C. board. (3) Remove the deicer P.C. board.	**Photo 4** 

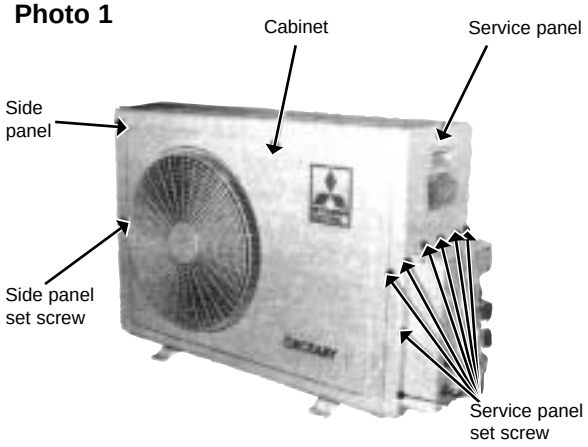
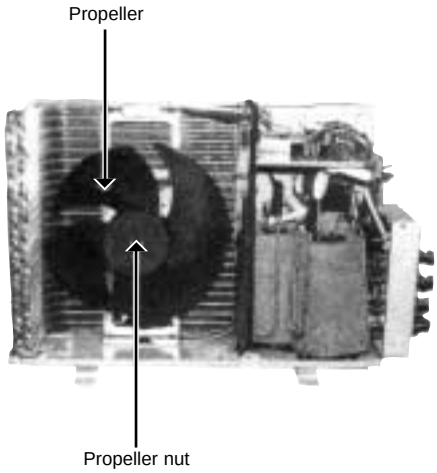
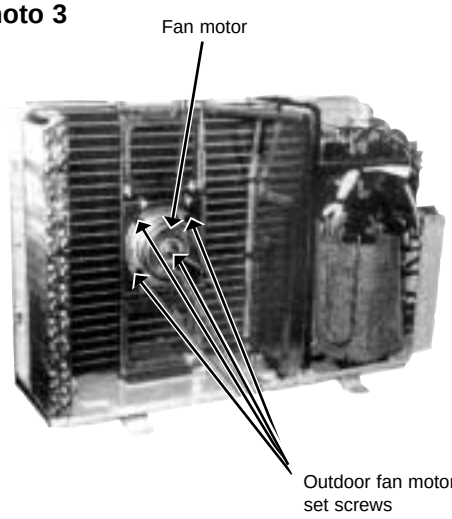
OPERATING PROCEDURE	PHOTOS
3. Removing the propeller fan and the outdoor fan motor (1) Remove the cabinet. (Refer to 1.) (2) Remove the propeller fan nut. (3) Remove the propeller fan. **NOTE : Loose the propeller fan in the rotating direction for removal.** When attaching the propeller fan, align the mark on the propeller fan and the motor shaft cut section. Set the propeller fan in position by using the cut on the shaft and the mark on the propeller fan. (4) Remove lead clamps and disconnect the outdoor fan motor connector. (5) Remove screws fixing the fan motor. (6) Remove the outdoor fan motor.	**Photo 5** 
4. Removing the compressor (1) Remove the cabinet. (Refer to 1) (2) Remove the relay panel. (3) Remove the soundproof felt. (4) Remove the terminal cover on the compressor. (5) Disconnect lead wires from the glass terminal of the compressor. (6) Release gas from the refrigerant circuit. (7) Disconnect the welded part of the discharge pipe. (8) Disconnect the welded part of the suction pipe. (9) Remove nuts fixing the compressor. (10) Remove the compressor. **NOTE** ● Before using a burner, purge gas from the pipes until the pressure gauge shows 0 kg/cm^2. ● Use the burner under the condition that gas can be released even when the inner pressure rises by heat.	**Photo 6** 

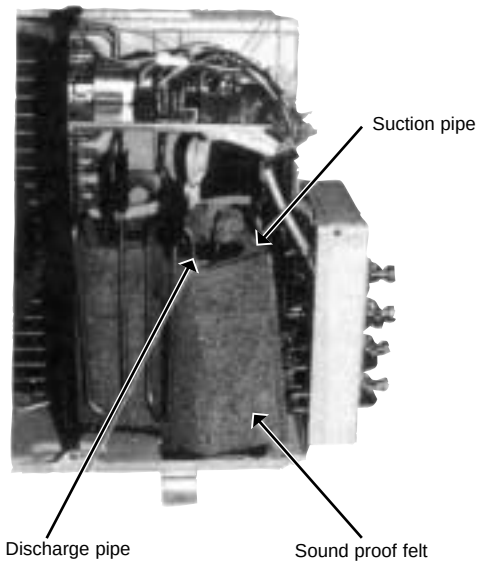
14-4 MUX-10RV - E1
OUTDOOR UNIT

OPERATING PROCEDURE	PHOTOS
1. Removing the cabinet. (1) Remove the screws fixing the service panel. (2) Remove the screw fixing the side panel. (3) Remove the service panel. (4) Remove the side panel. (5) Remove the cabinet.	**Photo 1**  **Photo 2** 
2. Removing the propeller. (1) Remove the cabinet. (2) Remove the propeller nut. (3) Remove the propeller. **Note** : Loosen the propeller in the rotating direction for removal. When setting the propeller, align the motor-shaft cut section.	**Photo 3** 
3. Removing the outdoor fan motor. (1) Remove the cabinet. (Refer to 1.) (2) Remove the propeller.(Refer to 2.) (3) Remove the lead clamps and disconnect the outdoor fan motor connector. (4) Remove outdoor fan motor set screws. (5) Remove the outdoor fan motor.	**Photo 4** 

OPERATING PROCEDURE	PHOTOS
4. Removing the compressor. (1) Remove the cabinet. (Refer to 1.) (2) Remove the terminal cover. (3) Pull out lead from the compressor terminal, then remove the thermal protector. (4) Remove the suction pipe welded section and discharge pipe welded section using a burner. Pull out when the welding melts. (5) Remove the sound proof felt. (6) Remove the compressor 3 set nuts. (7) Remove the compressor. **Note** : ● Before using the welder, confirm that the pressure gauge is 0 kg/cm^2. ● When using the welder, leave the service port open and release the pressure to avoid expansion by heat.	**Photo 5** 

14-5 MUX-18RV - E1
OUTDOOR UNIT

OPERATING PROCEDURE	PHOTOS
1.Removing the cabinet. (1) Remove the screws fixing the service panel. (2) Remove the screw fixing the side panel. (3) Remove the service panel. (4) Remove the side panel. (5) Remove the cabinet.	**Photo 1** 
2. Removing the propeller. (1) Remove the cabinet. (2) Remove the propeller nut. (3) Remove the propeller. Note: Loosen the propeller in the rotating direction for removal. When setting the propeller, align the motor-shaft cut section.	**Photo 2** 
3.Removing the outdoor fan motor. (1) Remove the cabinet.(Refer to 1.) (2) Remove the propeller.(Refer to 2.) (3) Remove the lead clamps and disconnect the outdoor fan motor connector. (4) Remove outdoor fan motor set screws. (5) Remove the outdoor fan motor.	**Photo 3** 

OPERATING PROCEDURE	PHOTOS
4. Removing the compressor. (1) Remove the cabinet.(Refer to 1.) (2) Remove the terminal cover. (3) Pull out lead from the compressor terminal,then remove the terminal overcurrent relay. (4) Remove the suction pipe welded section and discharge pipe welded section using a burner. Pull out when the welding melts. (5) Remove the sound proof felt. (6) Remove the compressor 3 set nuts. (7) Remove the compressor. **NOTE:** ● Before using the welder, confirm that the pressure gauge is 0 Kg/cm^2. ● When using the welder, leave the service port open and release the pressure to avoid expansion by heat.	**Photo 4** 
5. Removing the compressor. (1) Remove the cabinet.(Refer to 1.) (2) Remove the terminal cover. (3) Pull out lead from the compressor terminal,then remove the terminal overcurrent relay. (4) Remove the screws fixing the back panel. (5) Remove the suction pipe welded section and discharge pipe welded section using a burner. Pull out when the welding melts. (6) Remove the sound proof felt. (7) Remove the compressor 3 set nuts. (8) Remove the compressor.	

14-6 MUX-24RV-E1
OUTDOOR UNIT

OPERATING PROCEDURE	PHOTOS

1.Removing the cabinet.

(1) Remove the screws fixing the service panel.
(2) Remove the screw fixing the top panel.
(3) Remove the service panel.
(4) Remove the top panel.
(5) Remove the screws fixing the front panel.
(6) Remove the front panel.
(7) Remove the screws fixing the outer nozzle.
(8) Remove the outer nozzle.

Photo 1

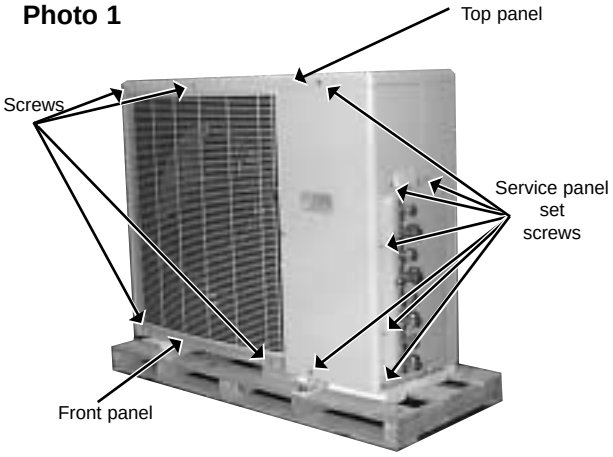


Photo 2

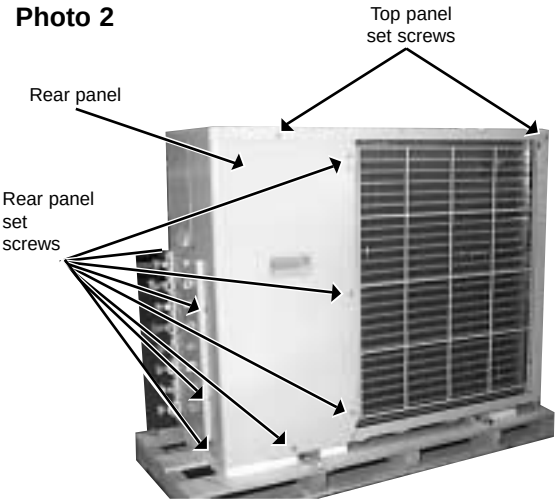
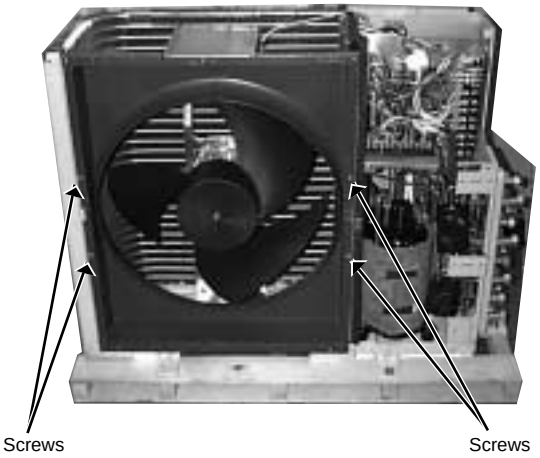
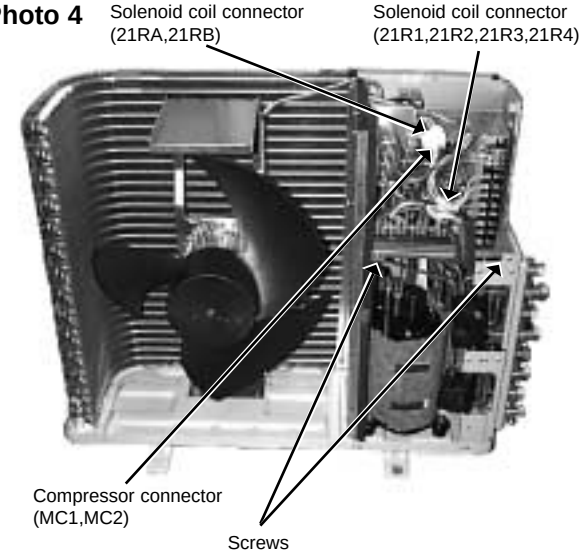
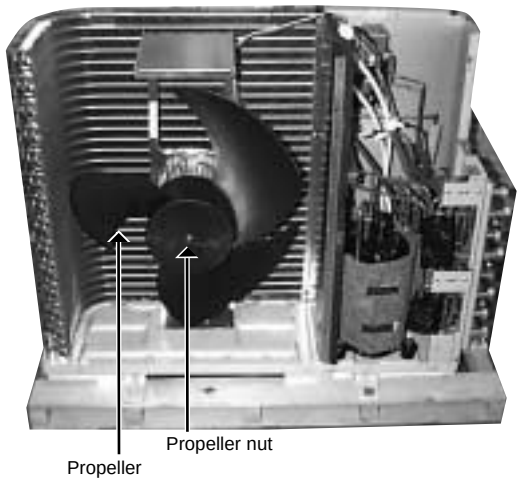
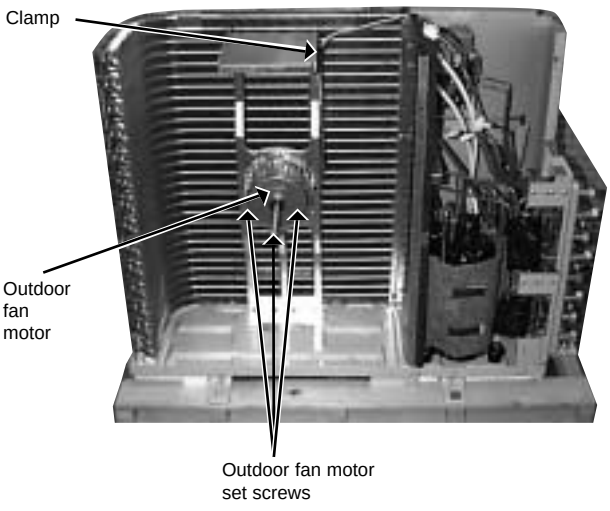
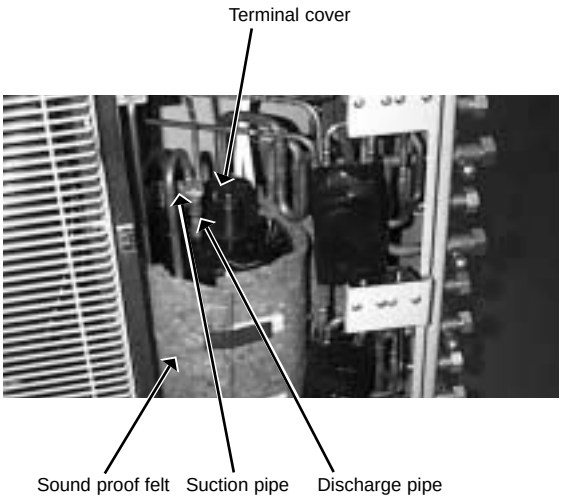


Photo 3



OPERATING PROCEDURE	PHOTOS
2. Removing the relay panel. (1) Remove the cabinet. (Refer to 1) (2) Disconnect the following connectors. ・Compressor (MC1,MC2) ・Outdoor fan motor ・Solenoid coil (21R1,21R2,21R3,21R4,21RA,21RB)	**Photo 4** 
3. Removing the propeller. (1) Remove the cabinet. (2) Remove the propeller nut. (3) Remove the propeller. **Note** : Loosen the propeller in the rotating direction for removal. When setting the propeller, align the motor-shaft cut section.	**Photo 5** 
4. Removing the outdoor fan motor. (1) Remove the cabinet. (Refer to 1) (2) Remove the propeller. (Refer to 3) (3) Disconnect the connector remove the clamp of outdoor fan motor lead wire. (4) Remove the screws fixing the outdoor fan motor.	**Photo 6** 

OPERATING PROCEDURE	PHOTOS
5. Removing the compressor. (A,B) (1) Remove the cabinet. (Refer to 1) (2) Remove the relay panel. (Refer to 2) (3) Remove the terminal cover. (4) Pull out lead from the compressor. (5) Remove the suction pipe welded section and discharge pipe welded section using a burner. Pull out when the welding melts. (6) Remove the sound proof felt. (7) Remove the compressor set nuts. (8) Remove the compressor.	**Photo 7** 
6. Removing the compressor. (C,D) (1) Remove the cabinet. (Refer to 1) (2) Remove the relay panel. (Refer to 2) (3) Remove the screws fixing rear panel. (Refer to photo 2) (4) Remove the rear panel. (5) Remove the terminal cover. (6) Pull out lead from the compressor. (7) Remove the suction pipe welded section and discharge pipe welded section using a burner. Pull out when the welding melts. (8) Remove the sound proof felt. (9) Remove the compressor set nuts. (10) Remove the compressor.	

14-7 MXZ-18RV - E1
OUTDOOR UNIT

OPERATING PROCEDURE

Removing the compressor

(1) Remove the top panel.
(2) Remove the service panel and release the gas.
(3) Remove the rear panel, and front panel.
(4) Disconnect the compressor linking connector. (See Photo 2.)
(5) Disconnect the following connectors from the outdoor electronic control P.C. board. CN61, CN63, TAB91,CN641, CN671, CN681, CN682, CN761, CN771,CN661,CN683.
(6) Disconnect the reactor lead wires from the terminal +++ of the diode stack (DS63) and from the terminal +++ of the capacitor (C67). (See Photo 3.)
Note: When pulling the wire, push the locking lever of the terminal.
(7) Remove the inverter assembly.
(8) Remove the band that fixes the discharge pipe muffler. (See Photo 4.)
(9) Remove the propeller fan.
(10) Remove the separator and support.
(11) Remove the reactor.
(12) Remove the terminal cover to disconnect the lead wires from the compressor terminals.
(13) Detach the welded section of the compressor suction pipe and discharge pipe. (See Photo 4.)
(14) Remove the compressor nuts to remove the compressor.

PHOTOS

Photo 1

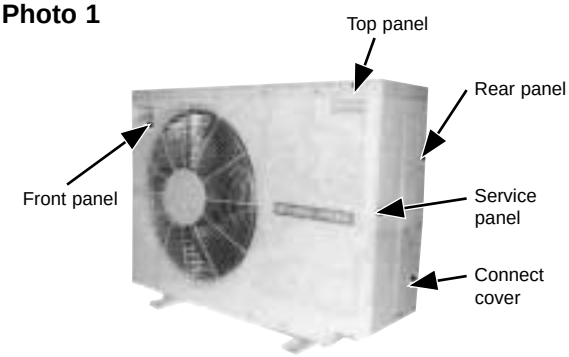


Photo 2

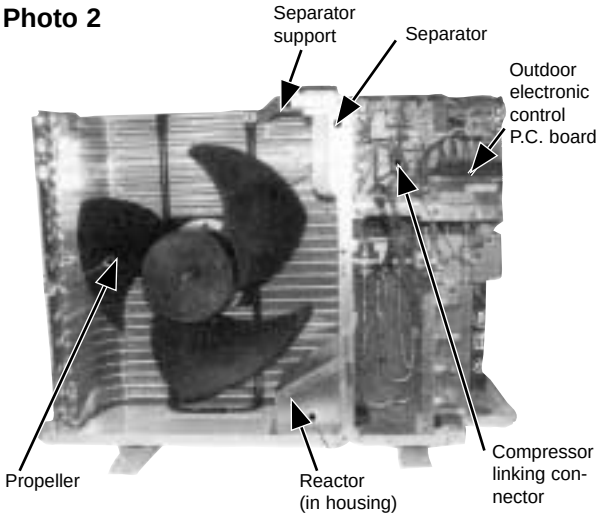


Photo 3

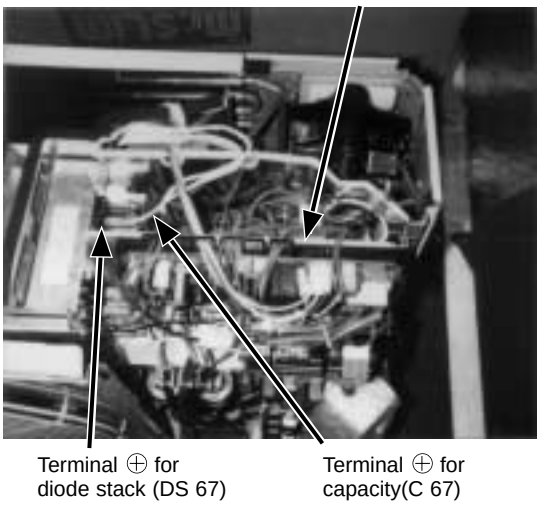
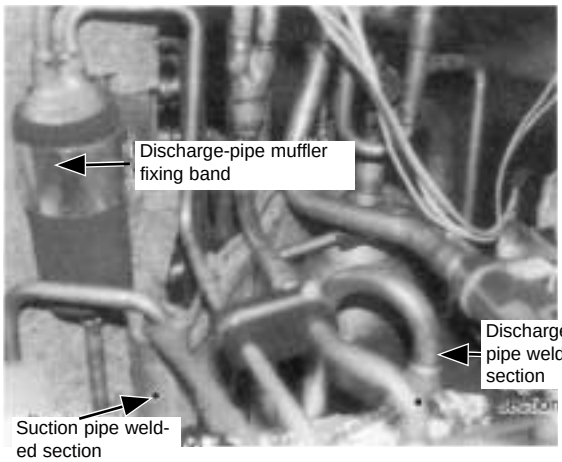
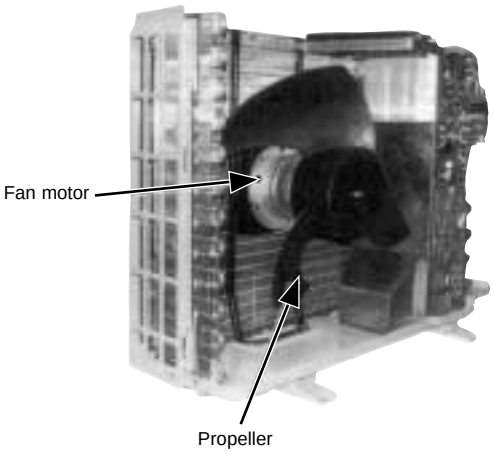


Photo 4



OPERATING PROCEDURE	PHOTOS
Removing the outdoor fan motor (1) Remove the top panel, service panel, and front panel. (2) Disconnect the connector CN63,TAB91 from the outdoor electronic control P.C. board. (3) Remove the propeller. (4) Remove the outdoor fan motor.	**Photo 4** 

14-7 MXZ-32RV - E1
OUTDOOR UNIT

OPERATING PROCEDURE

1.Removing the compressor

(1)Remove the screws fo the service panel, and remove it. Release refrigerant gas.
(2)Remove the screws of the top panel , and remove it.
(3)Remove the screws of the front panel , and remove it.
(4)Disconnect the compressor lead wire.(TAB64,TAB65,TAB66)
(5)Disconnect the ourdoor controller board connectors CN791, CN792, CN723, CN722,CN662, and CN661.Disconnect the noise filter board connectors CN913, CN912, and CN911.
(6)Remove the four screws of the electrical parts , and remove them.
(7)Remove the propeller.
(8)Remove the screws of the separator, and remove it.
(9)Detach the brazed joints of the compressor suction and discharge pipes.(See Photo 3.)
(10)Remove the three compressor nuts and remove the compressor.

PHOTOS

Photo 1

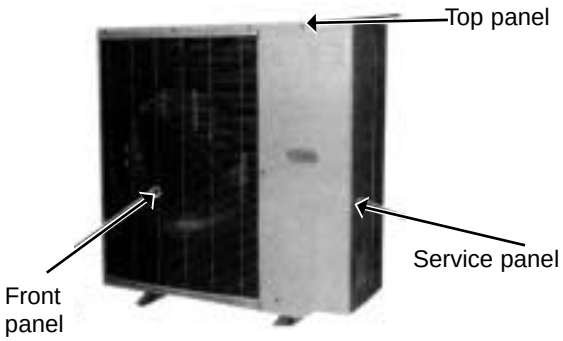


Photo 2

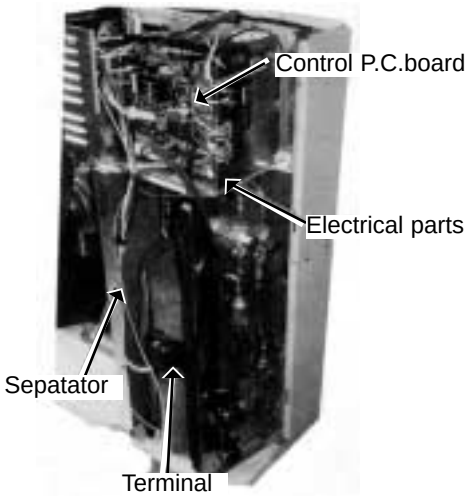
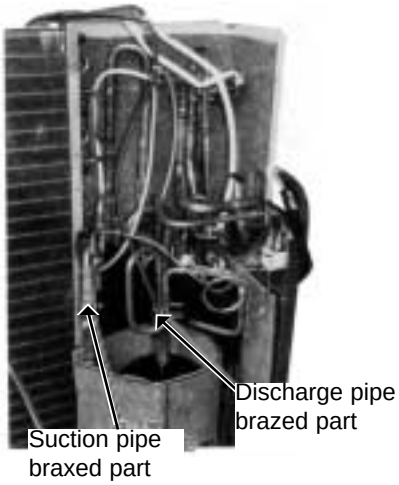
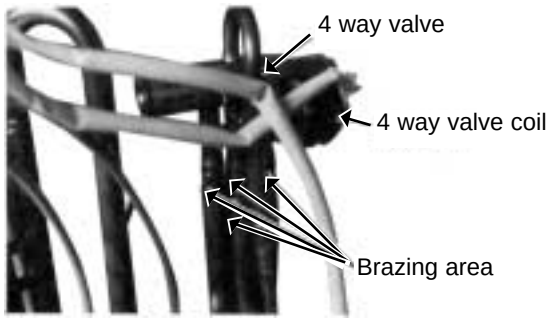
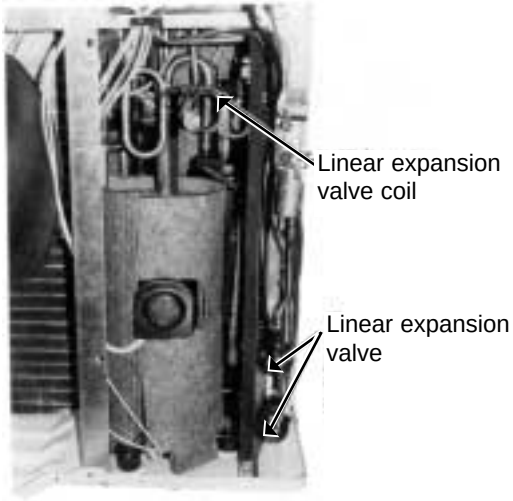
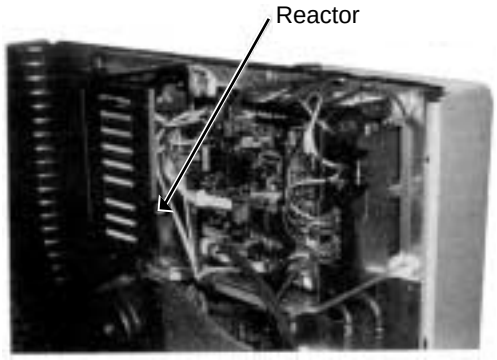


Photo 3



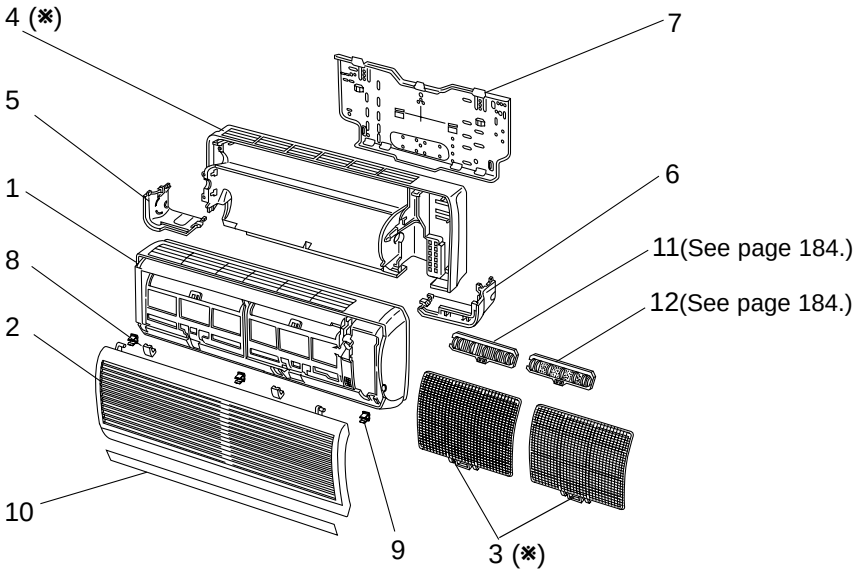
OPERATING PROCEDURE	PHOTOS
2.Removing the fan motor (1)Remove the top panel(five screws),the service panel(four screws),and the front panel (two screws).(See Photo 1.) (2)Disconnect the connector CN911 on the outdoor controller board. (3)Remove the propeller. (4)Remove the fan motor.	
3.Removing the 4-way valve (1)Remove the screws of the top panel , and remove it.(See Photo 1.) (2)Remove the service panel,rear panel,and connect cover panel.Release refrigerant gas. (3)Remove the electrical parts.(See Photo 2.) (4)Detach the brazed joint of 4-way valve and pipe.(See Photo 4.)	**Photo 4** 
4.Removing the linear expansion valve (1)Remove the service panel.(See Photo 1.) (Gas release is not required if the unit is pumped down.) (2)Remove the coil of linear expansion valve. (3)Detach the brazed joint of linear expansion valve and pipe.	**Photo 5** 

OPERATING PROCEDURE	PHOTOS
5.Removing the reactor (1)Remove the five screws of the top panel , and remove it.(See Photo 1.) (2)Disconnect the reactor lead wire. (3)Remove the two screws of the reactor , and take it out.	**Photo 6** 

15 PARTS LIST

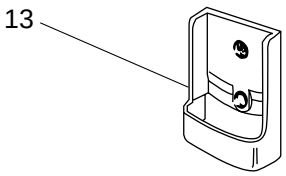
MSC-07RV -E1 (WH)
MSC-09RV -E1 (WH)
MSC-12RV -E1 (WH)

15-1. INDOOR UNIT STRUCTURAL PARTS



(※)These figures show about MSC-12RV.

15-2. ACCESSORY PART



15-1.INDOOR UNIT STRUCTURAL PARTS

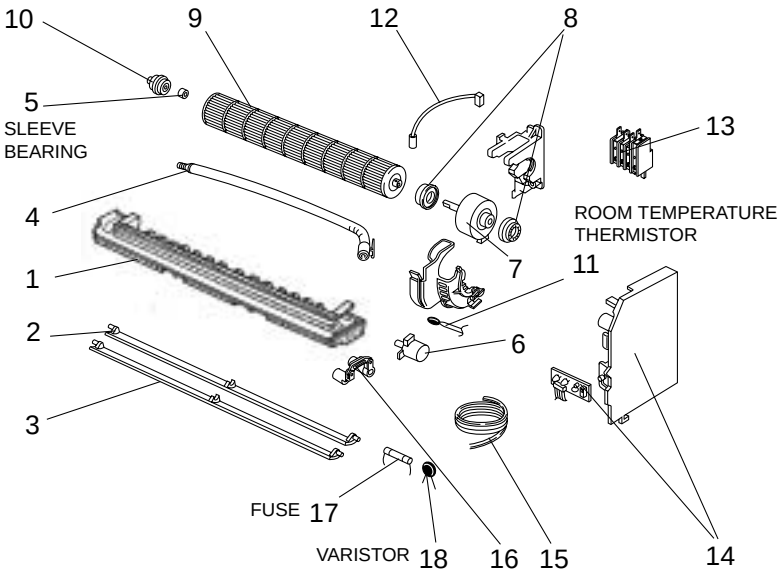
No.	Part No.	Part Name	Symbol in Wiring Diagram	Q'ty/unit			Remarks
				MSC-07RV -E1 (WH)	MSC-09RV -E1 (WH)	MSC-12RV -E1 (WH)	
1	E02 424 000	FRONT PANEL(WH)		1	1	1	
2	E02 424 010	GRILLE(WH)		1	1	1	
3	E02 408 100	AIR FILTER		2	2		
	E02 410 100	AIR FILTER				2	
4	E02 409 234	BOX(WH)		1	1		
	E02 411 234	BOX(WH)				1	
5	E02 409 976	CORNER BOX (LEFT)		1	1	1	
6	E02 409 975	CORNER BOX (RIGHT)		1	1	1	
7	E02 408 970	INSTALLATION PLATE		1	1	1	
8	E02 409 067	SCREW CAP(WH)		2	2	2	2PCS/SET
9	E02 408 142	CATCH		3	3	3	3PCS/SET
10	E02 424 020	DECORATION COVER		1	1	1	
11	————	AIR CLEANING FILTER		1	1	1	MAC-1300FT
12	————	DEODORIZING FILTER		1	1	1	MAC-1800DF

15-2. ACCESSORY PART

13	E02 141 083	REMOTE CONTROLLER HOLDER		1	1	1	

MSC-07RV -E1 (WH)
MSC-09RV -E1 (WH)
MSC-12RV -E1 (WH)

15-3. INDOOR UNIT ELECTRICAL PARTS



15-4. INDOOR UNIT HEAT EXCHANGER

(※)These figures show about MSC-12RV.

15-3. INDOOR UNIT ELECTRICAL PARTS

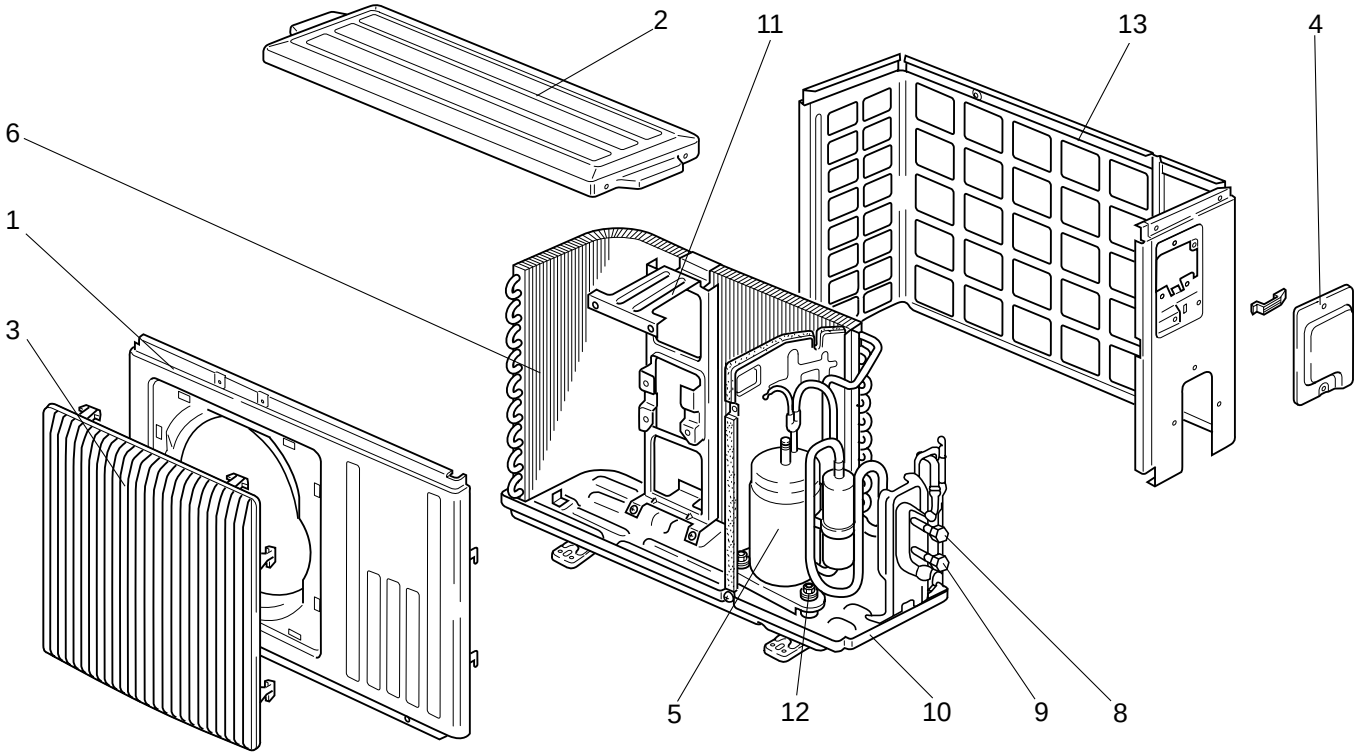
No.	Part No.	Part Name	Symbol in Wiring Diagram	Q'ty/unit			Remarks
				MSC-07RV -E1 (WH)	MSC-09RV -E1 (WH)	MSC-12RV -E1 (WH)	
1	E02 409 235	NOZZLE (WH)		1	1	1	
2	E02 409 040	VANE UPPER (WH)		1	1	1	
3	E02 409 041	VANE LOWER (WH)		1	1	1	
4	E02 408 702	DRAIN HOSE		1	1	1	
5	E02 001 504	SLEEVE BEARING		1	1	1	
6	E02 408 303	VANE MOTOR	MV	1	1	1	
7	E02 151 300	INDOOR FAN MOTOR	MF	1	1	1	RC4V19-□□
8	E02 151 505	FAN MOTOR RUBBER MOUNT		2	2	2	2PCS/SET
9	E02 408 302	LINE FLOW FAN		1	1	1	
10	E02 408 509	BEARING MOUNT		1	1	1	
11	E02 408 308	ROOM TEMPERATURE THERMISTOR	RT11	1	1	1	
12	E02 408 307	INDOOR COIL THERMISTOR	RT12	1	1	1	
13	E02 424 375	TERMINAL BLOCK	TB	1	1	1	
14	E02 424 452	ELECTRONIC CONTROL P.C.BOARD		1			AUTO RESTART
	E02 425 452	ELECTRONIC CONTROL P.C.BOARD			1		AUTO RESTART
	E02 426 452	ELECTRONIC CONTROL P.C.BOARD				1	AUTO RESTART
15	E02 424 395	POWER SUPPLY CORD		1	1	1	
16	E02 408 034	VANE MOTOR SUPPORT SET		1	1	1	
17	E02 127 382	FUSE	F11	1	1	1	3.15A
18	E02 336 385	VARISTOR	NR11	1	1	1	

15-4. INDOOR UNIT HEAT EXCHANGER

19	E02 408 620	INDOOR HEAT EXCHANGER		1	1		
	E02 410 620	INDOOR HEAT EXCHANGER				1	
20	E02 151 666	UNION(GAS)		1	1		ϕ9.52
	E02 155 666	UNION(GAS)				1	ϕ12.7
21	E02 151 667	UNION(LIQUID)		1	1	1	ϕ6.35

15-5. OUTDOOR UNIT STRUCTURAL PARTS

MU-07RV -E1
MU-09RV -E1
MU-12RV -E1



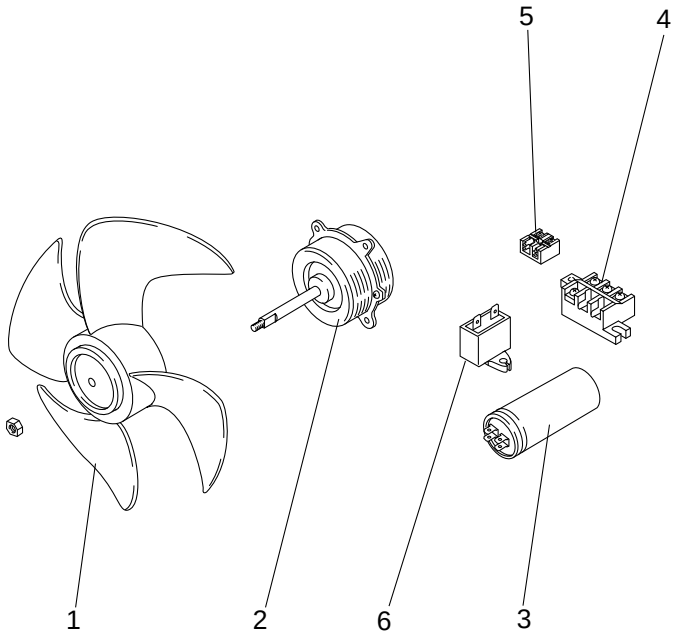
Part number that is circled is not shown in the illustration.

No.	Part No.	Part name	Symbol in Wiring Diagram	Q'ty/unit			Remarks
				MU-07RV-E1	MU-09RV-E1	MU-12RV-E1	
1	E02 336 232	CABINET		1	1	1	
2	E02 336 297	TOP PANEL		1	1	1	
3	E02 336 521	GRILLE(OUT)		1	1	1	
4	E02 336 245	SERVICE PANEL		1	1	1	
5	E02 437 900	COMPRESSOR	MC	1			RH-135VGCT
	E02 438 900	COMPRESSOR	MC		1		RH-145VGCT
	E02 141 900	COMPRESSOR	MC			1	RH-231VHAT
6	E02 336 630	OUTDOOR HEAT EXCHANGER		1	1	1	
⑦	E02 339 936	CAPILLARY TUBE		1	1		ϕ3.0xϕ1.4x600
	E02 412 936	CAPILLARY TUBE				1	ϕ3.0xϕ1.6x600
8	E02 339 662	STOP VALVE(LIQUID)		1	1	1	ϕ6.35
9	E02 339 661	STOP VALVE(GAS)		1	1		ϕ9.52
	E02 340 661	STOP VALVE(GAS)				1	ϕ12.7
10	E02 339 290	BASE		1	1		
	E02 340 290	BASE				1	
11	E02 336 515	MOTOR SUPPORT		1	1	1	
12	E02 336 506	COMPRESSOR RUBBER SET		3	3		3RUBBERS/SET
	E02 075 506	COMPRESSOR RUBBER SET				3	3RUBBERS/SET
13	E02 339 233	BACK PANEL		1	1	1	

MU-07RV -E1
MU-09RV -E1
MU-12RV -E1

15-6. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS

15-7. REMOTE CONTROLLER



15-6. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS

Part number that are circled are not shown in the illustration.

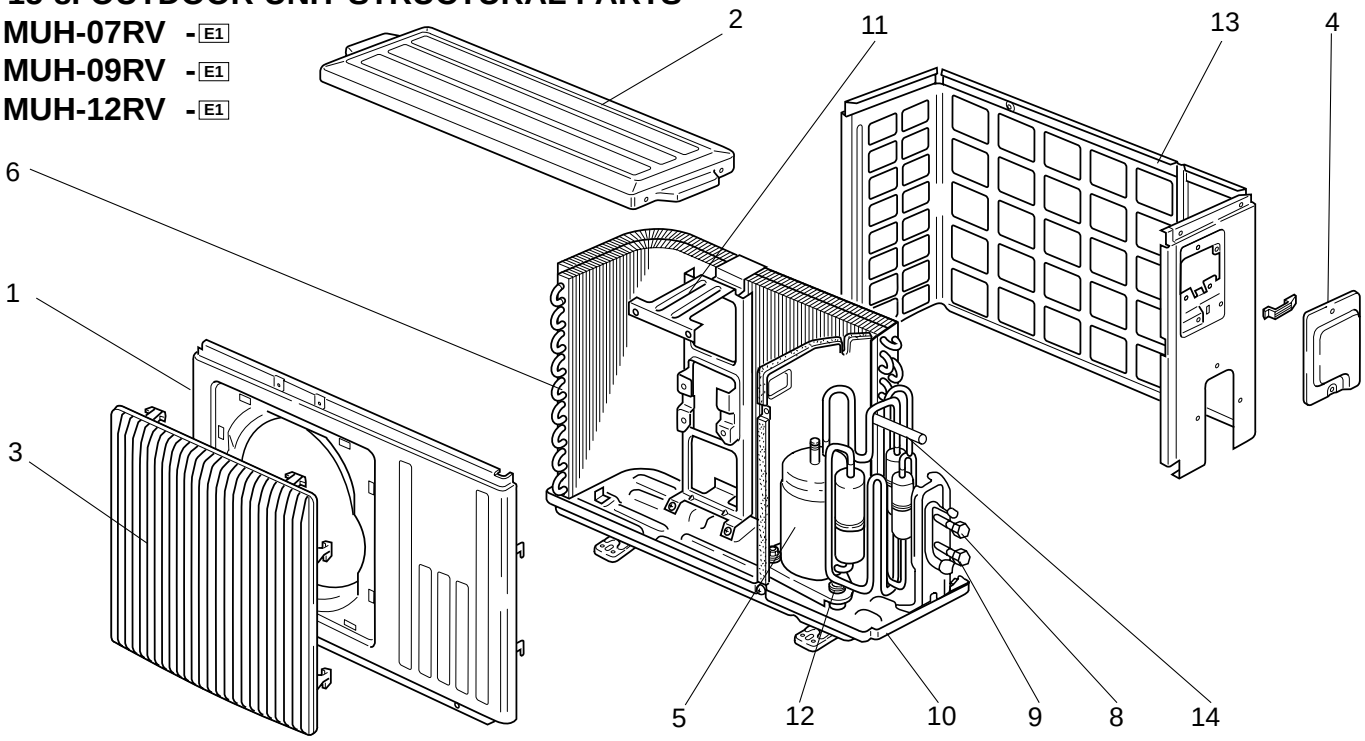
No.	Part No.	Part name	Symbol in Wiring Diagram	Q'ty/unit			Remarks
				MU-07RV-E1	MU-09RV-E1	MU-12RV-E1	
1	E02 336 501	PROPELLER FAN		1	1	1	
2	E02 437 301	OUTDOOR FAN MOTOR	MF	1	1		RA6V23-□□
	E02 439 301	OUTDOOR FAN MOTOR	MF			1	RA6V33-□□
3	E02 085 353	COMPRESSOR CAPACITOR	C1	1	1		25μF /440V
	E02 079 353	COMPRESSOR CAPACITOR	C1			1	30μF /440V
4	E02 437 374	TERMINAL BLOCK	TB1	1	1	1	
5	E02 438 374	TERMINAL BLOCK	TB2	1	1	1	
6	E02 095 350	OUTDOOR FAN CAPACITOR	C2	1	1	1	1.5μF /440V
⑦	E02 001 340	CONTACTOR	52C	1	1	1	
⑧	E02 095 382	FUSE	F	1	1	1	250V2A
⑨	E02 128 383	SURGE ABSORBER	DSAR	1	1	1	

15-7. REMOTE CONTROLLER

10	E02 408 426	REMOTE CONTROLLER		1	1	1	

15-8. OUTDOOR UNIT STRUCTURAL PARTS

MUH-07RV -E1
MUH-09RV -E1
MUH-12RV -E1

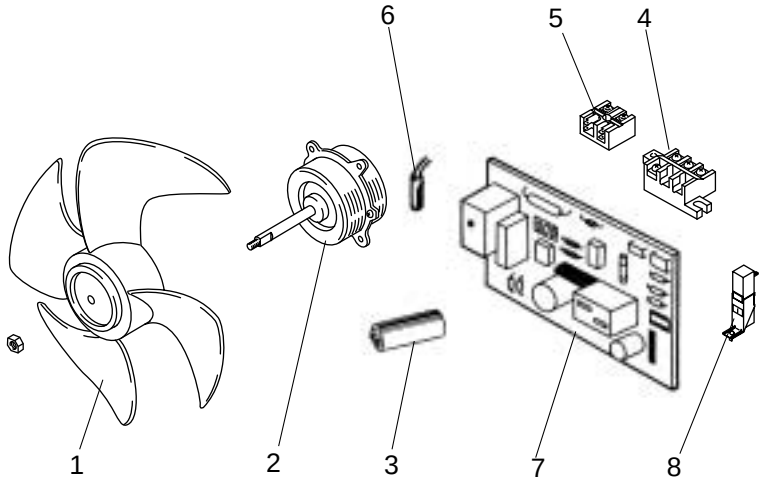


Part number that are circled are not shown in the illustration.

No.	Part No.	Part name	Symbol in Wiring Diagram	Q'ty/unit			Remarks
				MUH-07RV-E1	MUH-09RV-E1	MUH-12RV-E1	
1	E02 336 232	CABINET		1	1	1	
2	E02 336 297	TOP PANEL		1	1	1	
3	E02 336 521	GRILLE(OUT)		1	1	1	
4	E02 336 245	SERVICE PANEL		1	1	1	
5	E02 164 900	COMPRESSOR	MC	1			RH-135VGHT
	E02 128 900	COMPRESSOR	MC		1		RH-174VGHT
	E02 141 900	COMPRESSOR	MC			1	RH-231VHAT
6	E02 440 630	OUTDOOR HEAT EXCHANGER		1	1		
	E02 442 630	OUTDOOR HEAT EXCHANGER				1	
⑦	E02 159 936	CAPILLARY TUBE		2	2		ϕ3.0xϕ1.4x800
	E02 156 936	CAPILLARY TUBE				2	ϕ3.0xϕ1.4x500
	E02 339 936	CAPILLARY TUBE		1			ϕ3.0xϕ1.4x600
	E02 441 936	CAPILLARY TUBE			1		ϕ3.0xϕ1.4x550
	E02 412 936	CAPILLARY TUBE		1			ϕ3.0xϕ1.6x600
	E02 134 937	CAPILLARY TUBE			1		ϕ3.0xϕ1.6x400
	E02 134 936	CAPILLARY TUBE				1	ϕ3.0xϕ1.6x700
	E02 442 936	CAPILLARY TUBE				1	ϕ3.0xϕ1.8x300
8	E02 139 662	STOP VALVE(LIQUID)		1	1	1	ϕ6.35
9	E02 339 661	STOP VALVE(GAS)		1	1		ϕ9.52
	E02 340 661	STOP VALVE(GAS)				1	ϕ12.7
10	E02 339 290	BASE		1	1		
	E02 340 290	BASE				1	
11	E02 336 515	MOTOR SUPPORT		1	1		
	E02 442 515	MOTOR SUPPORT				1	
12	E02 336 506	COMPRESSOR RUBBER SET		3	3		3RUBBERS/SET
	E02 075 506	COMPRESSOR RUBBER SET				3	3RUBBERS/SET
13	E02 440 233	BACK PANEL		1	1	1	
14	E02 444 961	REVERSING VALVE		1	1	1	
⑮	E02 154 642	CHECK VALVE		1	1	1	

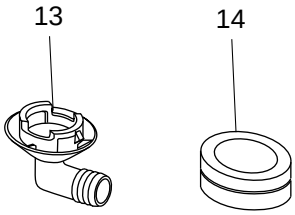
MUH-07RV -E1
MUH-09RV -E1
MUH-12RV -E1

15-9. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS



15-10. REMOTE CONTROLLER

15-11. ACCESSORY PARTS



15-9. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS

Part number that are circled are not shown in the illustration.

No.	Part No.	Part name	Symbol in Wiring Diagram	Q'ty/unit			Remarks
				MUH-07RV-E1	MUH-09RV-E1	MUH-12RV-E1	
1	E02 336 501	PROPELLER FAN		1	1	1	
2	E02 440 301	OUTDOOR FAN MOTOR	MF	1	1		RA6V23-□□
	E02 442 301	OUTDOOR FAN MOTOR	MF			1	RA6V33-□□
3	E02 085 353	COMPRESSOR CAPACITOR	C1	1	1		25μF /440V
	E02 079 353	COMPRESSOR CAPACITOR	C1			1	30μF /440V
4	E02 437 374	TERMINAL BLOCK	TB1	1	1	1	
5	E02 440 374	TERMINAL BLOCK	TB2	1	1	1	
6	E02 289 310	DEFROST THERMISTOR	RT61	1	1		
	E02 440 310	DEFROST THERMISTOR	RT61			1	
7	E02 440 451	DEICER P.C. BOARD		1	1	1	
8	E02 128 383	SURGE ABSORBER	DSAR	1	1	1	
⑨	E02 440 490	REVERSING VALVE COIL	21S4	1	1	1	
⑩	E02 095 382	FUSE	F61	1	1	1	250V 2A
⑪	E02 085 385	VARISTOR	NR61	1	1	1	

15-10. REMOTE CONTROLLER

12	E02 430 426	REMOTE CONTROLLER		1	1	1	

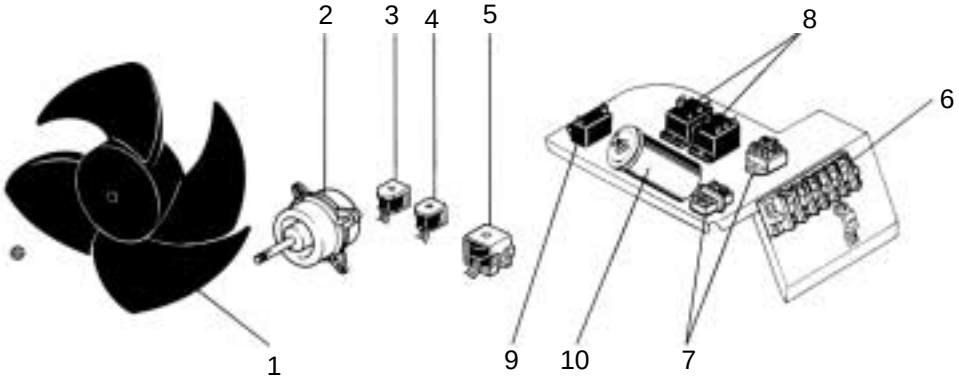
15-11. ACCESSORY PARTS

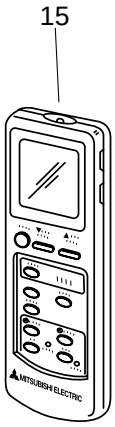
13	E02 440 704	DRAIN SOCKET		1	1	1	
14	E02 440 705	DRAIN CAP		2	2	2	

MUX-10RV - E1

15-12. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS

15-13. REMOTE CONTROLLER





15-12. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS

Part number that is circled are not shown in the illustration.

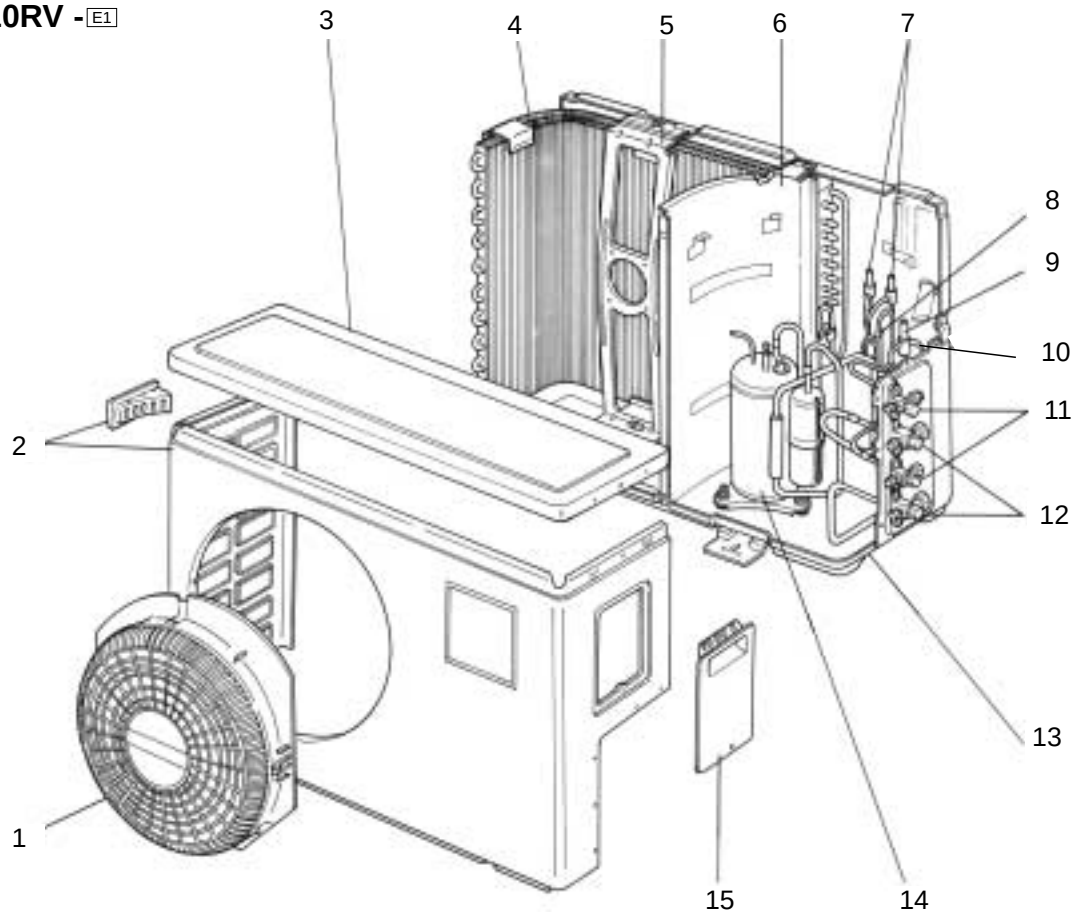
No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty / unit	Remarks
				MUX-10RV- E1	
1	M21 601 501	PROPELLER FAN		1	
2	T2W E42 301	OUTDOOR FAN MOTOR	MF	1	RA6V22-□□
3	T2W E42 388	BYPASS VALVE SOLENOID COIL A	21R1	1	
4	T2W E39 389	BYPASS VALVE SOLENOID COIL B	21R2	1	
5	T2W E42 389	BYPASS VALVE SOLENOID COIL	21R	1	
6	T2W E60 375	TERMINAL BLOCK	TB	1	
7	M21 370 378	TERMINAL BLOCK	TB	2	L N
8	T2W 459 342	COMPRESSOR CONTACTOR	52C1,52C2	2	
9	M21 N71 350	FAN MOTOR CAPACITOR	C2	1	1.5μF440V
10	T2W 304 353	COMPRESSOR CAPACITOR	C1	1	17μF440V
⑪	T2W E03 330	OVERCURRENT RELAY	51C	1	
⑫	M21 B00 340	RELAY		2	G4F11123T
⑬	T2W E60 376	TERMINAL BLOCK	TB	1	2,1,2,1
⑭	T2W A79 382	FUSE	F12,F13	2	2A 250V

15-13. REMOTE CONTROLLER

15	E02 408 426	REMOTE CONTROLLER		2	

15-14. OUTDOOR UNIT STRUCTURAL PARTS

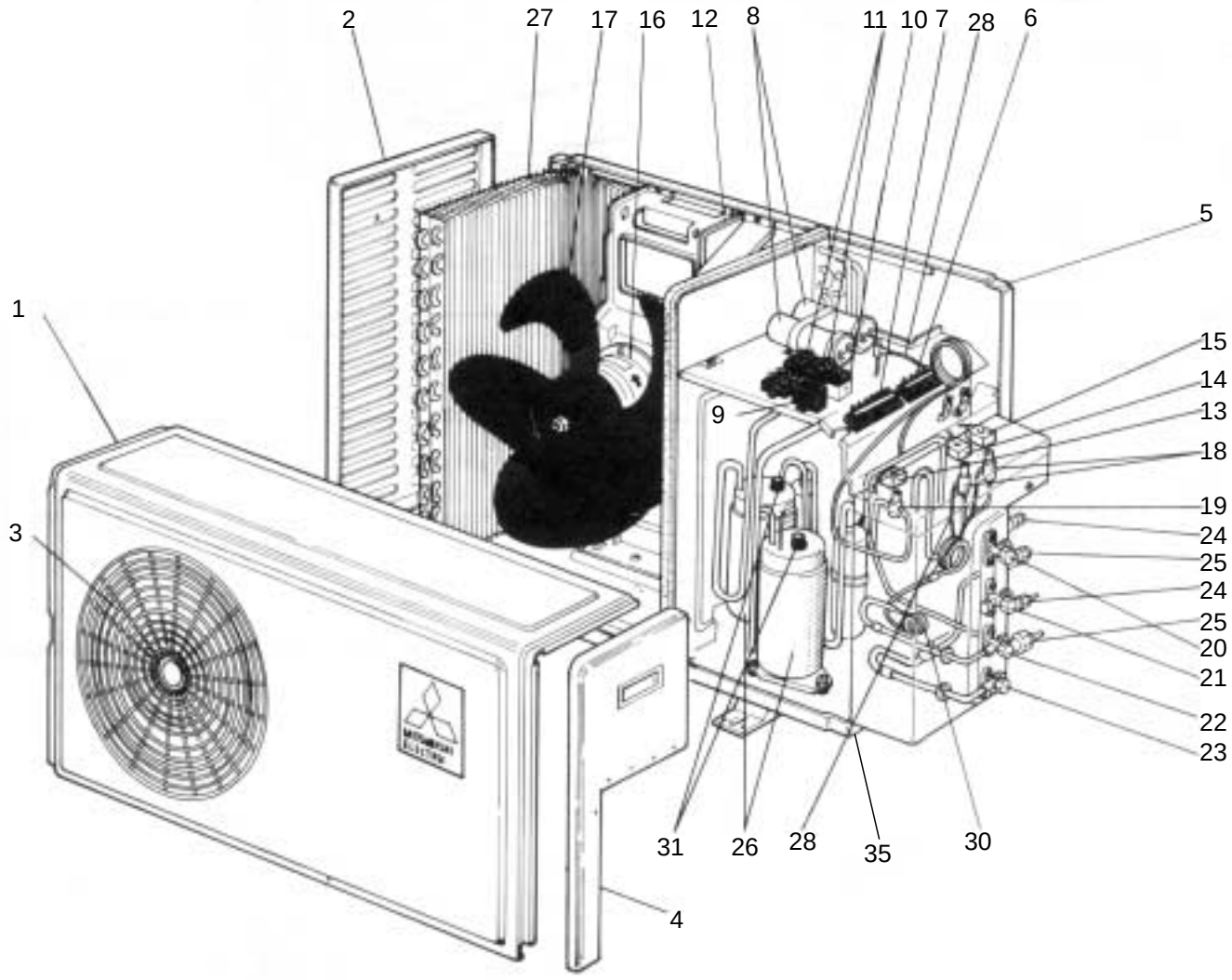
MUX-10RV - E1



No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty / unit	Remarks
				MUX-10RV- E1	
1	T2W 418 521	OUTER NOZZLE		1	
2	T2W E03 232	CABINET		1	
3	M21 478 297	TOP PANEL		1	
4	T2W 459 630	OUTDOOR HEAT EXCHANGER		1	
5	T2W 416 515	MOTOR SUPPORT		1	
6	T2W E03 293	SEPARATOR		1	
7	M21 179 645	SOLENOID VALVE		2	
8	M21 463 936	CAPILLARY TUBE (ϕ3.0xϕ1.4x1900)		1	ϕ3.0xϕ1.4x400 ϕ3.0xϕ1.4x400
9	M21 195 648	SOLENOID VALVE		1	
10	M21 K08 936	CAPILLARY TUBE (ϕ3.0xϕ1.6x1200)		1	ϕ3.0xϕ1.6x1000
11	T2W E42 662	STOP VALVE(LIQUID)		2	
12	T2W E42 661	STOP VALVE		2	
13	T2W E03 290	BASE ASSEMBLY		1	
14	T92 514 200	COMPRESSOR	MC	1	KH-134VLL
15	T2W E03 245	SERVICE PANEL		1	

When servicing , cut the tube to the propper length as shown in the REFRIGERANT SYSTEM DIAGRAM.
See page 38.

15-15. OUTDOOR UNIT
FUNCTIONAL PARTS AND AND ELECTRICAL PARTS AND STRUCTURAL PARTS
MUX-18RV -E1



15-16. REMOTE CONTROLLER

MUX-18RV -E1

15-15. OUTDOOR UNIT

FUNCTIONAL PARTS AND AND ELECTRICAL PARTS AND STRUCTURAL PARTS

Part number that is circled are not shown in the illustration.

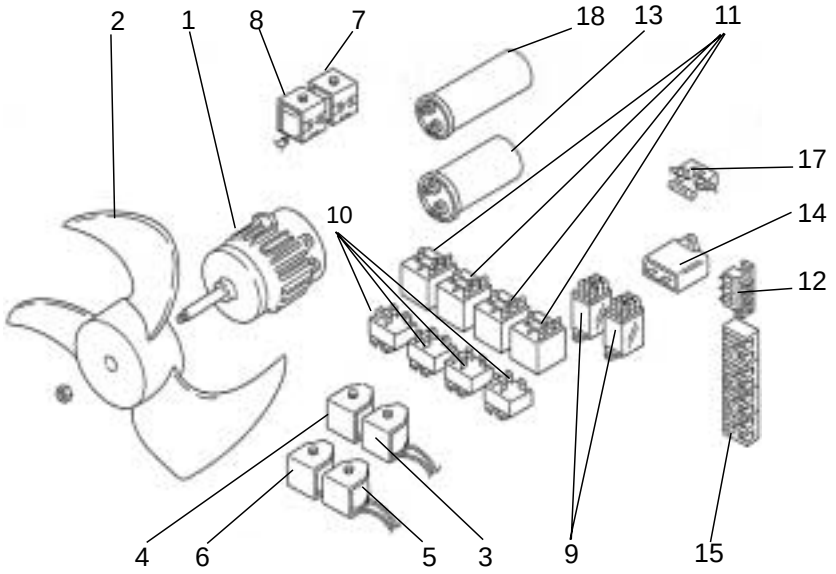
No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty / set MUX-18RV- E1	Remarks
1	T2W 510 232	CABINET		1	
2	M21 B57 249	SIDE PANEL		1	
3	T2W 466 509	OUTER NOZZLE		1	
4	M21 K59 245	SERVICE PANEL		1	
5	T2W E41 291	BACK PANEL		1	
6	T2W E60 375	TERMINAL BLOCK	TB2	1	
7	T2W E60 376	TERMINAL BLOCK	TB	1	
8	T2W 304 353	COMPRESSOR CAPACITOR	C1,2	2	17μF 440V
9	M21 W16 350	OUTDOOR FAN CAPACITOR	C3	1	3μF 440V
10	T2W 813 342	OUTDOOR FAN RELAY	X11,X12	2	LY-2F
11	T2W 459 342	CONTACTOR	52C1,52C2	2	
12	M21 B19 515	MOTOR SUPPORT		1	
13	T2W A23 490	SOLENOID COIL	21R	1	
14	T2W E41 489	SOLENOID COIL(B)	21R1	1	
15	T2W E41 488	SOLENOID COIL(C)	21R2	1	
16	T2W A73 301	OUTDOOR FAN MOTOR	MF	1	RA6V50 -□□
17	R01 093 115	PROPELLER FAN		1	
18	M21 179 645	SOLENOID VALVE		2	
19	M21 195 648	SOLENOID VALVE		1	
20	M21 K59 662	STOP VALVE(LIQUID)		1	
21	M21 K59 661	STOP VALVE(GAS)		1	
22	T2W 689 665	STOP VALVE(LIQUID)		1	
23	T2W 689 667	STOP VALVE(GAS)		1	
24	M21 L01 666	UNION(1/4)		2	
25	M21 SJ4 667	UNION(3/8)		2	
26	T92 514 200	COMPRESSOR	MC1,MC2	2	KH-134VLL
27	T2W A74 630	OUTDOOR HEAT EXCHANGER		1	
28	M21 S07 936	CAPILLARY TUBE (φ3.0Xφ1.6X1,400)		3	φ3.0Xφ1.6X1,000 φ3.0Xφ1.6X1,100
29	M21 G46 936	CAPILLARY TUBE (φ3.0Xφ1.6X800)		1	φ3.0Xφ1.6X300
30	M21 B93 936	CAPILLARY TUBE (φ3.0Xφ1.4X1,100)		1	φ3.0Xφ1.4X1,100
31	T2W E03 330	OVERCURRENT RELAY	51C1,51C2	2	G4F11123T
32	T2W E61 377	TERMINAL BLOCK	TB3	1	
33	M21 370 378	TERMINAL BLOCK		2	
34	M21 B00 340	RELAY	X1,X2,52CA	3	
35	T2W E06 290	BASE		1	
36	T2W A79 382	FUSE	F12,F13,F14	3	2A 250V

When servicing , cut the tube to the propper length as shown in the REFRIGERANT SYSTEM DIAGRAM. See page 39.

15-16. REMOTE CONTROLLER

37	E02 408 426	REMOTE CONTROLLER		2	

15-17. OUTDOOR UNIT FUNCTIONAL PARTS AND AND ELECTRICAL PARTS MUX-24RV - E1



15-18. REMOTE CONTROLLER

15-17. OUTDOOR UNIT FUNCTIONAL PARTS AND AND ELECTRICAL PARTS

Part number that is circled is not shown in the illustration.

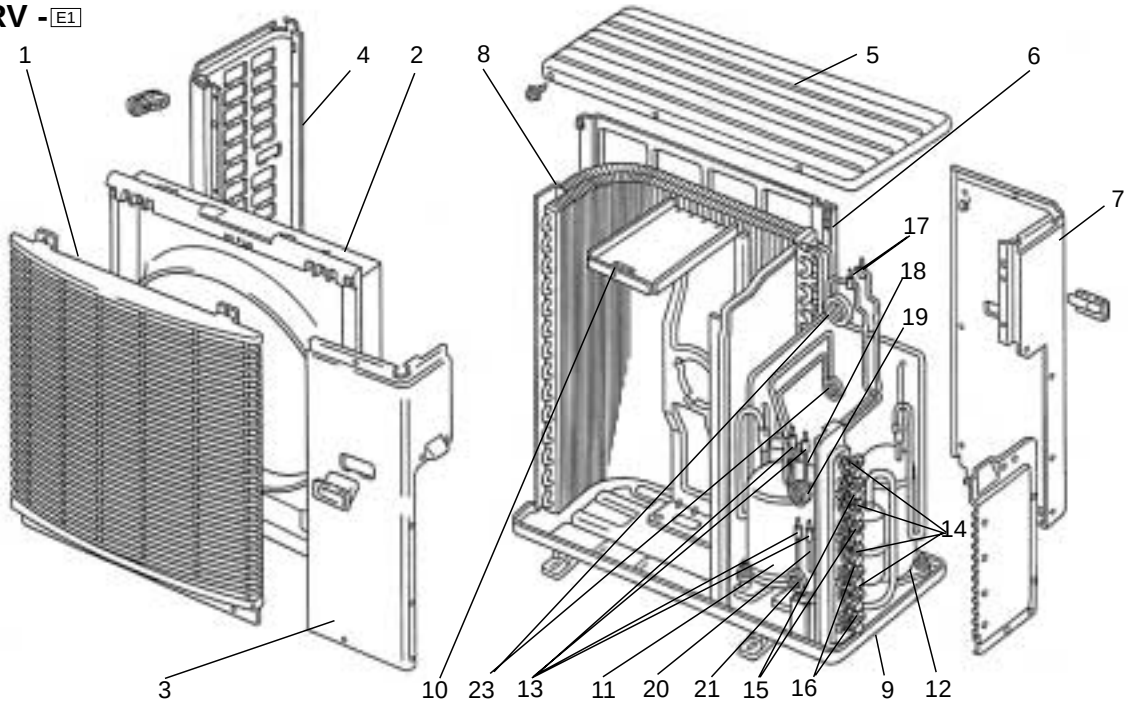
No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty / unit	Remarks
				MUX-24RV- E1	
1	T2W E44 301	FAN MOTOR	MF	1	
2	M21 17A 501	PROPELLER FAN		1	
3	T2W E44 388	SOLENOID COIL	21R1	1	
4	T2W E44 389	SOLENOID COIL	21R2	1	
5	T2W E38 388	SOLENOID COIL	21R3	1	
6	T2W E38 389	SOLENOID COIL	21R4	1	
7	T2W E37 388	SOLENOID COIL	21RA	1	
8	T2W E37 389	SOLENOID COIL	21RB	1	
9	T2W 813 342	FAN MOTOR RELAY	X11,X12	2	LY-2F
10	M21 B00 340	RELAY	X1,X2,X3,X4	4	G4F11123T-MT
11	T2W 459 342	COMPRESSOR RELAY	52C1,52C2 52C3,52C4	4	AC200/240V
12	T2W E06 353	FAN MOTOR CAPACITOR		1	3μF/440V
13	T2W A62 353	COMPRESSOR CAPACITOR	C1	1	30μF/420V
14	T2W E62 375	TERMINAL BLOCK	TB	1	
15	T2W E44 375	TERMINAL BLOCK	TB1,TB2 TB3,TB4	4	
(16)	M21 020 378	TERMINAL BLOCK	TB5,6,7,8,9,10	6	
17	T2W E08 381	FUSE		1	3.15A 250V
18	T2W 779 353	COMPRESSOR CAPACITOR	C2	1	25μF/420V

15-18. REMOTE CONTROLLER

19	E02 408 426	REMOTE CONTROLLER		3	

15-19. OUTDOOR UNIT STRUCTURAL PARTS

MUX-24RV - E1

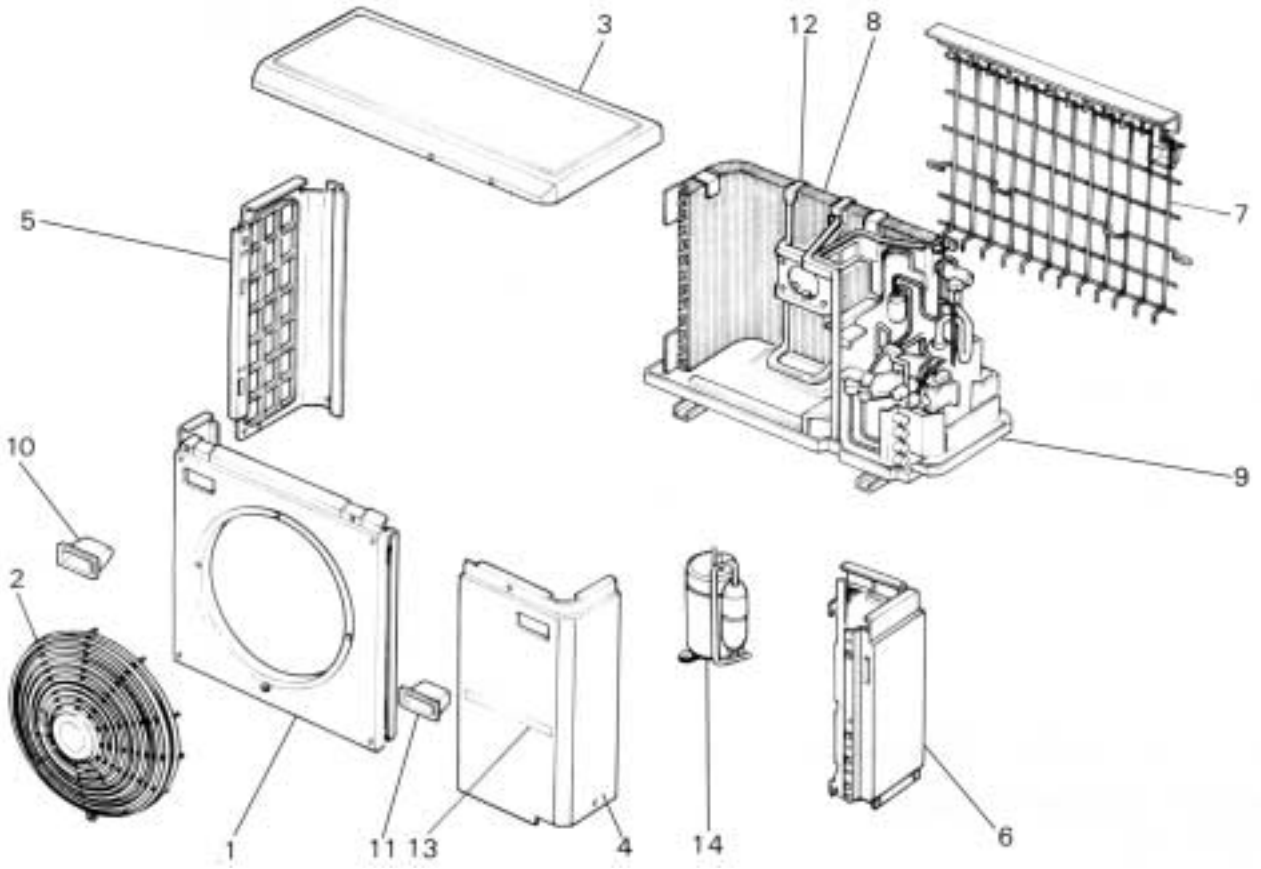


Part number that are circled is not shown in the illustration.

No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty / unit MUX-24RV- E1	Remarks
1	T2W E44 232	FRONT PANEL		1	
2	T2W E44 521	OUTER NOZZLE		1	
3	T2W E44 245	SERVICE PANEL		1	
4	T2W E44 249	SIDE PANEL		1	
5	T2W E44 297	TOP PANEL		1	
6	T2W E44 523	REAR GUARD		1	
7	T2W E44 248	REAR PANEL		1	
8	T2W E44 630	HEAT EXCHANGER		1	
9	T2W E44 290	BASE		1	
10	M21 51E 515	MOTOR SUPPORT		1	
11	T92 702 600	COMPRESSOR(A,B)	MC2	1	RH-174VGH
12	T92 531 600	COMPRESSOR(C,D)	MC1	1	RH-231VHA
13	M21 179 645	SOLENOID VALVE(A,B)		4	
14	M21 21J 662	STOP VALVE(LIQUID)		4	LIQUID
15	M21 00L 661	STOP VALVE		2	
16	M21 00A 661	STOP VALVE		2	
17	T2W E44 648	SOLENOID VALVE		2	
18	T2W E44 641	PIPE A S. V		1	
19	T2W E44 643	S. V HEADER A		1	
20	T2W E44 642	PIPE B S. V		1	
21	T2W E44 644	S. V HEADER B		1	
→ (22)	M21 K47 936	CAPILLARY TUBE (ϕ3.0×ϕ1.6×800)		2	ϕ3.0×ϕ1.6×420 ϕ3.0×ϕ1.6×650
→ 23	M21 AJ2 936	CAPILLARY TUBE (ϕ3.0×ϕ1.6×1100)		2	ϕ3.0×ϕ1.6×1000

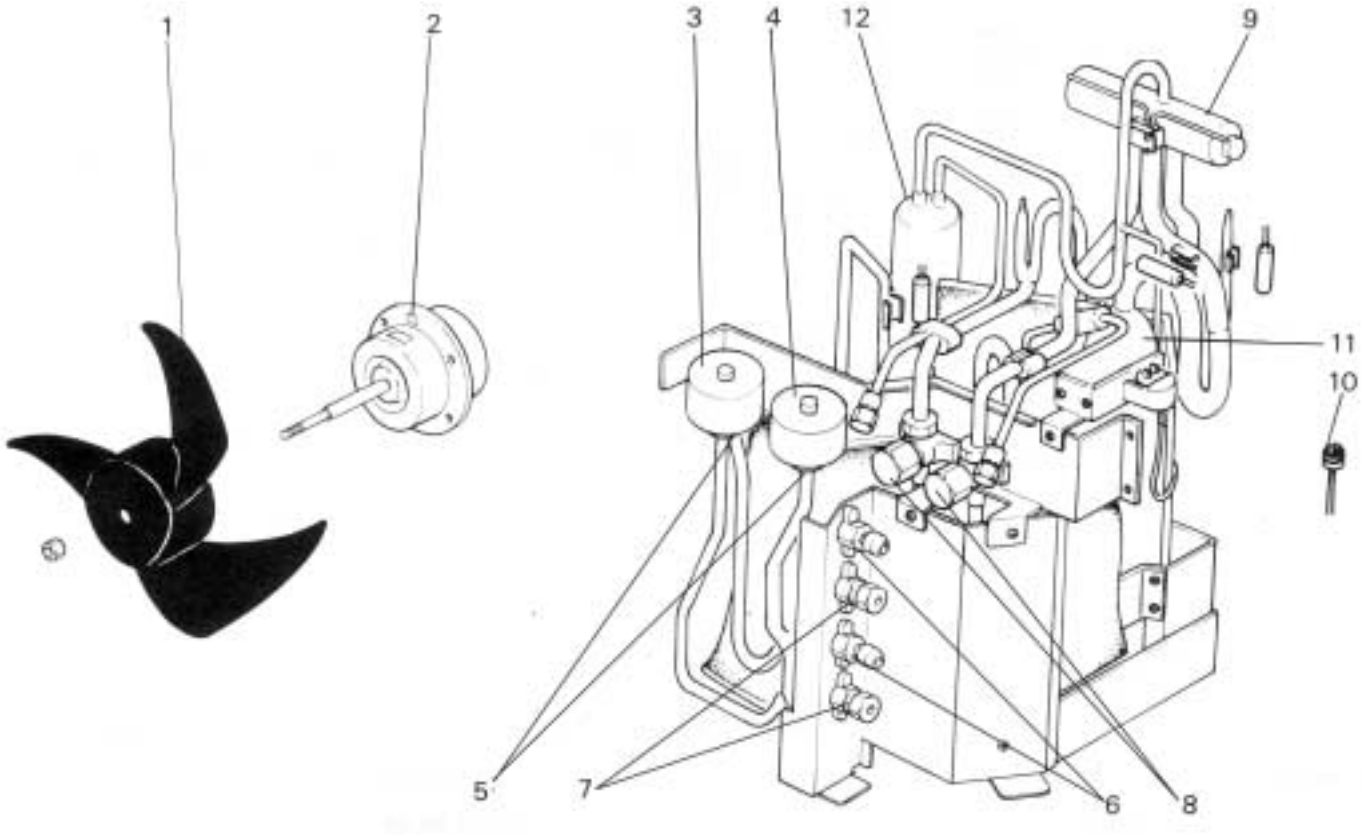
→ When servicing, cut the tube to the propper length as shown in the REFRIGERANT SYSTEM DIAGRAM. See page 41.

15-20. OUTDOOR UNIT STRUCTURAL PARTS
MXZ-18RV - E1



No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty / unit	Remarks
				MXZ-18RV- E1	
1	M21 LL4 232	FRONT PANEL		1	
2	M21 LL4 521	FAN GUARD		1	
3	M21 LL4 297	TOP PANEL		1	
4	M21 LL4 245	SERVICE PANEL		1	
5	R01 A00 662	SIDE PANEL		1	
6	M21 LL4 248	REAR PANEL		1	
7	M21 LL4 523	REAR GUARD		1	
8	M21 SJ4 630	OUTDOOR HEAT EXCHANGER		1	
9	M21 SJ4 290	BASE ASSEMBLY		1	
10	T2W A70 009	HANDLE		2	
11	T2W A69 009	HANDLE		1	
12	T2W A70 515	MOTOR SUPPORT		1	
13	T2W A70 212	LABEL		1	
14	T92 669 452	COMPRESSOR	MC	1	RHV - 207FEM

15-21. OUTDOOR UNIT FUNCTURAL PARTS MXZ-18RV - E1



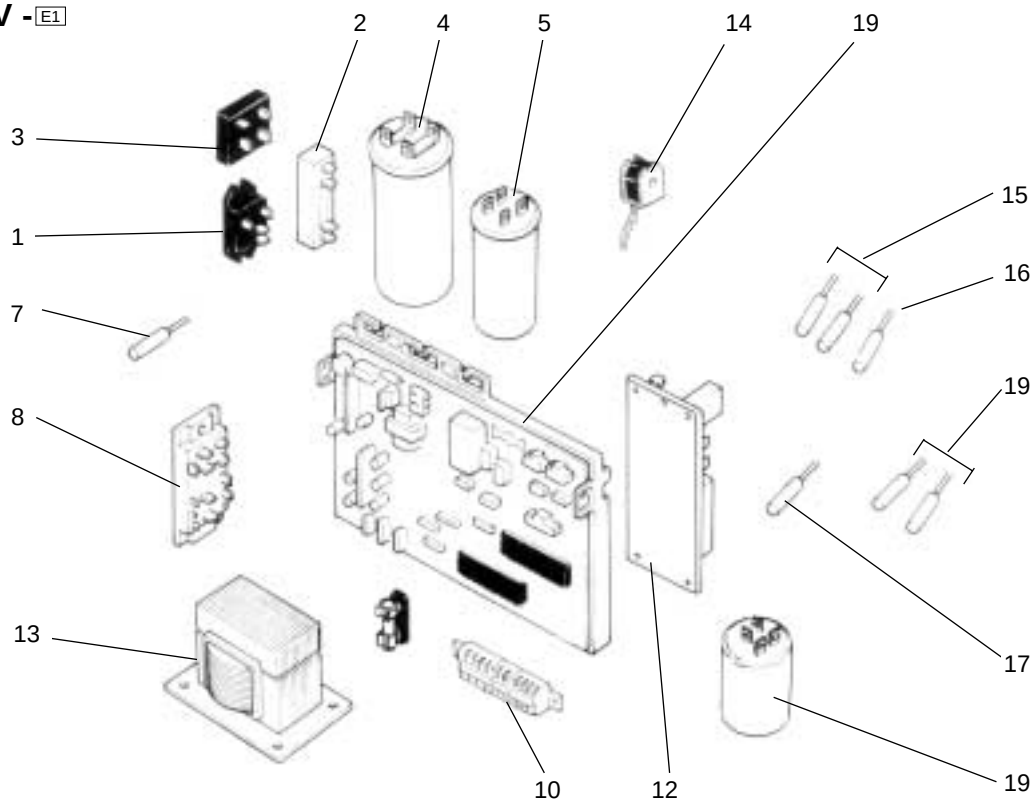
Part number that are circed are not shown in the illustration.

No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty / unit MXZ-18RV- E1	Remarks
1	M21 LL4 501	PROPELLER FAN		1	
2	T2W E41 301	OUTDOOR FAN MOTOR	MF	1	RA6V50-□□
3	M21 LL4 488	EXPANSION VALVE (COIL)	LEV. A	1	
4	M21 LL4 487	EXPANSION VALVE (COIL)	LEV. B	1	
5	M21 LL4 646	EXPANSION VALVE		2	
6	M21 SJ4 667	UNION (3/8F)		2	
7	M21 SJ4 666	UNION (1/4F)		2	
8	T2W A64 668	BALL VALVE (3/8)		2	
9	T7W 250 403	REVERSING VALVE		1	
10	T2W E41 646	HIGH PRESSURE SWITCH	HPS	1	
11	M21 LL4 939	ACCUMULATOR		1	
12	M21 LL4 938	MUFFLER		1	
⑬	M21 986 936	CAPILLARY TUBE (ϕ4.0×ϕ2.4×2000)		1	ϕ4.0×ϕ2.4×300 ϕ4.0×ϕ2.4×400
⑭	M21 L11 936	CAPILLARY TUBE (ϕ2.0×ϕ0.6×1000)		1	ϕ2.0×ϕ0.6×500

When servicing, cut the tube to the propper length as shown in the REFRIGERANT SYSTEM DIAGRAM. See page 43.

15-22. OUTDOOR UNIT ELECTRICAL PARTS

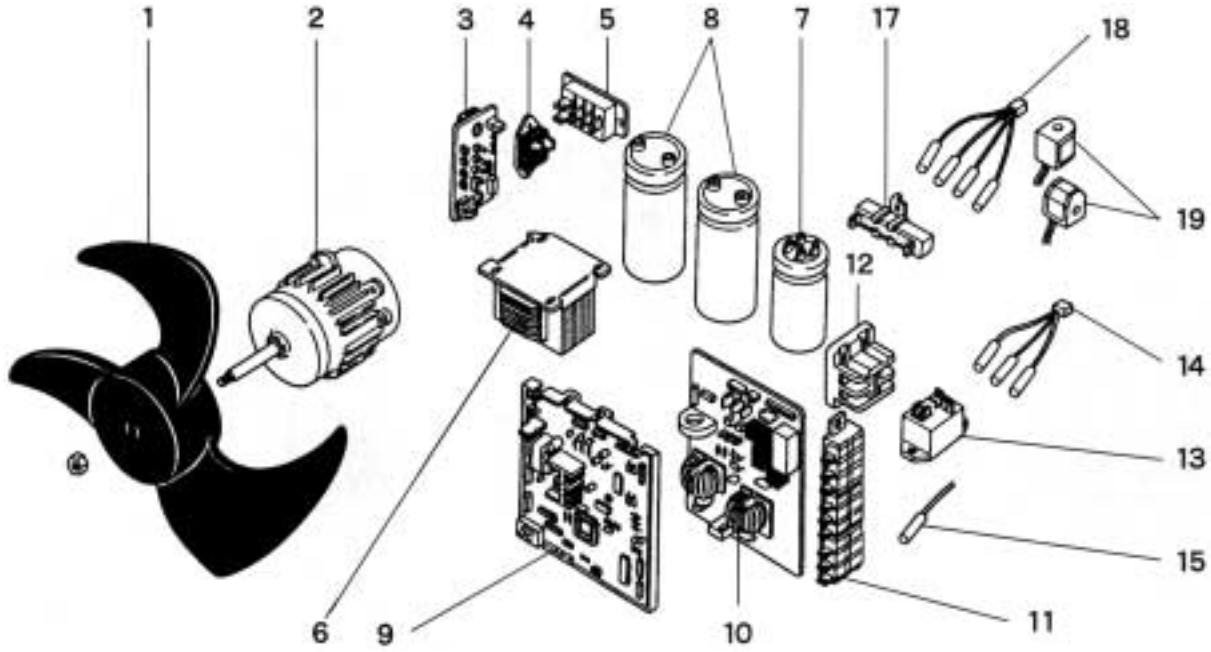
MXZ-18RV - E1



Part number that are circed are not shown in the illustration.

No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty / unit	Remarks
				MXZ-18RV- E1	
1	M21 A19 447	DIODE MODULE	DS63	1	
2	M21 U48 362	CURRENT DETECTING RESISTOR	R65	1	
3	T2W E22 341	DIODE STACK	DS61	1	
4	T2W A70 356	SMOOTHING CAPACITOR	C67	1	100μF 400V
5	T2W A70 357	POWER FACTOR CAPACITOR	C61	1	1800μF 400V
6	M21 LL4 424	NOISE FILTER	NF61	1	
7	T2W E41 309	FIN TEMPERATURE THERMISTOR	RT63	1	
8	M21 V47 443	POWER TRANSISTOR MODULE	TR	1	
⑨	T2W E58 375	TERMINAL BLOCK	TB	1	
10	T2W E58 376	TERMINAL BLOCK	TB	2	
11	T2W E58 451	ELECTRONIC CONTROL P.C. BOARD		1	
12	T2W E41 441	RELAY P.C. BOARD		1	
13	T2W A70 337	REACTOR	L	1	
14	T2W E41 398	R.V. COIL	21S4	1	
15	T2W E41 307	SUCTION TEMPERATURE THERMISTOR	RT66	1	
16	T2W E41 308	DEFROST TEMPERATURE THERMISTOR	RT61	1	SUCTION EVAPORATION
17	T2W E55 309	DISCHARGE TEMPERATURE THERMISTOR	RT62	1	
⑱	T2W E22 425	NOISE FILTER	NF62	1	
19	T2W E41 306	GAS PIPE TEMPERATURE THERMISTOR	RT64,65	1	

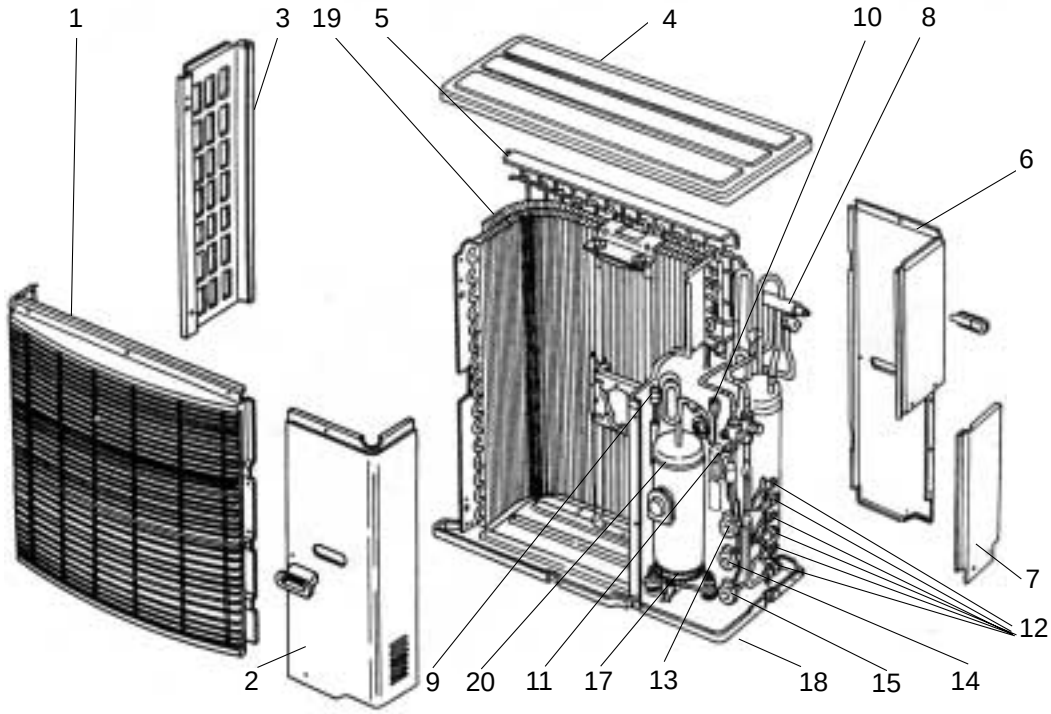
15-23. OUTDOOR UNIT STRUCTURAL PARTS
MXZ-32RV -E1



Part number that is circled are not shown in the illustration.

No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty / unit	Remarks
				MXZ-32RV-E1	
1	M21 17A 501	PROPELLER FAN		1	
2	T2W E40 301	OUTDOOR FAN MOTOR	MF61	1	
3	T2W E40 452	IPM P.C. BOARD		1	
4	M21 17A 447	DIODE STACK	DS62	1	
5	M21 17A 443	DIODE MODULE	DS61	1	
6	M21 17E 337	REACTOR	L	1	
7	T2W E40 357	POWER FACTOR CAPACITOR	C61	1	200μF 400V
8	T2W E40 356	SMOOTHING CAPACITOR	C62,C63	2	200μF 400V
9	T2W E59 451	CONTROL P.C. BOARD		1	
10	T2W E40 424	NOISE FILTER BOARD		1	
11	T2W E58 375	TERMINAL BLOCK	TB3	4	
12	T2W E58 376	TERMINAL BLOCK	TB2	1	
13	M21 42A 340	RELAY	X64	1	
14	M21 42E 307	GAS PIPE TEMPERATUR THERMISTOR	RT66,67,68,69	1	A,B,C,D
15	M21 42A 308	FIN TEMPERATURE THERMISTOR	RT63	1	
⑯	T2W E40 646	H.P. SWITCH	63H2	1	3.43MPa(35kg/cm^2)
17	M21 17A 362	RESISTOR	R	1	
18	M21 41V 308	THERMISTOR	RT61,62,64,65	1	SUCTION ,EVAPORATION DISCHARGE,DEFROST
19	T2W E40 389	SOLENOID COIL	21S4,21S2	1	SOLENOID,R.V./SET
⑳	T2W E40 441	RELAY P.C. BOARD		1	

15-24. OUTDOOR UNIT FUNCTIONAL PARTS
MXZ-32RV - E1



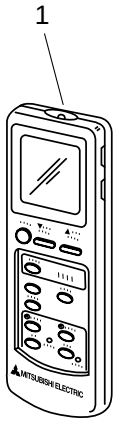
Part number that is circled are not shown in the illustration.

No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty / unit MXZ-32RV- E1	Remarks
1	M21 17A 232	FRONT PANLE		1	
2	M21 17A 245	SERVICE PANEL		1	
3	M21 17A 249	SIDE PANEL		1	
4	M21 17A 297	TOP PANEL		1	
5	T2W E40 523	REAR GUARD		1	
6	T2W E40 248	REAR PANEL		1	
7	T2W E40 247	C. COVER		1	
8	T7W 250 403	REVERSING VALVE		1	
9	M21 17A 647	L.P. SWICH	63L	1	
10	M21 B20 646	H.P. SWICH	63H1	1	
11	M21 17A 640	2 WAY VALVE		1	
12	M21 42E 644	UNION		1	1/2,3/8,1/4 SET
13	M21 41V 651	EXPANSION VALVE		1	A room
14	M21 41V 652	EXPANSION VALVE		1	B room
15	M21 42A 653	EXPANSION VALVE		1	C room
(16)	M21 42E 651	EXPANSION VALVE		1	D room
17	T2W E40 438	CRANKCASE HEATER		1	
18	M21 17A 290	BASE ASSEMBLY		1	
19	M21 42E 630	HEAT EXCHANGER		1	
20	T92 500 700	COMPRESSOR	MC	1	CHV-253FAA
(21)	T2W E59 936	CAPILLARY TUBE(ϕ2.5×ϕ0.6×1000)		1	ϕ2.5×ϕ0.6×750
(22)	M23 K89 936	CAPILLARY TUBE(ϕ3.0×ϕ2.0×900)		2	ϕ3.0×ϕ2.0×500
(23)	M21 L11 936	CAPILLARY TUBE(ϕ2.0×ϕ0.6×1000)		1	ϕ2.0×ϕ0.6×1000

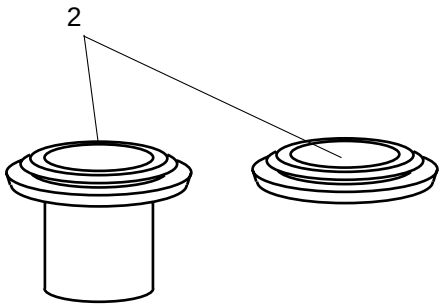
When servicing , cut the tube to the propper length as shown in the REFRIGERANT SYSTEM DIAGRAM.
See page 43.

MXZ-18RV -E1
MXZ-32RV -E1

15-25. REMOTE CONTROLLER



15-26. ACCESSORY PARTS



15-25. REMOTE CONTROLLER

No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty / unit		Remarks
				MXZ-18RV	MXZ-32RV	
				E1	E1	
1	M21 LL4 501	REMOTE CONTROLLER		2	4	

15-26. ACCESSORY PARTS

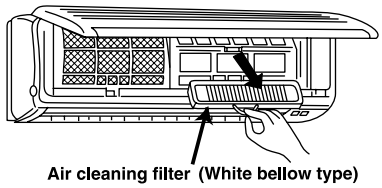
2	T2W E59 704	DRAIN SOCKET ASSEMBLY		1	1	DRAIN SOCKET ×1 DRAIN CAP ×2

16 OPTIONAL PARTS

16-1. AIR CLEANING FILTER

- AIR CLEANING FILTER removes fine dust of 0.01 micron from air by means of static electricity.
- Normal life of AIR CLEANING FILTER is 3 months. However, when it becomes dirty, replace it as soon as possible.
- Clogged AIR CLEANING FILTER may reduce the air conditioner capacity or cause frost on the air outlet.
- DO NOT reuse AIR CLEANING FILTER even if it is washed.
- DO NOT remove or attach AIR CLEANING FILTER during unit operation.

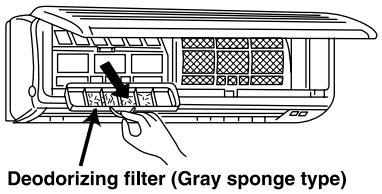
Model	Part No.
MSC-07RV- E1 MSC-09RV- E1 MSC-12RV- E1	MAC-1300FT



16-2. DEODORIZING FILTER

- DEODORIZING FILTER removes ammonia and hydrogen sulphide emitted from tobacco, and odors of pets.
- Clean DEODORIZING FILTER every two weeks. If the filter is particularly dirty, clean the filter more often.
- For cleaning, soak the filter in warm water for a while, and then wash and rinse it. Dry the filter in the shade thoroughly.
- When the filter color is still dark even after cleaning, replace the filter with a new one. Replace the filter at least once a year.

Model	Part No.
MSC-07RV- E1 MSC-09RV- E1 MSC-12RV- E1	MAC-1800DF

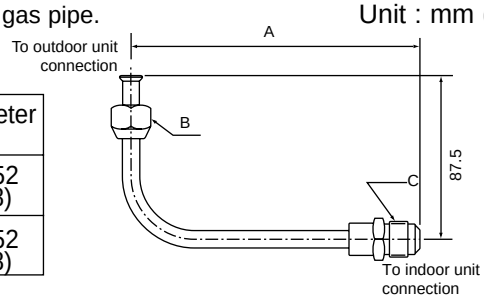


- DEODORIZING FILTER and AIR CLEANING FILTER can be attached on either side.

16-3. Different-diameter pipe

Connects outdoor unit union and gas pipe.

Unit : mm (inch)

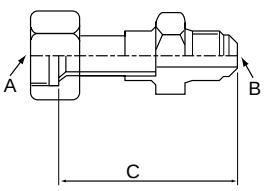


MXZ-18RV	Model name	Connected pipes diameter	Length A	Diameter B	Diameter C
For same diameter pipes	MAC-451JP	ϕ9.52 (3/8) - ϕ12.7 (1/2)	155.5	ϕ12.7 (1/2)	ϕ9.52 (3/8)
	MAC-460JP	ϕ9.52 (3/8) - ϕ9.52 (3/8)	155.5	ϕ9.52 (3/8)	ϕ9.52 (3/8)

NOTES: ✻1 As liquid pipe diameter is the same for indoor unit and outdoor unit, L-joint is not required.
✻2 Using MAC-460JP substitutes for pipe bending and makes piping nice-looking.
✻3 Connect it directly to indoor unit gas pipe.

Unit : mm (inch)

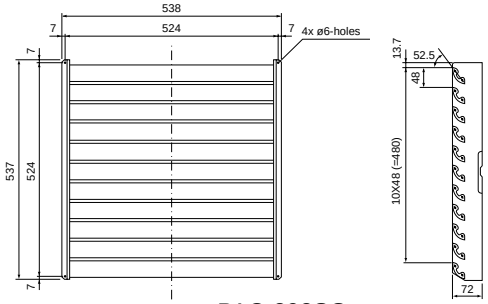
MXZ-32RV	Model name	Model code	Connected pipes diameter (mm)	Length A	Length B	Length C
For different-diameter pipes	MAC-454JP	51H-454	ϕ9.52 (3/8) — ϕ12.7 (1/2)	ϕ9.52 (3/8)	ϕ12.7 (1/2)	69
	MAC-455JP	51H-455	ϕ12.7 (1/2) — ϕ9.52 (3/8)	ϕ12.7 (1/2)	ϕ9.52 (3/8)	65
	MAC-456JP	516456	ϕ12.7 (1/2) — ϕ15.88 (5/8)	ϕ12.7 (1/2)	ϕ15.88 (5/8)	66.5



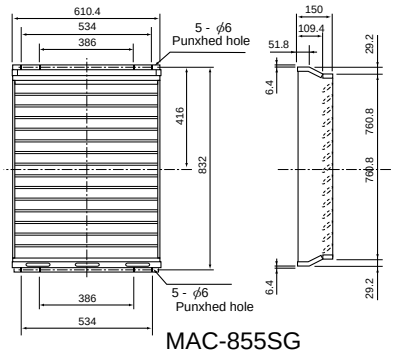
16-4. Outlet guide

Changes air discharge direction.

Applied unit	Model name	Model code
MXZ-18RV	PAC-292SG	—
MXZ-32RV	MAC-855SG	51H-855



PAC-292SG



MAC-855SG

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