

Revision D:

• MU-GA20VB-**E3** and MU-GA35VB-**E3** have been added.

Please void OB386 REVISED EDITION-C.

OUTDOOR UNIT SERVICE MANUAL



No. OB386
REVISED EDITION-D

Models

MU-GA20VB-**E1**

MU-GA20VB-**E2**

MU-GA20VB-**E3**

MU-GA25VB-**E1**

MU-GA25VB-**E2**

MU-GA35VB-**E1**

MU-GA35VB-**E2**

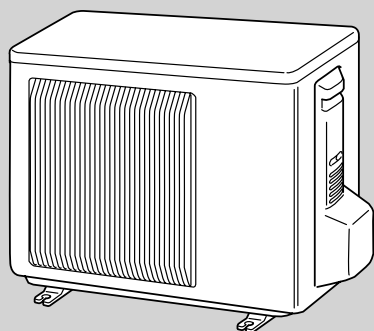
MU-GA35VB-**E3**

Indoor unit service manual

MSC-GA-VB Series (OB385)

MSC-CA-VB Series (OB393)

MSC-GE-VB Series (OBH529)



MU-GA20VB
MU-GA25VB
MU-GA35VB

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NOTE:

- This service manual describes technical data of outdoor units.
 - RoHS compliant products have <G> mark on the spec name plate.
- For servicing of RoHS compliant products, refer to the RoHS Parts List.



Revision A:

- 11-1. PARTS LIST has been modified. (The parts No. of BACK PANEL has been changed.)

Revision B:

- MU-GA20VB-^[E2] and MU-GA25VB-^[E2] have been added.

Revision C:

- MU-GA35VB-^[E2] has been added.

Revision D:

- MU-GA20VB-^[E3] and MU-GA35VB-^[E3] have been added.

1

TECHNICAL CHANGES

MU-A07YV-^[E1] → MU-GA20VB-^[E1]

1. Indication of capacity has been changed. (BTU base → kW base)
2. Unit size has been changed. (W780mm x H540mm x D255mm → W800mm x H550mm x D285mm)
3. Outdoor fan motor has been changed. (RC6V20-AC → RA6V21-AC)
4. Stop valve cover has been added.
5. Outdoor fan capacitor has been changed.
6. Compressor capacitor has been changed.

MU-A09YV-^[E1] → MU-GA25VB-^[E1]

1. Indication of capacity has been changed. (BTU base → kW base)
2. Unit size has been changed. (W780mm x H540mm x D255mm → W800mm x H550mm x D285mm)
3. Outdoor fan motor has been changed. (RC6V20-AC → RA6V21-AC)
4. Stop valve cover has been added.
5. Outdoor fan capacitor has been changed.
6. Compressor capacitor has been changed.
7. Compressor has been changed. (RN099VHSHT → RN092VHSHT)

MU-A12YV-^[E1] → MU-GA35VB-^[E1]

1. Indication of capacity has been changed. (BTU base → kW base)
2. Unit size has been changed. (W780mm x H540mm x D255mm → W800mm x H550mm x D285mm)
3. Outdoor fan motor has been changed. (RC6V33-AC → RA6V33-KA)
4. Stop valve cover has been added.
5. Outdoor fan capacitor has been changed.
6. Compressor capacitor has been changed.
7. Compressor has been changed. (RN135VHSHT → 5PS132DAH01)
8. Stop valve (Gas) has been changed from $\phi 12.7$ to $\phi 9.52$.
9. Fuse for compressor protection has been added.

MU-GA20VB-^[E1] → MU-GA20VB-^[E2]

MU-GA25VB-^[E1] → MU-GA25VB-^[E2]

1. Compressor has been changed. (RN092VHST → KN092VDMHC)
2. Compressor capacitor has been changed.
3. Capillary tube has been changed. ($\phi 3.0 \times \phi 1.4 \times 700$ → $\phi 3.0 \times \phi 1.4 \times 900$)

MU-GA35VB-^[E1] → MU-GA35VB-^[E2]

1. Outdoor heat exchanger has been changed. (1 row → 2 row)
2. Refrigerant filling capacity has been changed. (0.70 kg → 0.90 kg)
3. Outdoor unit weight has been changed. (30 kg → 34 kg)

MU-GA20VB-^[E2] → MU-GA20VB-^[E3]

1. Compressor has been changed. (KN092VDMHC → KN083VDMHC)
2. Refrigerant filling capacity has been changed. (0.60 kg → 0.65 kg)

MU-GA35VB-^[E2] → MU-GA35VB-^[E3]

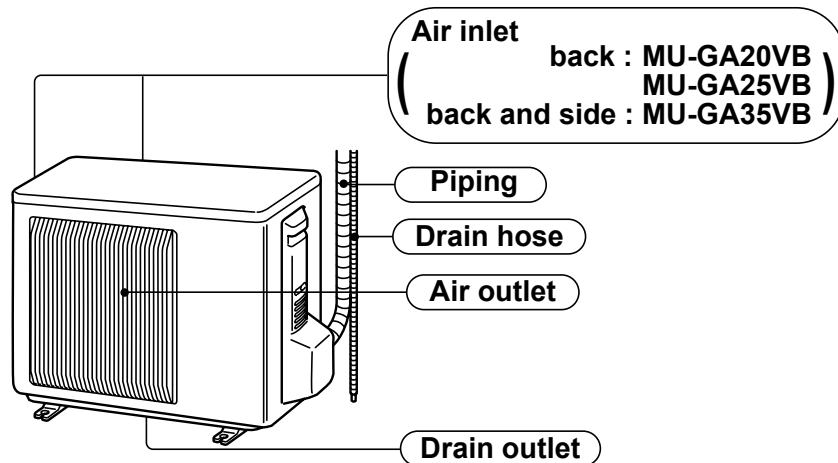
1. Refrigerant filling capacity has been changed. (0.90 kg → 1.05 kg)
2. Fin shape of outdoor heat exchanger has been changed.

2

PART NAMES AND FUNCTIONS

OUTDOOR UNIT

MU-GA20VB
MU-GA25VB
MU-GA35VB



3

SPECIFICATION

Outdoor model			MU-GA20VB - E1	MU-GA20VB - E2	MU-GA20VB - E3	
Outdoor unit power supply			Single phase 230 V,50 Hz	Single phase 230 V,50 Hz	Single phase 230 V,50 Hz	
Capacity	Capacity	kW	2.3	2.3	2.3	
	Dehumidification	ℓ/h	0.9	0.9	0.9	
	Outdoor air flow	m ³ /h	1,800	1,800	1,800	
Electrical data	Breaker capacity	A	10	10	10	
	Running current	A	3.17	3.17	3.17	
	Power input	W	715	715	715	
	Auxiliary heater	A(kW)	–	–	–	
	Power factor	%	98	98	98	
	Starting current	A	21.0	15.5	21.0	
	Compressor motor current	A	2.76	2.76	2.76	
	Fan motor current	A	0.245	0.245	0.25	
Coefficient of performance (C.O.P)			3.22	3.22	3.22	
Compressor	Model		RN092VHSHT	KN092VDMHC	KN083VDMHC	
	Output	W	600	650	500	
	Winding resistance (at 20 °C)	Ω	C-R 3.87 C-S 6.14	C-R 3.62 C-S 5.40	C-R 4.52 C-S 7.07	
Fan motor	Model		RA6V21-AC	RA6V21-AC	RA6V21-AC	
	Winding resistance (at 20 °C)	Ω	WHT-BLK 366 BLK-RED 274	WHT-BLK 366 BLK-RED 274	WHT-BLK 366 BLK-RED 274	
Dimensions W x H x D			mm	800 x 550 x 285	800 x 550 x 285	
Weight			kg	31	27	
Special remarks	Sound level	dB	45	45	45	
	Fan speed	rpm	745	745	745	
	Fan speed regulator			1	1	1
	Refrigerant filling capacity (R410A)	kg	0.60	0.60	0.65	
	Refrigeration oil (Model)	cc	350 (NEO22)	350 (NEO22)	350 (NEO22)	

NOTE : Test conditions are based on ISO 5151.

Cooling : Indoor Dry-bulb temperature 27 °C Wet-bulb temperature 19 °C

Outdoor Dry-bulb temperature 35 °C Wet-bulb temperature 24 °C

Indoor outdoor piping length : 5 m



Outdoor model			MU-GA25VB - E1	MU-GA25VB - E2	MU-GA35VB - E1	MU-GA35VB - E2	MU-GA35VB - E3
Outdoor unit power supply			Single phase 230 V, 50 Hz	Single phase 230 V, 50 Hz	Single phase 230 V, 50 Hz	Single phase 230 V, 50 Hz	Single phase 230 V, 50 Hz
Capacity	Capacity	kW	2.5	2.5	3.45	3.45	3.45
	Dehumidification	ℓ/h	1.1	1.1	1.7	1.7	1.7
	Outdoor air flow	m ³ /h	1,800	1,800	1,902	1,902	1,902
Electrical data	Breaker capacity	A	10	10	10	10	10
	Running current	A	3.40	3.40	5.02	5.02	5.02
	Power input	W	775	775	1,120	1,120	1,120
	Auxiliary heater	A(kW)	–	–	–	–	–
	Power factor	%	99	99	97	97	97
	Starting current	A	21	15.5	21	21	26
	Compressor motor current	A	2.99	2.99	4.50	4.50	4.50
	Fan motor current	A	0.245	0.245	0.33	0.33	0.33
Coefficient of performance (C.O.P)			3.23	3.23	3.08	3.08	3.08
Compressor	Model		RN092VHSHT	KN092VDMHC	5PS132DAH01	5PS132DAH01	5PS132DAH01
	Output	W	600	650	900	900	900
	Winding resistance (at 20 °C)	Ω	C-R 3.87 C-S 6.14	C-R 3.62 C-S 5.40	C-R 2.80 C-S 5.43	C-R 2.80 C-S 5.43	C-R 2.80 C-S 5.43
Fan motor	Model		RA6V21-AC	RA6V21-AC	RA6V33-KA	RA6V33-KA	RA6V33-KA
	Winding resistance (at 20 °C)	Ω	WHT-BLK 366 BLK-RED 274	WHT-BLK 366 BLK-RED 274	WHT-BLK 215 BLK-RED 307	WHT-BLK 215 BLK-RED 307	WHT-BLK 215 BLK-RED 307
Dimensions W x H x D		mm	800 x 550 x 285	800 x 550 x 285	800 x 550 x 285	800 x 550 x 285	800 x 550 x 285
Weight		kg	31	27	30	34	34
Special remarks	Sound level	dB	45	45	49	49	49
	Fan speed	rpm	745	745	855	855	855
	Fan speed regulator			1	1	1	1
	Refrigerant filling capacity (R410A)	kg	0.60	0.60	0.70	0.90	1.05
	Refrigeration oil (Model)	cc	350 (NEO22)	350 (NEO22)	350 (RB68A)	350 (RB68A)	350 (RB68A)

NOTE : Test conditions are based on ISO 5151.

Cooling : Indoor Dry-bulb temperature 27 °C Wet-bulb temperature 19 °C

Outdoor Dry-bulb temperature 35 °C Wet-bulb temperature 24 °C

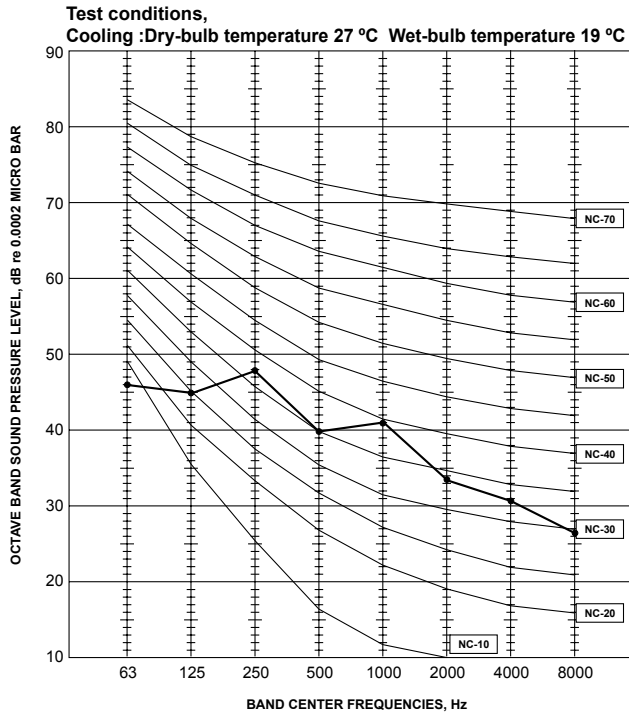
Indoor outdoor piping length : 5 m

4

NOISE CRITERIA CURVES

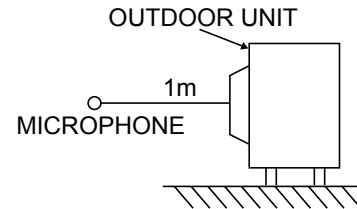
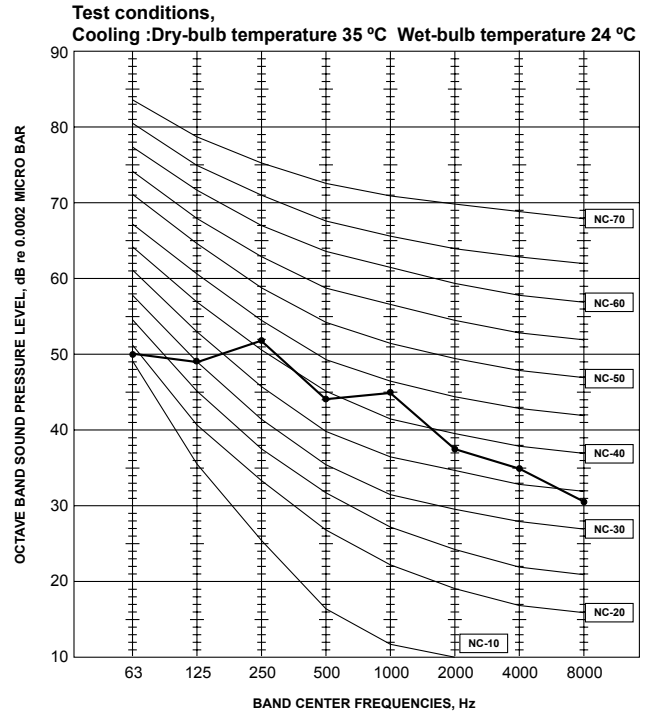
MU-GA20VB MU-GA25VB

FUNCTION	SPL(dB(A))	LINE
COOL	45	



MU-GA35VB

FUNCTION	SPL(dB(A))	LINE
COOL	49	



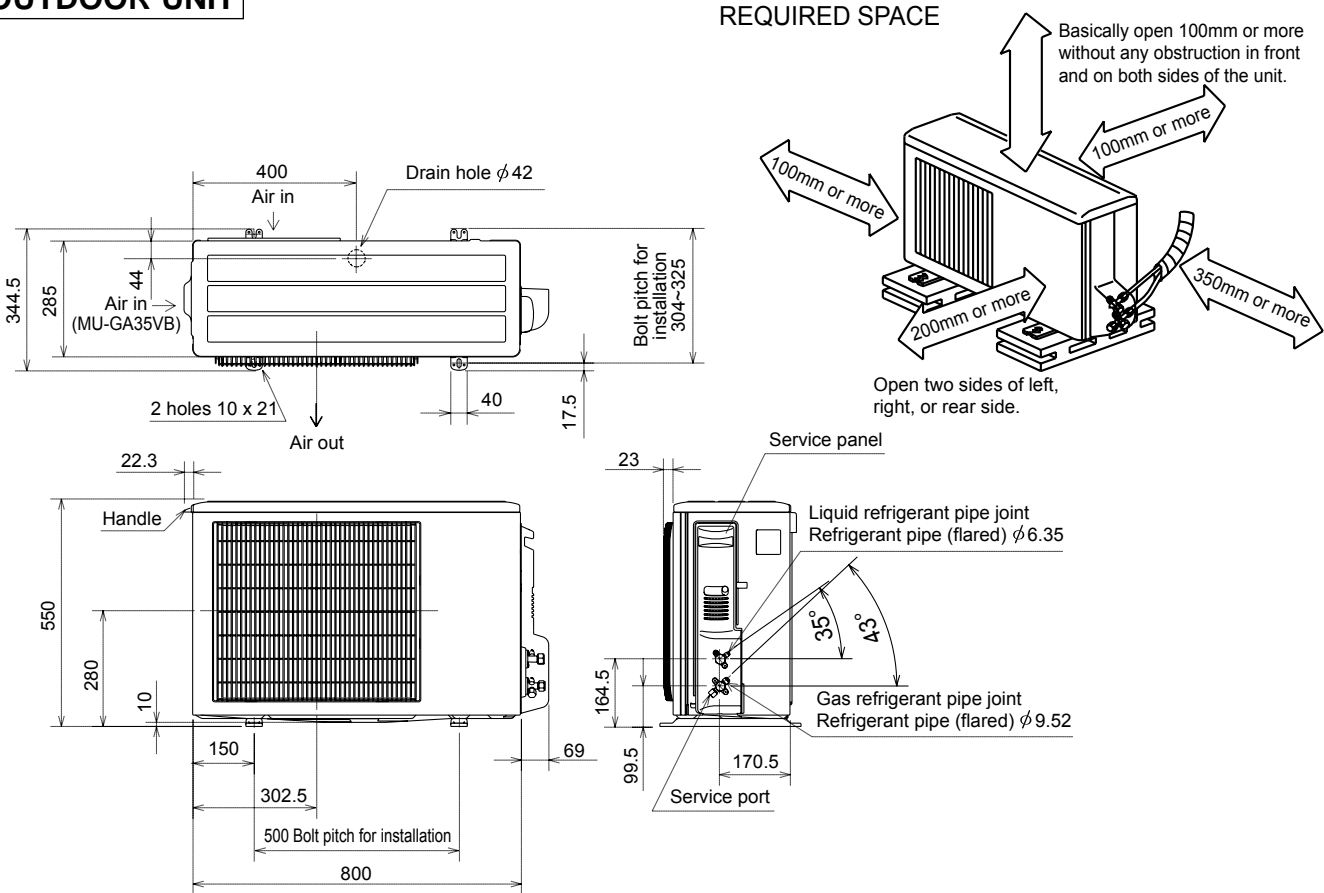
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OUTLINES AND DIMENSIONS

MU-GA20VB MU-GA25VB MU-GA35VB

Unit: mm

OUTDOOR UNIT

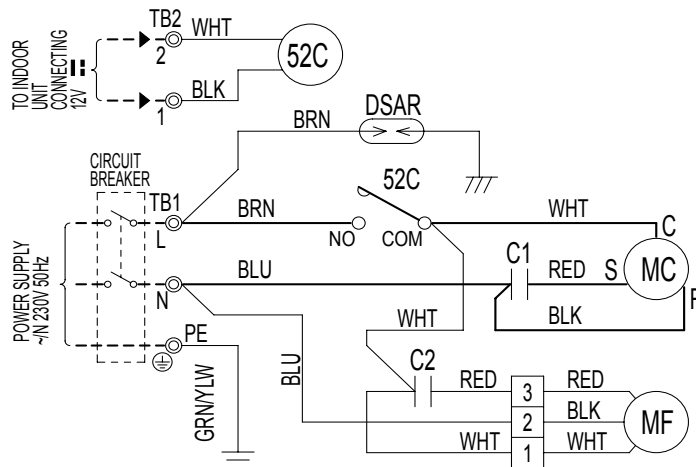


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WIRING DIAGRAM

MU-GA20VB-**E1**, **E2** MU-GA25VB

OUTDOOR UNIT



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

NOTE:1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.

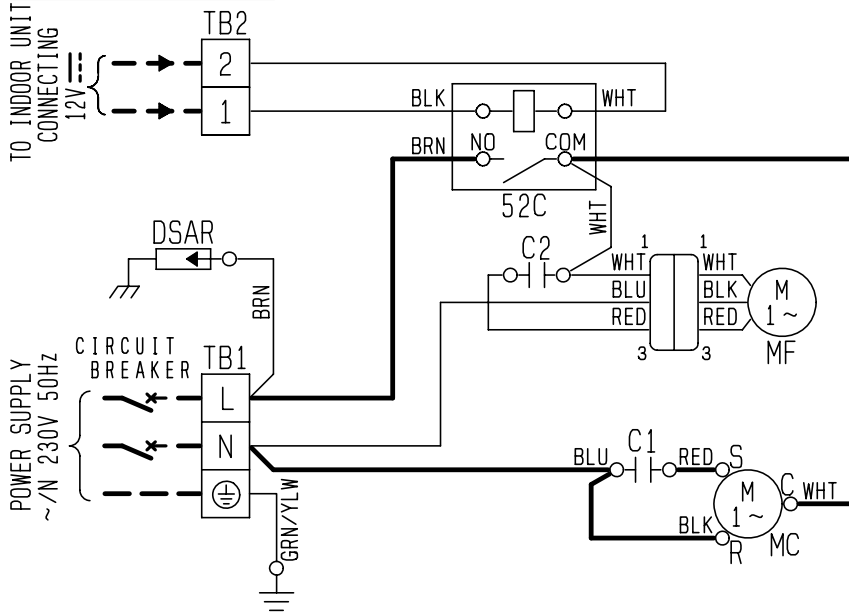
2. Use copper conductors only. (For field wiring)

3. Symbols below indicate.

⊙: Terminal block, □□□□: Connector

MU-GA20VB-E3

OUTDOOR UNIT



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

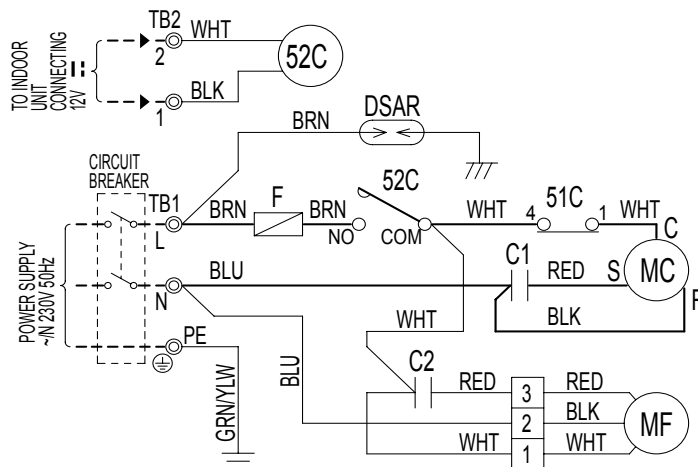
NOTES:

1. Use copper conductors only (For field wiring).
2. Since the indoor and outdoor unit connecting wires have polarity, connect them according to the numbers. (2, 1)
3. Symbols below indicate.

 :Terminal block
 :Connector

MU-GA35VB-E1, E2

OUTDOOR UNIT



SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C1	COMPRESSOR CAPACITOR	MC	COMPRESSOR	51C	OVERLOAD RELAY
C2	OUTDOOR FAN CAPACITOR	MF	OUTDOOR FAN MOTOR (INNER FUSE)	52C	COMPRESSOR CONTACTOR
DSAR	SURGE ABSORBER	TB1	TERMINAL BLOCK		
F	FUSE (T20AL250V)	TB2	TERMINAL BLOCK		

NOTE: 1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.

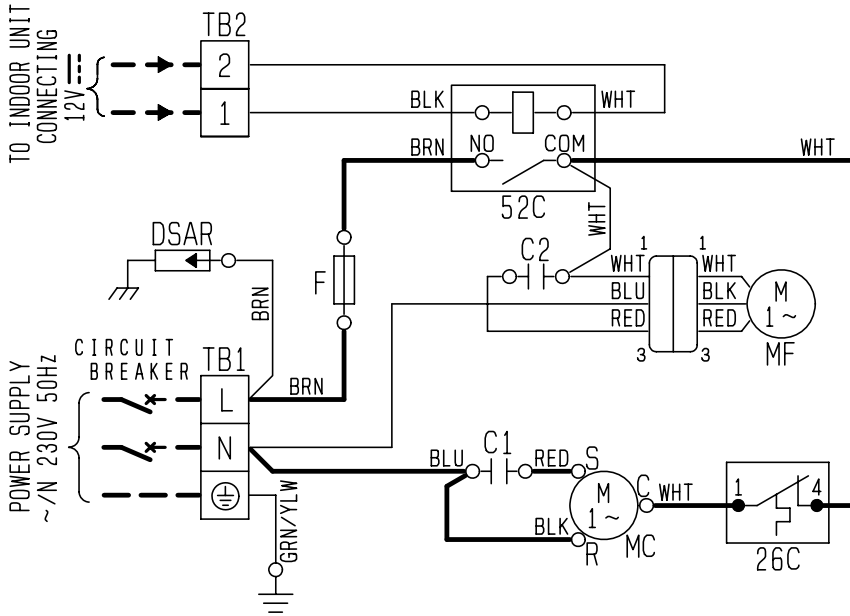
2. Use copper conductors only. (For field wiring)

3. Symbols below indicate.

⊙: Terminal block, □□□□: Connector



MU-GA35VB-^{E3}

OUTDOOR UNIT



SYMBOL	NAME
C1	COMPRESSOR CAPACITOR
C2	FAN MOTOR CAPACITOR
DSAR	SURGE ABSORBER
F	FUSE (T20AL250V)
MC	COMPRESSOR
MF	FAN MOTOR (INNER FUSE)
TB1	TERMINAL BLOCK
TB2	TERMINAL BLOCK
26C	COMPRESSOR THERMAL PROTECTOR
52C	COMPRESSOR CONTACTOR

NOTES:

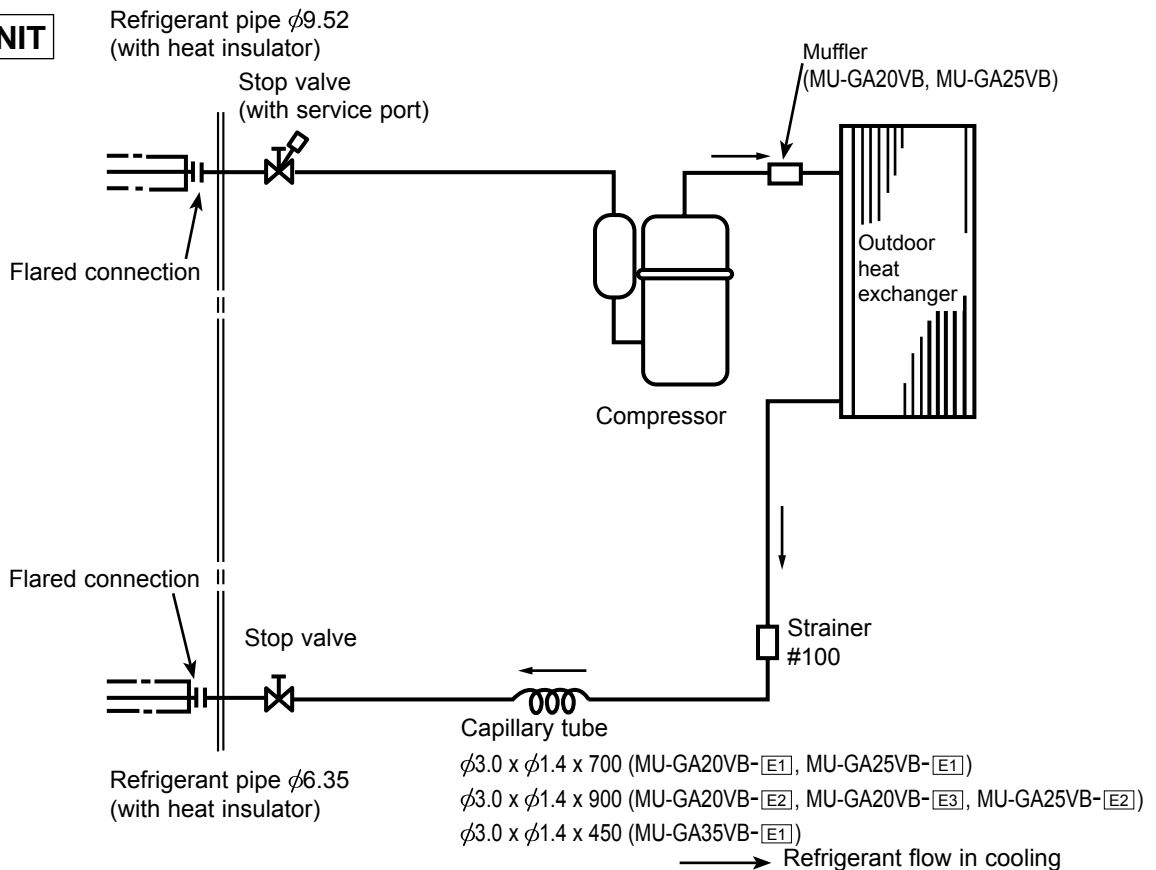
1. Use copper conductors only (For field wiring).
2. Since the indoor and outdoor unit connecting wires have polarity, connect them according to the numbers. (2, 1)
3. Symbols below indicate.
 : Terminal block
 : Connector

7 REFRIGERANT SYSTEM DIAGRAM

MU-GA20VB MU-GA25VB MU-GA35VB-^{E1}

Unit: mm

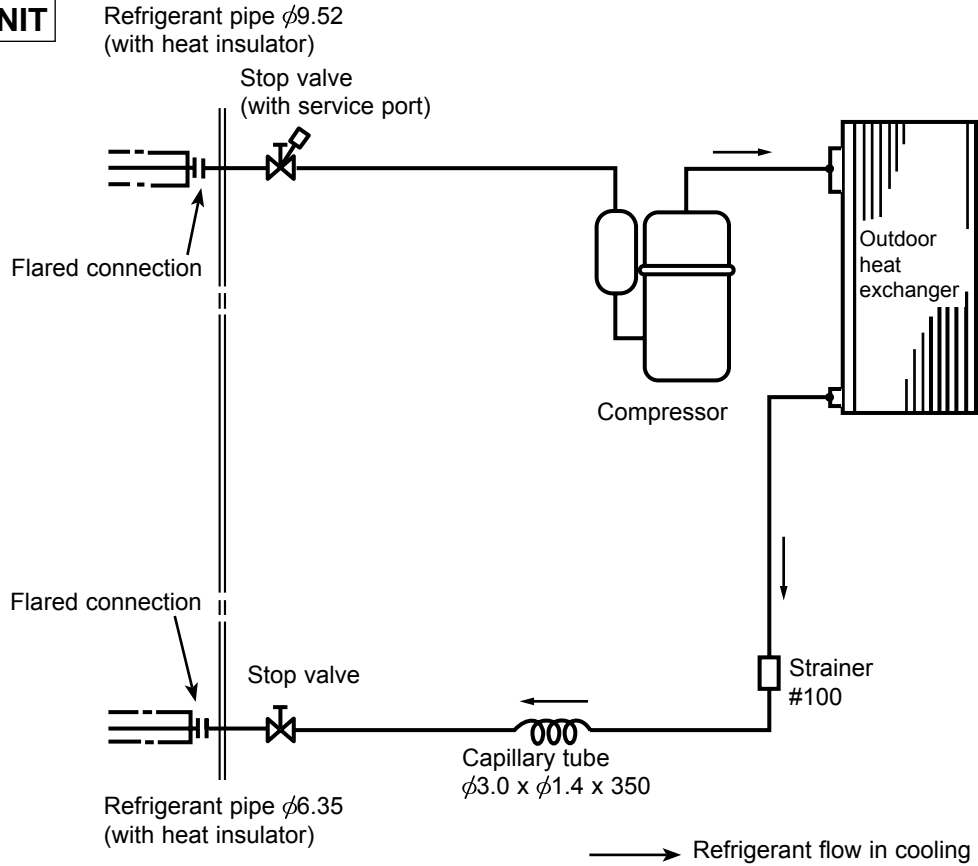
OUTDOOR UNIT



MU-GA35VB-E2

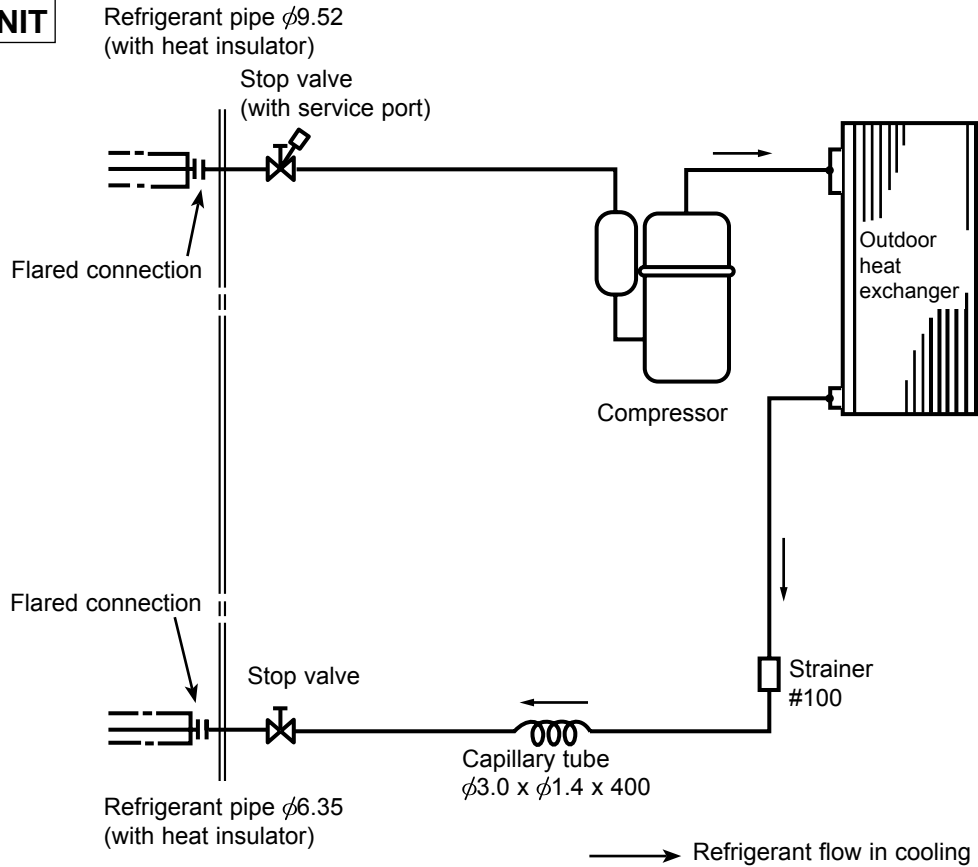
Unit: mm

OUTDOOR UNIT



MU-GA35VB-E3

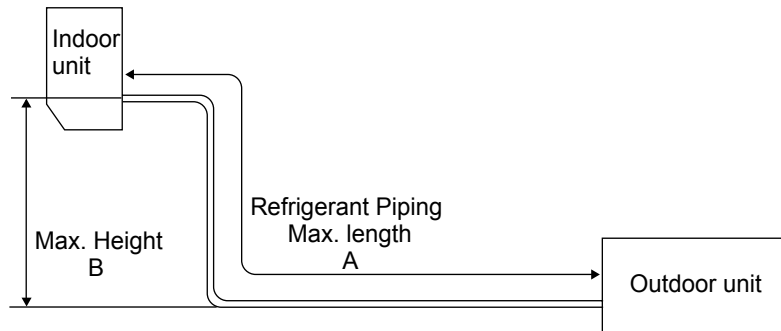
OUTDOOR UNIT



MAX. REFRIGERANT PIPING LENGTH

Model	Refrigerant piping : m		Piping size O.D : mm		Length of connecting pipe : m	
	Max. length A	Max. height B	Gas	Liquid	Indoor unit	Outdoor unit
MU-GA20VB MU-GA25VB	20	10	9.52	6.35	Gas 0.43	Gas 0
MU-GA35VB	25				Liquid 0.5	Liquid 0

MAX. HEIGHT DIFFERENCE



ADDITIONAL REFRIGERANT CHARGE (R410A : g)

Model	Outdoor unit precharged	Refrigerant piping length (one way)				
		7m	10m	15m	20m	25m
MU-GA20VB - [E1], [E2] MU-GA25VB	600	0	60	160	260	360
MU-GA20VB - [E3]	650					
MU-GA35VB - [E1]	700					
MU-GA35VB - [E2]	900					
MU-GA35VB - [E3]	1,050					

Calculation : $X_g = 20g/m \times (A-7) m$

MU-GA20VB MU-GA25VB MU-A35VB

The standard 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

198~264 V

(2) AIR FLOW

Air flow should be set at MAX.

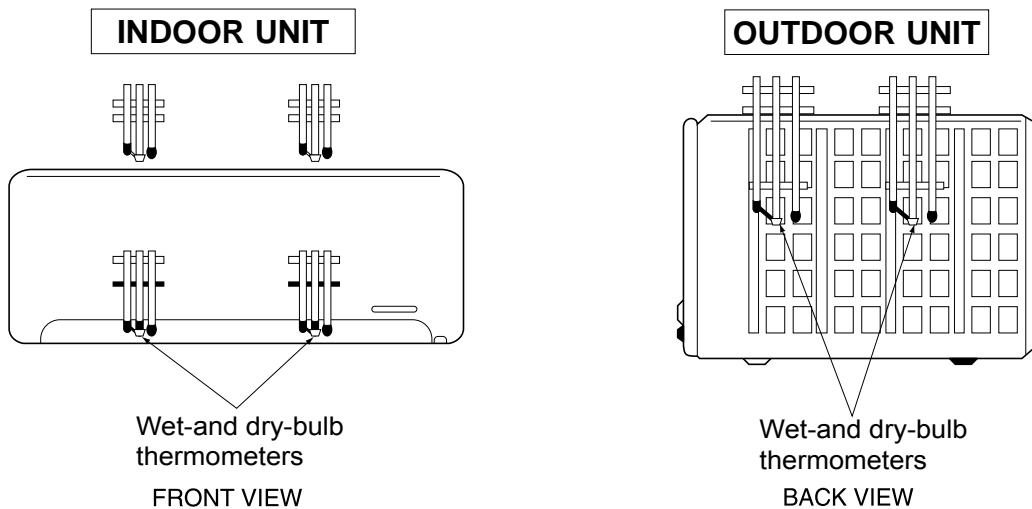
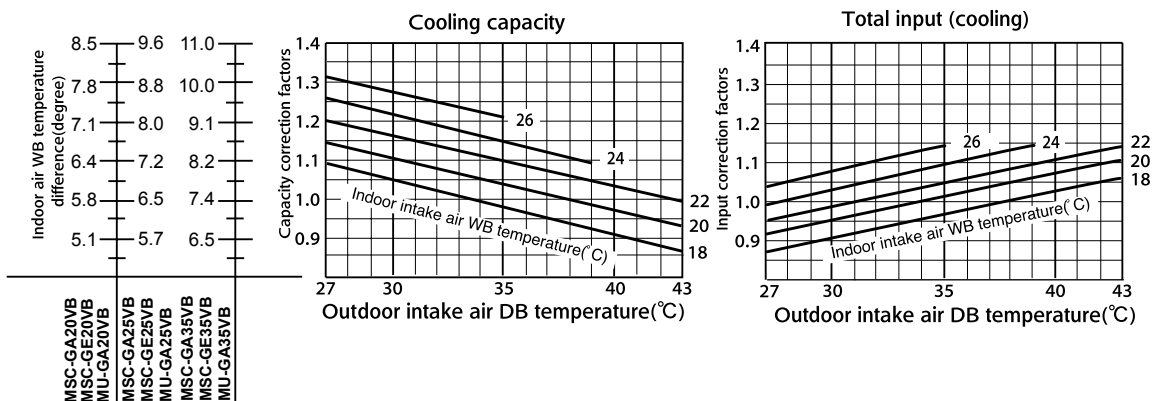
(3) MAIN READINGS

- | | | |
|---|------|-----------|
| (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 | |

Indoor air wet/dry-bulb temperature difference on the left side of the chart on next page 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

- 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.
- 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.
- Check that the air filter is cleaned.
- Open windows and doors of room.
- Press the EMERGENCY OPERATION switch once to start the EMERGENCY COOL MODE.
- When system stabilizes after more than 15 minutes, measure temperature and take an average temperature.
- 10 minutes later, measure temperature again and check that the temperature does not change.

**8-1. CAPACITY AND THE INPUT CURVES**

8-2. OUTDOOR LOW PRESSURE AND OUTDOOR UNIT CURRENT

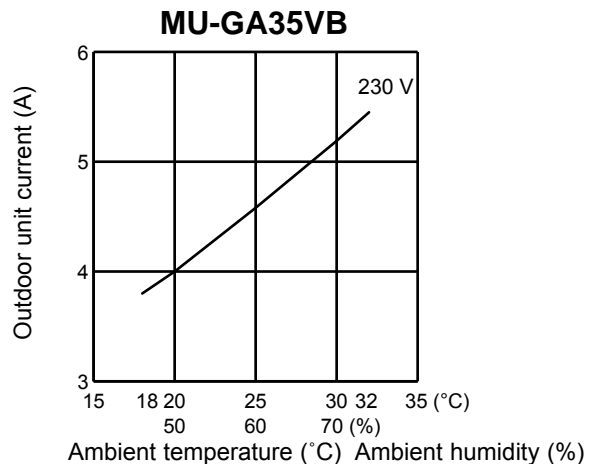
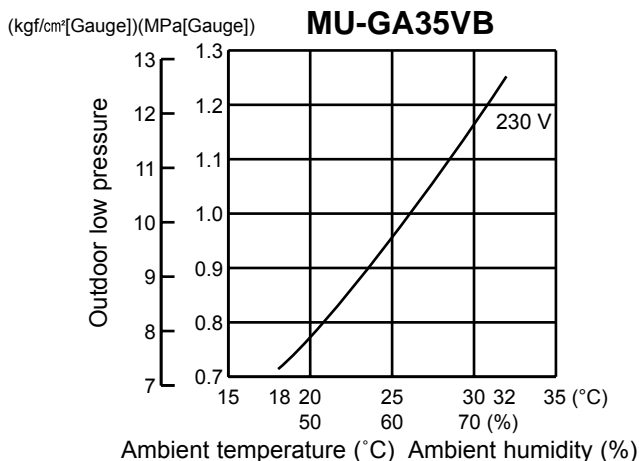
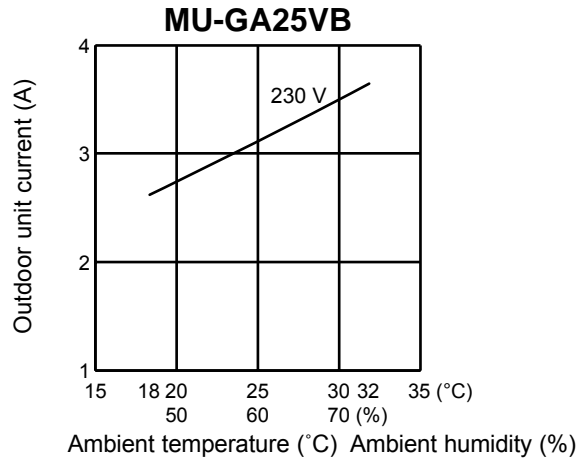
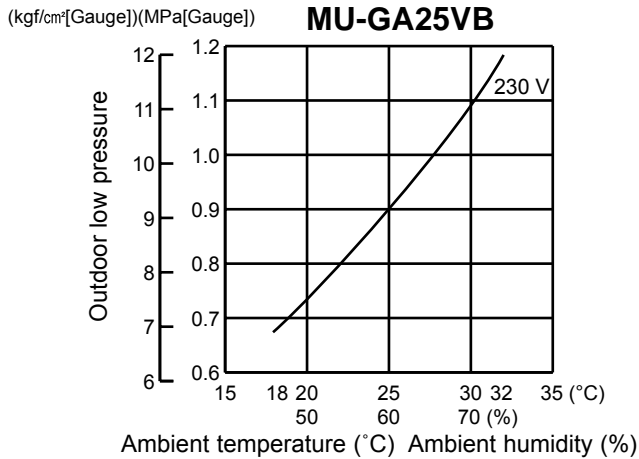
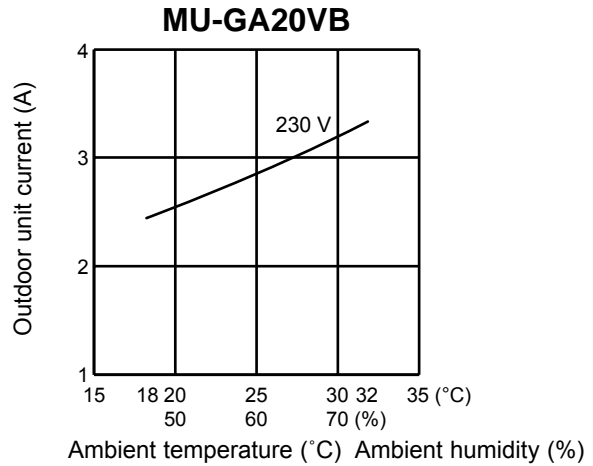
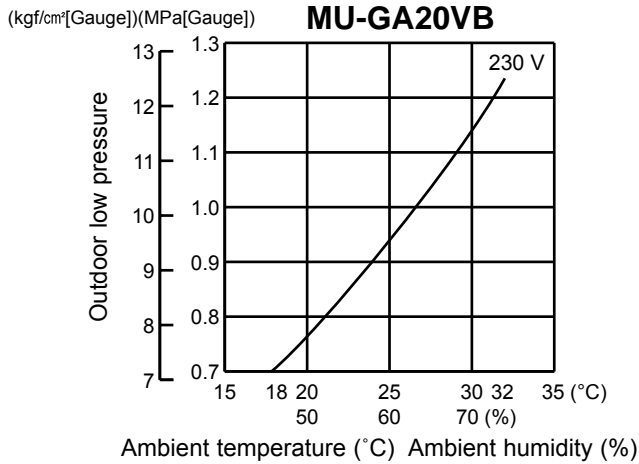
COOL operation

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[Gauge]) = 10.2 (kgf/cm²[Gauge])**



PERFORMANCE DATA

COOL operation (230V)

MSC-GA20VB, MSC-GE20VB: MU-GA20VB

CAPACITY : 2.3(kW) SHF : 0.74 INPUT : 715(W)

		OUTDOOR DB(°C)															
INDOOR DB(°c)	INDOOR WB(°c)	21				25				27				30			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.70	1.51	0.56	572	2.59	1.45	0.56	601	2.48	1.39	0.56	629	2.39	1.34	0.56	658
21	20	2.82	1.24	0.44	601	2.70	1.19	0.44	636	2.62	1.15	0.44	651	2.53	1.11	0.44	679
22	18	2.70	1.62	0.60	572	2.59	1.55	0.60	601	2.48	1.49	0.60	629	2.39	1.44	0.60	658
22	20	2.82	1.35	0.48	601	2.70	1.30	0.48	636	2.62	1.26	0.48	651	2.53	1.21	0.48	679
22	22	2.93	1.06	0.36	622	2.83	1.02	0.36	661	2.76	0.99	0.36	679	2.65	0.95	0.36	708
23	18	2.70	1.73	0.64	572	2.59	1.66	0.64	601	2.48	1.59	0.64	629	2.39	1.53	0.64	658
23	20	2.82	1.47	0.52	601	2.70	1.41	0.52	636	2.62	1.36	0.52	651	2.53	1.32	0.52	679
23	22	2.93	1.17	0.40	622	2.83	1.13	0.40	661	2.76	1.10	0.40	679	2.65	1.06	0.40	708
24	18	2.70	1.84	0.68	572	2.59	1.76	0.68	601	2.48	1.69	0.68	629	2.39	1.63	0.68	658
24	20	2.82	1.58	0.56	601	2.70	1.51	0.56	636	2.62	1.47	0.56	651	2.53	1.42	0.56	679
24	22	2.93	1.29	0.44	622	2.83	1.24	0.44	661	2.76	1.21	0.44	679	2.65	1.16	0.44	708
24	24	3.08	0.99	0.32	651	2.97	0.95	0.32	686	2.90	0.93	0.32	708	2.81	0.90	0.32	744
25	18	2.70	1.95	0.72	572	2.59	1.86	0.72	601	2.48	1.79	0.72	629	2.39	1.72	0.72	658
25	20	2.82	1.69	0.60	601	2.70	1.62	0.60	636	2.62	1.57	0.60	651	2.53	1.52	0.60	679
25	22	2.93	1.41	0.48	622	2.83	1.36	0.48	661	2.76	1.32	0.48	679	2.65	1.27	0.48	708
25	24	3.08	1.11	0.36	651	2.97	1.07	0.36	686	2.90	1.04	0.36	708	2.81	1.01	0.36	744
26	18	2.70	2.05	0.76	572	2.59	1.97	0.76	601	2.48	1.89	0.76	629	2.39	1.82	0.76	658
26	20	2.82	1.80	0.64	601	2.70	1.73	0.64	636	2.62	1.68	0.64	651	2.53	1.62	0.64	679
26	22	2.93	1.52	0.52	622	2.83	1.47	0.52	661	2.76	1.44	0.52	679	2.65	1.38	0.52	708
26	24	3.08	1.23	0.40	651	2.97	1.19	0.40	686	2.90	1.16	0.40	708	2.81	1.12	0.40	744
26	26	3.17	0.89	0.28	686	3.08	0.86	0.28	722	3.04	0.85	0.28	744	2.94	0.82	0.28	765
27	18	2.70	2.16	0.80	572	2.59	2.07	0.80	601	2.48	1.99	0.80	629	2.39	1.91	0.80	658
27	20	2.82	1.92	0.68	601	2.70	1.84	0.68	636	2.62	1.78	0.68	651	2.53	1.72	0.68	679
27	22	2.93	1.64	0.56	622	2.83	1.58	0.56	661	2.76	1.55	0.56	679	2.65	1.48	0.56	708
27	24	3.08	1.36	0.44	651	2.97	1.31	0.44	686	2.90	1.28	0.44	708	2.81	1.23	0.44	744
27	26	3.17	1.02	0.32	686	3.08	0.99	0.32	722	3.04	0.97	0.32	744	2.94	0.94	0.32	765
28	18	2.70	2.27	0.84	572	2.59	2.17	0.84	601	2.48	2.09	0.84	629	2.39	2.01	0.84	658
28	20	2.82	2.03	0.72	601	2.70	1.95	0.72	636	2.62	1.89	0.72	651	2.53	1.82	0.72	679
28	22	2.93	1.76	0.60	622	2.83	1.70	0.60	661	2.76	1.66	0.60	679	2.65	1.59	0.60	708
28	24	3.08	1.48	0.48	651	2.97	1.42	0.48	686	2.90	1.39	0.48	708	2.81	1.35	0.48	744
28	26	3.17	1.14	0.36	686	3.08	1.11	0.36	722	3.04	1.09	0.36	744	2.94	1.06	0.36	765
29	18	2.70	2.38	0.88	572	2.59	2.28	0.88	601	2.48	2.19	0.88	629	2.39	2.10	0.88	658
29	20	2.82	2.14	0.76	601	2.70	2.05	0.76	636	2.62	1.99	0.76	651	2.53	1.92	0.76	679
29	22	2.93	1.88	0.64	622	2.83	1.81	0.64	661	2.76	1.77	0.64	679	2.65	1.69	0.64	708
29	24	3.08	1.60	0.52	651	2.97	1.54	0.52	686	2.90	1.51	0.52	708	2.81	1.46	0.52	744
29	26	3.17	1.27	0.40	686	3.08	1.23	0.40	722	3.04	1.21	0.40	744	2.94	1.18	0.40	765
30	18	2.70	2.49	0.92	572	2.59	2.38	0.92	601	2.48	2.29	0.92	629	2.39	2.20	0.92	658
30	20	2.82	2.25	0.80	601	2.70	2.16	0.80	636	2.62	2.10	0.80	651	2.53	2.02	0.80	679
30	22	2.93	1.99	0.68	622	2.83	1.92	0.68	661	2.76	1.88	0.68	679	2.65	1.80	0.68	708
30	24	3.08	1.73	0.56	651	2.97	1.66	0.56	686	2.90	1.62	0.56	708	2.81	1.57	0.56	744
30	26	3.17	1.40	0.44	686	3.08	1.36	0.44	722	3.04	1.34	0.44	744	2.94	1.30	0.44	765
31	18	2.70	2.59	0.96	572	2.59	2.48	0.96	601	2.48	2.38	0.96	629	2.39	2.30	0.96	658
31	20	2.82	2.37	0.84	601	2.70	2.27	0.84	636	2.62	2.20	0.84	651	2.53	2.13	0.84	679
31	22	2.93	2.11	0.72	622	2.83	2.04	0.72	661	2.76	1.99	0.72	679	2.65	1.90	0.72	708
31	24	3.08	1.85	0.60	651	2.97	1.78	0.60	686	2.90	1.74	0.60	708	2.81	1.68	0.60	744
31	26	3.17	1.52	0.48	686	3.08	1.48	0.48	722	3.04	1.46	0.48	744	2.94	1.41	0.48	765
32	18	2.70	2.70	1.00	572	2.59	2.59	1.00	601	2.48	2.48	1.00	629	2.39	2.39	1.00	658
32	20	2.82	2.48	0.88	601	2.70	2.38	0.88	636	2.62	2.31	0.88	651	2.53	2.23	0.88	679
32	22	2.93	2.23	0.76	622	2.83	2.15	0.76	661	2.76	2.10	0.76	679	2.65	2.01	0.76	708
32	24	3.08	1.97	0.64	651	2.97	1.90	0.64	686	2.90	1.85	0.64	708	2.81	1.80	0.64	744
32	26	3.17	1.65	0.52	686	3.08	1.60	0.52	722	3.04	1.58	0.52	744	2.94	1.53	0.52	765

NOTE Q :Total capacity (kW)

SHC :Sensible heat capacity (kW)

SHF :Sensible heat factor

INPUT :Total power input (W)

DB :Dry-bulb temperature

WB :Wet-bulb temperature

PERFORMANCE DATA
COOL operation (230V)

MSC-GA20VB, MSC-GE20VB: MU-GA20VB

CAPACITY : 2.3(kW) SHF : 0.74 INPUT : 715(W)

		OUTDOOR DB(°C)											
INDOOR DB(°C)	INDOOR WB(°C)	35				40				43			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.25	1.26	0.56	701	2.07	1.16	0.56	744	1.99	1.11	0.56	758
21	20	2.37	1.04	0.44	729	2.21	0.97	0.44	765	2.13	0.94	0.44	787
22	18	2.25	1.35	0.60	701	2.07	1.24	0.60	744	1.99	1.19	0.60	758
22	20	2.37	1.14	0.48	729	2.21	1.06	0.48	765	2.13	1.02	0.48	787
22	22	2.51	0.90	0.36	758	2.35	0.84	0.36	801	2.27	0.82	0.36	815
23	18	2.25	1.44	0.64	701	2.07	1.32	0.64	744	1.99	1.27	0.64	758
23	20	2.37	1.23	0.52	729	2.21	1.15	0.52	765	2.13	1.11	0.52	787
23	22	2.51	1.00	0.40	758	2.35	0.94	0.40	801	2.27	0.91	0.40	815
24	18	2.25	1.53	0.68	701	2.07	1.41	0.68	744	1.99	1.35	0.68	758
24	20	2.37	1.33	0.56	729	2.21	1.24	0.56	765	2.13	1.19	0.56	787
24	22	2.51	1.10	0.44	758	2.35	1.03	0.44	801	2.27	1.00	0.44	815
24	24	2.65	0.85	0.32	787	2.48	0.79	0.32	822	2.42	0.77	0.32	840
25	18	2.25	1.62	0.72	701	2.07	1.49	0.72	744	1.99	1.43	0.72	758
25	20	2.37	1.42	0.60	729	2.21	1.32	0.60	765	2.13	1.28	0.60	787
25	22	2.51	1.20	0.48	758	2.35	1.13	0.48	801	2.27	1.09	0.48	815
25	24	2.65	0.95	0.36	787	2.48	0.89	0.36	822	2.42	0.87	0.36	840
26	18	2.25	1.71	0.76	701	2.07	1.57	0.76	744	1.99	1.51	0.76	758
26	20	2.37	1.52	0.64	729	2.21	1.41	0.64	765	2.13	1.36	0.64	787
26	22	2.51	1.30	0.52	758	2.35	1.22	0.52	801	2.27	1.18	0.52	815
26	24	2.65	1.06	0.40	787	2.48	0.99	0.40	822	2.42	0.97	0.40	840
26	26	2.78	0.78	0.28	815	2.62	0.73	0.28	851	2.54	0.71	0.28	869
27	18	2.25	1.80	0.80	701	2.07	1.66	0.80	744	1.99	1.59	0.80	758
27	20	2.37	1.61	0.68	729	2.21	1.50	0.68	765	2.13	1.45	0.68	787
27	22	2.51	1.40	0.56	758	2.35	1.31	0.56	801	2.27	1.27	0.56	815
27	24	2.65	1.16	0.44	787	2.48	1.09	0.44	822	2.42	1.06	0.44	840
27	26	2.78	0.89	0.32	815	2.62	0.84	0.32	851	2.54	0.81	0.32	869
28	18	2.25	1.89	0.84	701	2.07	1.74	0.84	744	1.99	1.67	0.84	758
28	20	2.37	1.71	0.72	729	2.21	1.59	0.72	765	2.13	1.53	0.72	787
28	22	2.51	1.50	0.60	758	2.35	1.41	0.60	801	2.27	1.36	0.60	815
28	24	2.65	1.27	0.48	787	2.48	1.19	0.48	822	2.42	1.16	0.48	840
28	26	2.78	1.00	0.36	815	2.62	0.94	0.36	851	2.54	0.91	0.36	869
29	18	2.25	1.98	0.88	701	2.07	1.82	0.88	744	1.99	1.75	0.88	758
29	20	2.37	1.80	0.76	729	2.21	1.68	0.76	765	2.13	1.62	0.76	787
29	22	2.51	1.60	0.64	758	2.35	1.50	0.64	801	2.27	1.45	0.64	815
29	24	2.65	1.38	0.52	787	2.48	1.29	0.52	822	2.42	1.26	0.52	840
29	26	2.78	1.11	0.40	815	2.62	1.05	0.40	851	2.54	1.02	0.40	869
30	18	2.25	2.07	0.92	701	2.07	1.90	0.92	744	1.99	1.83	0.92	758
30	20	2.37	1.90	0.80	729	2.21	1.77	0.80	765	2.13	1.70	0.80	787
30	22	2.51	1.70	0.68	758	2.35	1.60	0.68	801	2.27	1.54	0.68	815
30	24	2.65	1.48	0.56	787	2.48	1.39	0.56	822	2.42	1.35	0.56	840
30	26	2.78	1.22	0.44	815	2.62	1.15	0.44	851	2.54	1.12	0.44	869
31	18	2.25	2.16	0.96	701	2.07	1.99	0.96	744	1.99	1.91	0.96	758
31	20	2.37	1.99	0.84	729	2.21	1.85	0.84	765	2.13	1.79	0.84	787
31	22	2.51	1.81	0.72	758	2.35	1.69	0.72	801	2.27	1.63	0.72	815
31	24	2.65	1.59	0.60	787	2.48	1.49	0.60	822	2.42	1.45	0.60	840
31	26	2.78	1.34	0.48	815	2.62	1.26	0.48	851	2.54	1.22	0.48	869
32	18	2.25	2.25	1.00	701	2.07	2.07	1.00	744	1.99	1.99	1.00	758
32	20	2.37	2.08	0.88	729	2.21	1.94	0.88	765	2.13	1.87	0.88	787
32	22	2.51	1.91	0.76	758	2.35	1.78	0.76	801	2.27	1.72	0.76	815
32	24	2.65	1.69	0.64	787	2.48	1.59	0.64	822	2.42	1.55	0.64	840
32	26	2.78	1.45	0.52	815	2.62	1.36	0.52	851	2.54	1.32	0.52	869

NOTE Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

PERFORMANCE DATA

COOL operation (230V)

MSC-GA25VB, MSC-GE25VB: MU-GA25VB

CAPACITY : 2.5(kW) SHF : 0.70 INPUT : 775(W)

INDOOR		OUTDOOR DB(°C)															
DB(°C)	WB(°C)	21				25				27				30			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.94	1.53	0.52	620	2.81	1.46	0.52	651	2.70	1.40	0.52	682	2.60	1.35	0.52	713
21	20	3.06	1.23	0.40	651	2.94	1.18	0.40	690	2.85	1.14	0.40	705	2.75	1.10	0.40	736
22	18	2.94	1.65	0.56	620	2.81	1.58	0.56	651	2.70	1.51	0.56	682	2.60	1.46	0.56	713
22	20	3.06	1.35	0.44	651	2.94	1.29	0.44	690	2.85	1.25	0.44	705	2.75	1.21	0.44	736
22	22	3.19	1.02	0.32	674	3.08	0.98	0.32	717	3.00	0.96	0.32	736	2.88	0.92	0.32	767
23	18	2.94	1.76	0.60	620	2.81	1.69	0.60	651	2.70	1.62	0.60	682	2.60	1.56	0.60	713
23	20	3.06	1.47	0.48	651	2.94	1.41	0.48	690	2.85	1.37	0.48	705	2.75	1.32	0.48	736
23	22	3.19	1.15	0.36	674	3.08	1.11	0.36	717	3.00	1.08	0.36	736	2.88	1.04	0.36	767
24	18	2.94	1.88	0.64	620	2.81	1.80	0.64	651	2.70	1.73	0.64	682	2.60	1.66	0.64	713
24	20	3.06	1.59	0.52	651	2.94	1.53	0.52	690	2.85	1.48	0.52	705	2.75	1.43	0.52	736
24	22	3.19	1.28	0.40	674	3.08	1.23	0.40	717	3.00	1.20	0.40	736	2.88	1.15	0.40	767
24	24	3.35	0.94	0.28	705	3.23	0.90	0.28	744	3.15	0.88	0.28	767	3.05	0.85	0.28	806
25	18	2.94	2.00	0.68	620	2.81	1.91	0.68	651	2.70	1.84	0.68	682	2.60	1.77	0.68	713
25	20	3.06	1.72	0.56	651	2.94	1.65	0.56	690	2.85	1.60	0.56	705	2.75	1.54	0.56	736
25	22	3.19	1.40	0.44	674	3.08	1.35	0.44	717	3.00	1.32	0.44	736	2.88	1.27	0.44	767
25	24	3.35	1.07	0.32	705	3.23	1.03	0.32	744	3.15	1.01	0.32	767	3.05	0.98	0.32	806
26	18	2.94	2.12	0.72	620	2.81	2.03	0.72	651	2.70	1.94	0.72	682	2.60	1.87	0.72	713
26	20	3.06	1.84	0.60	651	2.94	1.76	0.60	690	2.85	1.71	0.60	705	2.75	1.65	0.60	736
26	22	3.19	1.53	0.48	674	3.08	1.48	0.48	717	3.00	1.44	0.48	736	2.88	1.38	0.48	767
26	24	3.35	1.21	0.36	705	3.23	1.16	0.36	744	3.15	1.13	0.36	767	3.05	1.10	0.36	806
26	26	3.45	0.83	0.24	744	3.35	0.80	0.24	783	3.30	0.79	0.24	806	3.20	0.77	0.24	829
27	18	2.94	2.23	0.76	620	2.81	2.14	0.76	651	2.70	2.05	0.76	682	2.60	1.98	0.76	713
27	20	3.06	1.96	0.64	651	2.94	1.88	0.64	690	2.85	1.82	0.64	705	2.75	1.76	0.64	736
27	22	3.19	1.66	0.52	674	3.08	1.60	0.52	717	3.00	1.56	0.52	736	2.88	1.50	0.52	767
27	24	3.35	1.34	0.40	705	3.23	1.29	0.40	744	3.15	1.26	0.40	767	3.05	1.22	0.40	806
27	26	3.45	0.97	0.28	744	3.35	0.94	0.28	783	3.30	0.92	0.28	806	3.20	0.90	0.28	829
28	18	2.94	2.35	0.80	620	2.81	2.25	0.80	651	2.70	2.16	0.80	682	2.60	2.08	0.80	713
28	20	3.06	2.08	0.68	651	2.94	2.00	0.68	690	2.85	1.94	0.68	705	2.75	1.87	0.68	736
28	22	3.19	1.79	0.56	674	3.08	1.72	0.56	717	3.00	1.68	0.56	736	2.88	1.61	0.56	767
28	24	3.35	1.47	0.44	705	3.23	1.42	0.44	744	3.15	1.39	0.44	767	3.05	1.34	0.44	806
28	26	3.45	1.10	0.32	744	3.35	1.07	0.32	783	3.30	1.06	0.32	806	3.20	1.02	0.32	829
29	18	2.94	2.47	0.84	620	2.81	2.36	0.84	651	2.70	2.27	0.84	682	2.60	2.18	0.84	713
29	20	3.06	2.21	0.72	651	2.94	2.12	0.72	690	2.85	2.05	0.72	705	2.75	1.98	0.72	736
29	22	3.19	1.91	0.60	674	3.08	1.85	0.60	717	3.00	1.80	0.60	736	2.88	1.73	0.60	767
29	24	3.35	1.61	0.48	705	3.23	1.55	0.48	744	3.15	1.51	0.48	767	3.05	1.46	0.48	806
29	26	3.45	1.24	0.36	744	3.35	1.21	0.36	783	3.30	1.19	0.36	806	3.20	1.15	0.36	829
30	18	2.94	2.59	0.88	620	2.81	2.48	0.88	651	2.70	2.38	0.88	682	2.60	2.29	0.88	713
30	20	3.06	2.33	0.76	651	2.94	2.23	0.76	690	2.85	2.17	0.76	705	2.75	2.09	0.76	736
30	22	3.19	2.04	0.64	674	3.08	1.97	0.64	717	3.00	1.92	0.64	736	2.88	1.84	0.64	767
30	24	3.35	1.74	0.52	705	3.23	1.68	0.52	744	3.15	1.64	0.52	767	3.05	1.59	0.52	806
30	26	3.45	1.38	0.40	744	3.35	1.34	0.40	783	3.30	1.32	0.40	806	3.20	1.28	0.40	829
31	18	2.94	2.70	0.92	620	2.81	2.59	0.92	651	2.70	2.48	0.92	682	2.60	2.39	0.92	713
31	20	3.06	2.45	0.80	651	2.94	2.35	0.80	690	2.85	2.28	0.80	705	2.75	2.20	0.80	736
31	22	3.19	2.17	0.68	674	3.08	2.09	0.68	717	3.00	2.04	0.68	736	2.88	1.96	0.68	767
31	24	3.35	1.88	0.56	705	3.23	1.81	0.56	744	3.15	1.76	0.56	767	3.05	1.71	0.56	806
31	26	3.45	1.52	0.44	744	3.35	1.47	0.44	783	3.30	1.45	0.44	806	3.20	1.41	0.44	829
32	18	2.94	2.82	0.96	620	2.81	2.70	0.96	651	2.70	2.59	0.96	682	2.60	2.50	0.96	713
32	20	3.06	2.57	0.84	651	2.94	2.47	0.84	690	2.85	2.39	0.84	705	2.75	2.31	0.84	736
32	22	3.19	2.30	0.72	674	3.08	2.21	0.72	717	3.00	2.16	0.72	736	2.88	2.07	0.72	767
32	24	3.35	2.01	0.60	705	3.23	1.94	0.60	744	3.15	1.89	0.60	767	3.05	1.83	0.60	806
32	26	3.45	1.66	0.48	744	3.35	1.61	0.48	783	3.30	1.58	0.48	806	3.20	1.54	0.48	829

NOTE Q :Total capacity (kW)

SHC :Sensible heat capacity (kW)

SHF :Sensible heat factor

INPUT :Total power input (W)

DB :Dry-bulb temperature

WB :Wet-bulb temperature

PERFORMANCE DATA
COOL operation (230V)

MSC-GA25VB, MSC-GE25VB: MU-GA25VB

CAPACITY : 2.5(kW) SHF : 0.70 INPUT : 775(W)

		OUTDOOR DB(°C)											
INDOOR DB(°C)	INDOOR WB(°C)	35				40				43			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.45	1.27	0.52	760	2.25	1.17	0.52	806	2.16	1.12	0.52	822
21	20	2.58	1.03	0.40	791	2.40	0.96	0.40	829	2.31	0.93	0.40	853
22	18	2.45	1.37	0.56	760	2.25	1.26	0.56	806	2.16	1.21	0.56	822
22	20	2.58	1.13	0.44	791	2.40	1.06	0.44	829	2.31	1.02	0.44	853
22	22	2.73	0.87	0.32	822	2.55	0.82	0.32	868	2.46	0.79	0.32	884
23	18	2.45	1.47	0.60	760	2.25	1.35	0.60	806	2.16	1.30	0.60	822
23	20	2.58	1.24	0.48	791	2.40	1.15	0.48	829	2.31	1.11	0.48	853
23	22	2.73	0.98	0.36	822	2.55	0.92	0.36	868	2.46	0.89	0.36	884
24	18	2.45	1.57	0.64	760	2.25	1.44	0.64	806	2.16	1.38	0.64	822
24	20	2.58	1.34	0.52	791	2.40	1.25	0.52	829	2.31	1.20	0.52	853
24	22	2.73	1.09	0.40	822	2.55	1.02	0.40	868	2.46	0.99	0.40	884
24	24	2.88	0.81	0.28	853	2.70	0.76	0.28	891	2.63	0.74	0.28	911
25	18	2.45	1.67	0.68	760	2.25	1.53	0.68	806	2.16	1.47	0.68	822
25	20	2.58	1.44	0.56	791	2.40	1.34	0.56	829	2.31	1.30	0.56	853
25	22	2.73	1.20	0.44	822	2.55	1.12	0.44	868	2.46	1.08	0.44	884
25	24	2.88	0.92	0.32	853	2.70	0.86	0.32	891	2.63	0.84	0.32	911
26	18	2.45	1.76	0.72	760	2.25	1.62	0.72	806	2.16	1.56	0.72	822
26	20	2.58	1.55	0.60	791	2.40	1.44	0.60	829	2.31	1.39	0.60	853
26	22	2.73	1.31	0.48	822	2.55	1.22	0.48	868	2.46	1.18	0.48	884
26	24	2.88	1.04	0.36	853	2.70	0.97	0.36	891	2.63	0.95	0.36	911
26	26	3.03	0.73	0.24	884	2.85	0.68	0.24	922	2.76	0.66	0.24	942
27	18	2.45	1.86	0.76	760	2.25	1.71	0.76	806	2.16	1.64	0.76	822
27	20	2.58	1.65	0.64	791	2.40	1.54	0.64	829	2.31	1.48	0.64	853
27	22	2.73	1.42	0.52	822	2.55	1.33	0.52	868	2.46	1.28	0.52	884
27	24	2.88	1.15	0.40	853	2.70	1.08	0.40	891	2.63	1.05	0.40	911
27	26	3.03	0.85	0.28	884	2.85	0.80	0.28	922	2.76	0.77	0.28	942
28	18	2.45	1.96	0.80	760	2.25	1.80	0.80	806	2.16	1.73	0.80	822
28	20	2.58	1.75	0.68	791	2.40	1.63	0.68	829	2.31	1.57	0.68	853
28	22	2.73	1.53	0.56	822	2.55	1.43	0.56	868	2.46	1.38	0.56	884
28	24	2.88	1.27	0.44	853	2.70	1.19	0.44	891	2.63	1.16	0.44	911
28	26	3.03	0.97	0.32	884	2.85	0.91	0.32	922	2.76	0.88	0.32	942
29	18	2.45	2.06	0.84	760	2.25	1.89	0.84	806	2.16	1.82	0.84	822
29	20	2.58	1.85	0.72	791	2.40	1.73	0.72	829	2.31	1.67	0.72	853
29	22	2.73	1.64	0.60	822	2.55	1.53	0.60	868	2.46	1.48	0.60	884
29	24	2.88	1.38	0.48	853	2.70	1.30	0.48	891	2.63	1.26	0.48	911
29	26	3.03	1.09	0.36	884	2.85	1.03	0.36	922	2.76	0.99	0.36	942
30	18	2.45	2.16	0.88	760	2.25	1.98	0.88	806	2.16	1.90	0.88	822
30	20	2.58	1.96	0.76	791	2.40	1.82	0.76	829	2.31	1.76	0.76	853
30	22	2.73	1.74	0.64	822	2.55	1.63	0.64	868	2.46	1.58	0.64	884
30	24	2.88	1.50	0.52	853	2.70	1.40	0.52	891	2.63	1.37	0.52	911
30	26	3.03	1.21	0.40	884	2.85	1.14	0.40	922	2.76	1.11	0.40	942
31	18	2.45	2.25	0.92	760	2.25	2.07	0.92	806	2.16	1.99	0.92	822
31	20	2.58	2.06	0.80	791	2.40	1.92	0.80	829	2.31	1.85	0.80	853
31	22	2.73	1.85	0.68	822	2.55	1.73	0.68	868	2.46	1.67	0.68	884
31	24	2.88	1.61	0.56	853	2.70	1.51	0.56	891	2.63	1.47	0.56	911
31	26	3.03	1.33	0.44	884	2.85	1.25	0.44	922	2.76	1.22	0.44	942
32	18	2.45	2.35	0.96	760	2.25	2.16	0.96	806	2.16	2.08	0.96	822
32	20	2.58	2.16	0.84	791	2.40	2.02	0.84	829	2.31	1.94	0.84	853
32	22	2.73	1.96	0.72	822	2.55	1.84	0.72	868	2.46	1.77	0.72	884
32	24	2.88	1.73	0.60	853	2.70	1.62	0.60	891	2.63	1.58	0.60	911
32	26	3.03	1.45	0.48	884	2.85	1.37	0.48	922	2.76	1.33	0.48	942

NOTE Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
 SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

PERFORMANCE DATA
COOL operation (230V)

MSC-GA35VB, MSC-GE35VB: MU-GA35VB

CAPACITY : 3.45(kW) SHF : 0.66 INPUT : 1120(W)

INDOOR		OUTDOOR DB(°C)															
DB(°C)	WB(°C)	21				25				27				30			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	4.05	1.95	0.48	896	3.88	1.86	0.48	941	3.73	1.79	0.48	986	3.59	1.72	0.48	1030
21	20	4.23	1.52	0.36	941	4.05	1.46	0.36	997	3.93	1.42	0.36	1019	3.80	1.37	0.36	1064
22	18	4.05	2.11	0.52	896	3.88	2.02	0.52	941	3.73	1.94	0.52	986	3.59	1.87	0.52	1030
22	20	4.23	1.69	0.40	941	4.05	1.62	0.40	997	3.93	1.57	0.40	1019	3.80	1.52	0.40	1064
22	22	4.40	1.23	0.28	974	4.24	1.19	0.28	1036	4.14	1.16	0.28	1064	3.97	1.11	0.28	1109
23	18	4.05	2.27	0.56	896	3.88	2.17	0.56	941	3.73	2.09	0.56	986	3.59	2.01	0.56	1030
23	20	4.23	1.86	0.44	941	4.05	1.78	0.44	997	3.93	1.73	0.44	1019	3.80	1.67	0.44	1064
23	22	4.40	1.41	0.32	974	4.24	1.36	0.32	1036	4.14	1.32	0.32	1064	3.97	1.27	0.32	1109
24	18	4.05	2.43	0.60	896	3.88	2.33	0.60	941	3.73	2.24	0.60	986	3.59	2.15	0.60	1030
24	20	4.23	2.03	0.48	941	4.05	1.95	0.48	997	3.93	1.89	0.48	1019	3.80	1.82	0.48	1064
24	22	4.40	1.58	0.36	974	4.24	1.53	0.36	1036	4.14	1.49	0.36	1064	3.97	1.43	0.36	1109
24	24	4.62	1.11	0.24	1019	4.45	1.07	0.24	1075	4.35	1.04	0.24	1109	4.21	1.01	0.24	1165
25	18	4.05	2.59	0.64	896	3.88	2.48	0.64	941	3.73	2.38	0.64	986	3.59	2.30	0.64	1030
25	20	4.23	2.20	0.52	941	4.05	2.11	0.52	997	3.93	2.05	0.52	1019	3.80	1.97	0.52	1064
25	22	4.40	1.76	0.40	974	4.24	1.70	0.40	1036	4.14	1.66	0.40	1064	3.97	1.59	0.40	1109
25	24	4.62	1.29	0.28	1019	4.45	1.25	0.28	1075	4.35	1.22	0.28	1109	4.21	1.18	0.28	1165
26	18	4.05	2.76	0.68	896	3.88	2.64	0.68	941	3.73	2.53	0.68	986	3.59	2.44	0.68	1030
26	20	4.23	2.37	0.56	941	4.05	2.27	0.56	997	3.93	2.20	0.56	1019	3.80	2.13	0.56	1064
26	22	4.40	1.94	0.44	974	4.24	1.87	0.44	1036	4.14	1.82	0.44	1064	3.97	1.75	0.44	1109
26	24	4.62	1.48	0.32	1019	4.45	1.42	0.32	1075	4.35	1.39	0.32	1109	4.21	1.35	0.32	1165
26	26	4.76	0.95	0.20	1075	4.62	0.92	0.20	1131	4.55	0.91	0.20	1165	4.42	0.88	0.20	1198
27	18	4.05	2.92	0.72	896	3.88	2.79	0.72	941	3.73	2.68	0.72	986	3.59	2.58	0.72	1030
27	20	4.23	2.54	0.60	941	4.05	2.43	0.60	997	3.93	2.36	0.60	1019	3.80	2.28	0.60	1064
27	22	4.40	2.11	0.48	974	4.24	2.04	0.48	1036	4.14	1.99	0.48	1064	3.97	1.90	0.48	1109
27	24	4.62	1.66	0.36	1019	4.45	1.60	0.36	1075	4.35	1.56	0.36	1109	4.21	1.52	0.36	1165
27	26	4.76	1.14	0.24	1075	4.62	1.11	0.24	1131	4.55	1.09	0.24	1165	4.42	1.06	0.24	1198
28	18	4.05	3.08	0.76	896	3.88	2.95	0.76	941	3.73	2.83	0.76	986	3.59	2.73	0.76	1030
28	20	4.23	2.70	0.64	941	4.05	2.59	0.64	997	3.93	2.52	0.64	1019	3.80	2.43	0.64	1064
28	22	4.40	2.29	0.52	974	4.24	2.21	0.52	1036	4.14	2.15	0.52	1064	3.97	2.06	0.52	1109
28	24	4.62	1.85	0.40	1019	4.45	1.78	0.40	1075	4.35	1.74	0.40	1109	4.21	1.68	0.40	1165
28	26	4.76	1.33	0.28	1075	4.62	1.29	0.28	1131	4.55	1.28	0.28	1165	4.42	1.24	0.28	1198
29	18	4.05	3.24	0.80	896	3.88	3.11	0.80	941	3.73	2.98	0.80	986	3.59	2.87	0.80	1030
29	20	4.23	2.87	0.68	941	4.05	2.76	0.68	997	3.93	2.67	0.68	1019	3.80	2.58	0.68	1064
29	22	4.40	2.46	0.56	974	4.24	2.38	0.56	1036	4.14	2.32	0.56	1064	3.97	2.22	0.56	1109
29	24	4.62	2.03	0.44	1019	4.45	1.96	0.44	1075	4.35	1.91	0.44	1109	4.21	1.85	0.44	1165
29	26	4.76	1.52	0.32	1075	4.62	1.48	0.32	1131	4.55	1.46	0.32	1165	4.42	1.41	0.32	1198
30	18	4.05	3.41	0.84	896	3.88	3.26	0.84	941	3.73	3.13	0.84	986	3.59	3.01	0.84	1030
30	20	4.23	3.04	0.72	941	4.05	2.92	0.72	997	3.93	2.83	0.72	1019	3.80	2.73	0.72	1064
30	22	4.40	2.64	0.60	974	4.24	2.55	0.60	1036	4.14	2.48	0.60	1064	3.97	2.38	0.60	1109
30	24	4.62	2.22	0.48	1019	4.45	2.14	0.48	1075	4.35	2.09	0.48	1109	4.21	2.02	0.48	1165
30	26	4.76	1.71	0.36	1075	4.62	1.66	0.36	1131	4.55	1.64	0.36	1165	4.42	1.59	0.36	1198
31	18	4.05	3.57	0.88	896	3.88	3.42	0.88	941	3.73	3.28	0.88	986	3.59	3.16	0.88	1030
31	20	4.23	3.21	0.76	941	4.05	3.08	0.76	997	3.93	2.99	0.76	1019	3.80	2.88	0.76	1064
31	22	4.40	2.82	0.64	974	4.24	2.72	0.64	1036	4.14	2.65	0.64	1064	3.97	2.54	0.64	1109
31	24	4.62	2.40	0.52	1019	4.45	2.31	0.52	1075	4.35	2.26	0.52	1109	4.21	2.19	0.52	1165
31	26	4.76	1.90	0.40	1075	4.62	1.85	0.40	1131	4.55	1.82	0.40	1165	4.42	1.77	0.40	1198
32	18	4.05	3.73	0.92	896	3.88	3.57	0.92	941	3.73	3.43	0.92	986	3.59	3.30	0.92	1030
32	20	4.23	3.38	0.80	941	4.05	3.24	0.80	997	3.93	3.15	0.80	1019	3.80	3.04	0.80	1064
32	22	4.40	2.99	0.68	974	4.24	2.89	0.68	1036	4.14	2.82	0.68	1064	3.97	2.70	0.68	1109
32	24	4.62	2.59	0.56	1019	4.45	2.49	0.56	1075	4.35	2.43	0.56	1109	4.21	2.36	0.56	1165
32	26	4.76	2.09	0.44	1075	4.62	2.03	0.44	1131	4.55	2.00	0.44	1165	4.42	1.94	0.44	1198

NOTE Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
 SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

PERFORMANCE DATA
COOL operation (230V)

MSC-GA35VB, MSC-GE35VB: MU-GA35VB

CAPACITY : 3.45(kW) SHF : 0.66 INPUT : 1120(W)

		OUTDOOR DB(°C)											
INDOOR DB(°C)	INDOOR WB(°C)	35				40				43			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	3.38	1.62	0.48	1098	3.11	1.49	0.48	1165	2.98	1.43	0.48	1187
21	20	3.55	1.28	0.36	1142	3.31	1.19	0.36	1198	3.19	1.15	0.36	1232
22	18	3.38	1.76	0.52	1098	3.11	1.61	0.52	1165	2.98	1.55	0.52	1187
22	20	3.55	1.42	0.40	1142	3.31	1.32	0.40	1198	3.19	1.28	0.40	1232
22	22	3.76	1.05	0.28	1187	3.52	0.99	0.28	1254	3.40	0.95	0.28	1277
23	18	3.38	1.89	0.56	1098	3.11	1.74	0.56	1165	2.98	1.67	0.56	1187
23	20	3.55	1.56	0.44	1142	3.31	1.46	0.44	1198	3.19	1.40	0.44	1232
23	22	3.76	1.20	0.32	1187	3.52	1.13	0.32	1254	3.40	1.09	0.32	1277
24	18	3.38	2.03	0.60	1098	3.11	1.86	0.60	1165	2.98	1.79	0.60	1187
24	20	3.55	1.71	0.48	1142	3.31	1.59	0.48	1198	3.19	1.53	0.48	1232
24	22	3.76	1.35	0.36	1187	3.52	1.27	0.36	1254	3.40	1.22	0.36	1277
24	24	3.97	0.95	0.24	1232	3.73	0.89	0.24	1288	3.62	0.87	0.24	1316
25	18	3.38	2.16	0.64	1098	3.11	1.99	0.64	1165	2.98	1.91	0.64	1187
25	20	3.55	1.85	0.52	1142	3.31	1.72	0.52	1198	3.19	1.66	0.52	1232
25	22	3.76	1.50	0.40	1187	3.52	1.41	0.40	1254	3.40	1.36	0.40	1277
25	24	3.97	1.11	0.28	1232	3.73	1.04	0.28	1288	3.62	1.01	0.28	1316
26	18	3.38	2.30	0.68	1098	3.11	2.11	0.68	1165	2.98	2.03	0.68	1187
26	20	3.55	1.99	0.56	1142	3.31	1.85	0.56	1198	3.19	1.79	0.56	1232
26	22	3.76	1.65	0.44	1187	3.52	1.55	0.44	1254	3.40	1.50	0.44	1277
26	24	3.97	1.27	0.32	1232	3.73	1.19	0.32	1288	3.62	1.16	0.32	1316
26	26	4.17	0.83	0.20	1277	3.93	0.79	0.20	1333	3.81	0.76	0.20	1361
27	18	3.38	2.43	0.72	1098	3.11	2.24	0.72	1165	2.98	2.15	0.72	1187
27	20	3.55	2.13	0.60	1142	3.31	1.99	0.60	1198	3.19	1.91	0.60	1232
27	22	3.76	1.81	0.48	1187	3.52	1.69	0.48	1254	3.40	1.63	0.48	1277
27	24	3.97	1.43	0.36	1232	3.73	1.34	0.36	1288	3.62	1.30	0.36	1316
27	26	4.17	1.00	0.24	1277	3.93	0.94	0.24	1333	3.81	0.91	0.24	1361
28	18	3.38	2.57	0.76	1098	3.11	2.36	0.76	1165	2.98	2.27	0.76	1187
28	20	3.55	2.27	0.64	1142	3.31	2.12	0.64	1198	3.19	2.04	0.64	1232
28	22	3.76	1.96	0.52	1187	3.52	1.83	0.52	1254	3.40	1.77	0.52	1277
28	24	3.97	1.59	0.40	1232	3.73	1.49	0.40	1288	3.62	1.45	0.40	1316
28	26	4.17	1.17	0.28	1277	3.93	1.10	0.28	1333	3.81	1.07	0.28	1361
29	18	3.38	2.70	0.80	1098	3.11	2.48	0.80	1165	2.98	2.39	0.80	1187
29	20	3.55	2.42	0.68	1142	3.31	2.25	0.68	1198	3.19	2.17	0.68	1232
29	22	3.76	2.11	0.56	1187	3.52	1.97	0.56	1254	3.40	1.90	0.56	1277
29	24	3.97	1.75	0.44	1232	3.73	1.64	0.44	1288	3.62	1.59	0.44	1316
29	26	4.17	1.34	0.32	1277	3.93	1.26	0.32	1333	3.81	1.22	0.32	1361
30	18	3.38	2.84	0.84	1098	3.11	2.61	0.84	1165	2.98	2.51	0.84	1187
30	20	3.55	2.56	0.72	1142	3.31	2.38	0.72	1198	3.19	2.30	0.72	1232
30	22	3.76	2.26	0.60	1187	3.52	2.11	0.60	1254	3.40	2.04	0.60	1277
30	24	3.97	1.90	0.48	1232	3.73	1.79	0.48	1288	3.62	1.74	0.48	1316
30	26	4.17	1.50	0.36	1277	3.93	1.42	0.36	1333	3.81	1.37	0.36	1361
31	18	3.38	2.98	0.88	1098	3.11	2.73	0.88	1165	2.98	2.63	0.88	1187
31	20	3.55	2.70	0.76	1142	3.31	2.52	0.76	1198	3.19	2.43	0.76	1232
31	22	3.76	2.41	0.64	1187	3.52	2.25	0.64	1254	3.40	2.17	0.64	1277
31	24	3.97	2.06	0.52	1232	3.73	1.94	0.52	1288	3.62	1.88	0.52	1316
31	26	4.17	1.67	0.40	1277	3.93	1.57	0.40	1333	3.81	1.52	0.40	1361
32	18	3.38	3.11	0.92	1098	3.11	2.86	0.92	1165	2.98	2.75	0.92	1187
32	20	3.55	2.84	0.80	1142	3.31	2.65	0.80	1198	3.19	2.55	0.80	1232
32	22	3.76	2.56	0.68	1187	3.52	2.39	0.68	1254	3.40	2.31	0.68	1277
32	24	3.97	2.22	0.56	1232	3.73	2.09	0.56	1288	3.62	2.03	0.56	1316
32	26	4.17	1.84	0.44	1277	3.93	1.73	0.44	1333	3.81	1.68	0.44	1361

NOTE Q :Total capacity (kW) SHF :Sensible heat factor DB :Dry-bulb temperature
 SHC :Sensible heat capacity (kW) INPUT :Total power input (W) WB :Wet-bulb temperature

MU-GA20VB

MU-GA25VB

MU-GA35VB

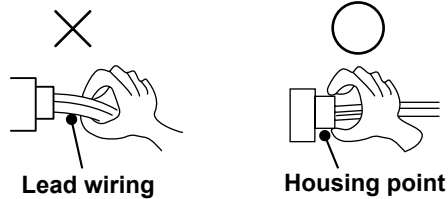
9-1. CAUTIONS ON TROUBLESHOOTING

1. Before troubleshooting, check the following:

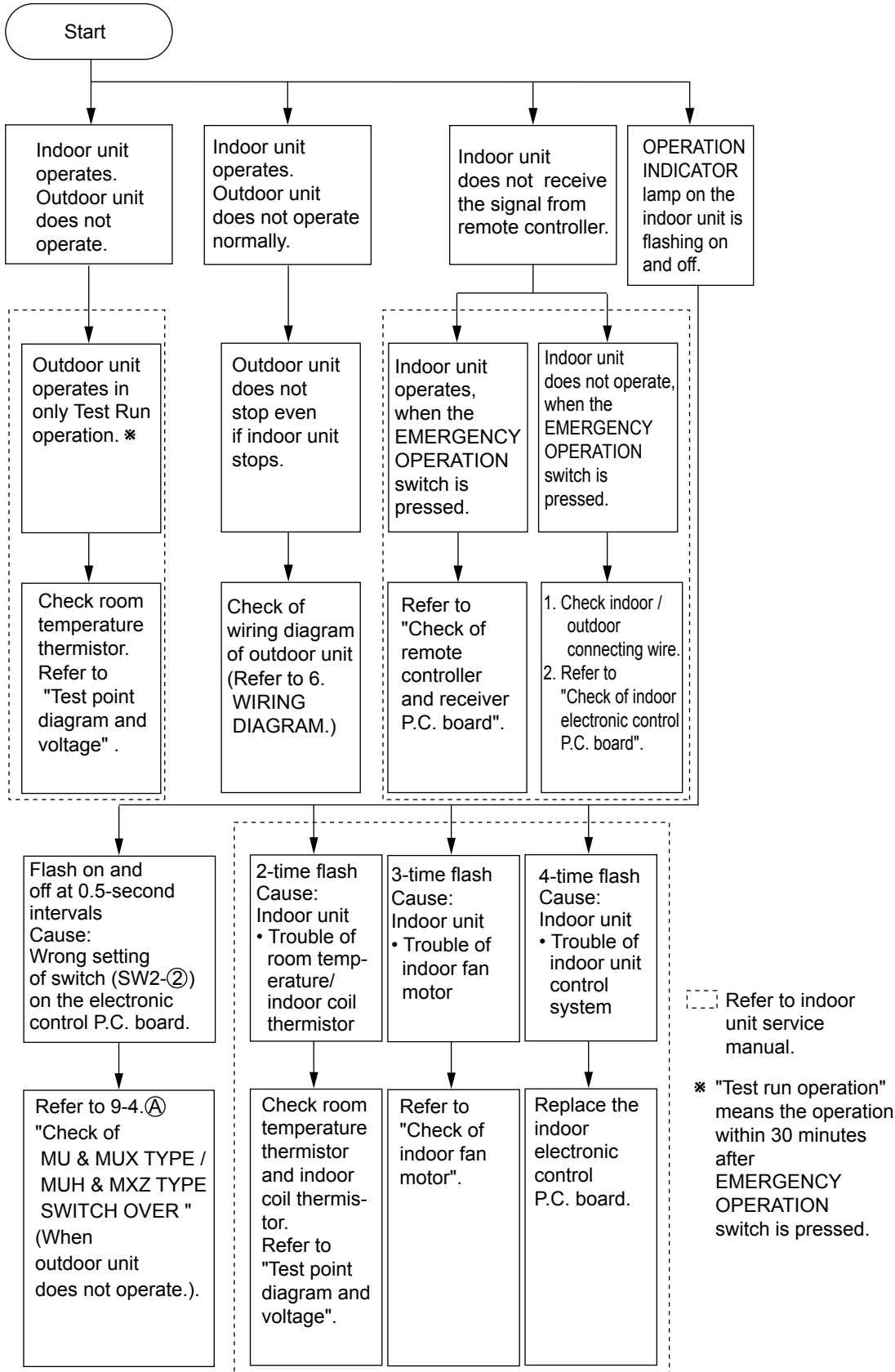
- 1) Check the power supply voltage.
- 2) Check the indoor/outdoor connecting wire for mis-wiring.

2. Take care of the following during servicing

- 1) Before servicing the air conditioner, be sure to turn off the main unit first with the remote controller, and then after confirming the horizontal vane is closed, turn off the breaker and/ or disconnect the power plug.
- 2) Be sure to turn OFF the power supply 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.



9-2. INSTRUCTION OF TROUBLESHOOTING
MU-GA20VB
MU-GA25VB
MU-GA35VB

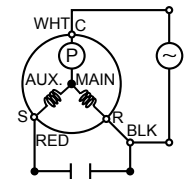
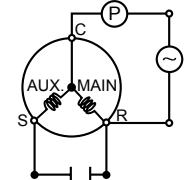
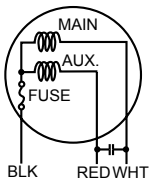


9-3. TROUBLE CRITERION OF MAIN PARTS

MU-GA20VB

MU-GA25VB

MU-GA35VB

Part name	Check method and criterion	Figure																						
Compressor (MC) INNER PROTECTOR MU-GA20/GA25VB- [E1], [E2] 160 ± 5 °C OPEN 90 ± 10°C CLOSE MU-GA20VB- [E3] 150 ± 5 °C OPEN 90 ± 10°C CLOSE OVERLOAD RELAY/ COMPRESSOR THERMAL PROTECTOR MU-GA35VB 140 ± 5°C OPEN 75 ±14°C CLOSE	Measure the resistance between the terminals with a tester. (Coil wiring temperature -10 °C ~ 40 °C) <table border="1" style="margin-top: 10px;"> <thead> <tr> <th rowspan="2">Terminal</th> <th colspan="3">Normal</th> </tr> <tr> <th>MU-GA20/GA25VB- [E1]</th> <th>MU-GA20/GA25VB- [E2]</th> <th>MU-GA20VB- [E3]</th> </tr> </thead> <tbody> <tr> <td>C-R</td> <td>3.41 ~ 4.18 Ω</td> <td>3.19 ~ 3.91 Ω</td> <td>3.98 ~ 4.88 Ω</td> </tr> <tr> <td>C-S</td> <td>5.41 ~ 6.63 Ω</td> <td>4.76 ~ 5.83 Ω</td> <td>6.23 ~ 7.63 Ω</td> </tr> </tbody> </table> <table border="1" style="margin-top: 10px;"> <thead> <tr> <th rowspan="2">Terminal</th> <th>Normal</th> </tr> <tr> <th>MU-GA35VB</th> </tr> </thead> <tbody> <tr> <td>C-R</td> <td>2.46 ~ 3.02 Ω</td> </tr> <tr> <td>C-S</td> <td>4.79 ~ 5.86 Ω</td> </tr> </tbody> </table>	Terminal	Normal			MU-GA20/GA25VB- [E1]	MU-GA20/GA25VB- [E2]	MU-GA20VB- [E3]	C-R	3.41 ~ 4.18 Ω	3.19 ~ 3.91 Ω	3.98 ~ 4.88 Ω	C-S	5.41 ~ 6.63 Ω	4.76 ~ 5.83 Ω	6.23 ~ 7.63 Ω	Terminal	Normal	MU-GA35VB	C-R	2.46 ~ 3.02 Ω	C-S	4.79 ~ 5.86 Ω	MU-GA20/GA25VB  MU-GA35VB 
Terminal	Normal																							
	MU-GA20/GA25VB- [E1]	MU-GA20/GA25VB- [E2]	MU-GA20VB- [E3]																					
C-R	3.41 ~ 4.18 Ω	3.19 ~ 3.91 Ω	3.98 ~ 4.88 Ω																					
C-S	5.41 ~ 6.63 Ω	4.76 ~ 5.83 Ω	6.23 ~ 7.63 Ω																					
Terminal	Normal																							
	MU-GA35VB																							
C-R	2.46 ~ 3.02 Ω																							
C-S	4.79 ~ 5.86 Ω																							
Outdoor fan motor (MF) INNER FUSE 145 ± 2°C CUT OFF	Measure the resistance between the terminals with a tester. (Coil wiring temperature -10 °C ~ 40 °C) <table border="1" style="margin-top: 10px;"> <thead> <tr> <th rowspan="2">Color of lead wire</th> <th colspan="2">Normal</th> </tr> <tr> <th>MU-GA20/GA25VB</th> <th>MU-GA35VB</th> </tr> </thead> <tbody> <tr> <td>WHT-BLK</td> <td>323 ~ 396 Ω</td> <td>189 ~ 233 Ω</td> </tr> <tr> <td>BLK-RED</td> <td>241 ~ 296 Ω</td> <td>270 ~ 332 Ω</td> </tr> </tbody> </table>	Color of lead wire	Normal		MU-GA20/GA25VB	MU-GA35VB	WHT-BLK	323 ~ 396 Ω	189 ~ 233 Ω	BLK-RED	241 ~ 296 Ω	270 ~ 332 Ω												
Color of lead wire	Normal																							
	MU-GA20/GA25VB	MU-GA35VB																						
WHT-BLK	323 ~ 396 Ω	189 ~ 233 Ω																						
BLK-RED	241 ~ 296 Ω	270 ~ 332 Ω																						

Ⓟ PROTECTOR

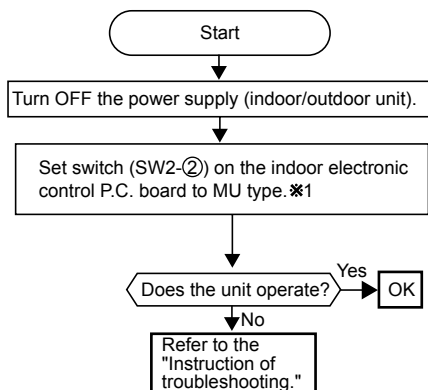
9-4. TROUBLESHOOTING FLOW

Indoor unit MSC type

When OPERATION INDICATOR lamp flashes 0.5-second intervals.

Outdoor unit does not operate.

Ⓐ Check of MU & MUX TYPE/MUH & MXZ TYPE SWITCH OVER

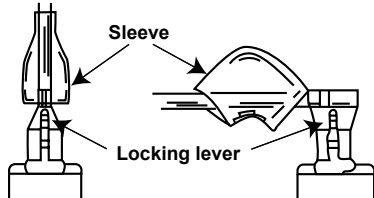


*1 Set the switch (SW2- ②) on the indoor electronic control P.C. board to MU type, when the outdoor unit is MU type.
 If the setting is MUH or MXZ type, the unit does not work.
 Refer to "MU & MUX TYPE/MUH & MXZ TYPE SWITCH OVER AND AUTO RESTART FUNCTION" on the indoor unit service manual.

<"Terminal with locking mechanism" Detaching points>

The terminal which has the locking mechanism can be detached as shown below.
There are two types (Refer to (1) and (2)) of the terminal with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

(1) Slide the sleeve and check if there is a locking lever or not.



- ① Slide the sleeve.
- ② Pull the terminal while pushing the locking lever.

(2) The terminal with this connector has the locking mechanism.

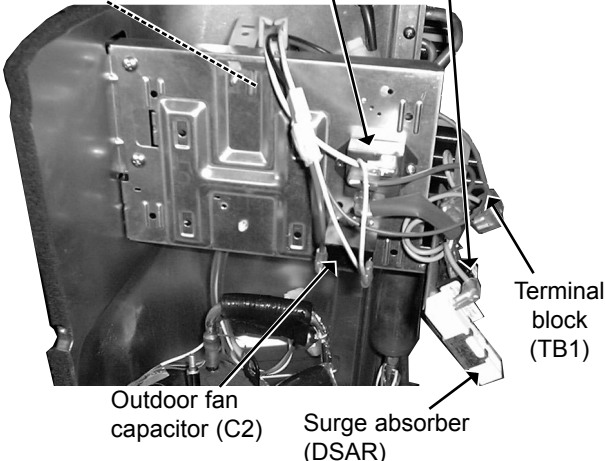
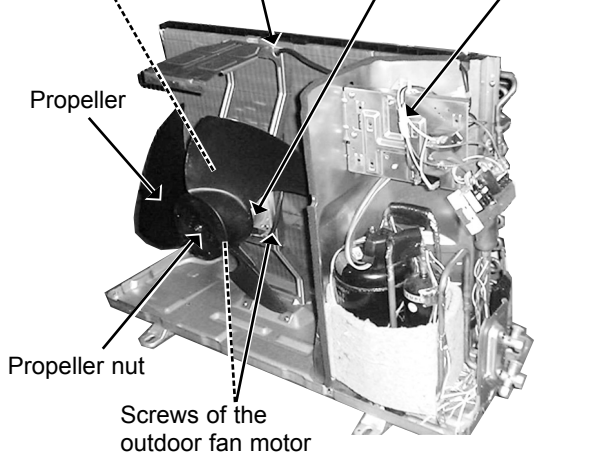
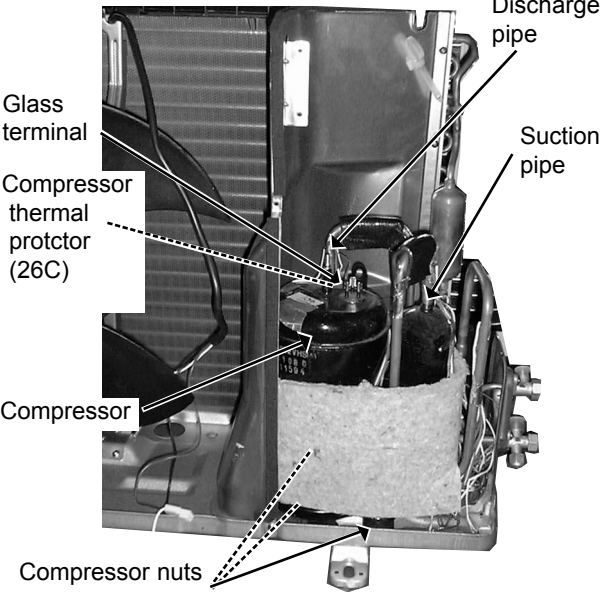


- ① Hold the sleeve, and pull out the terminal slowly.

MU-GA20VB MU-GA25VB MU-GA35VB OUTDOOR UNIT

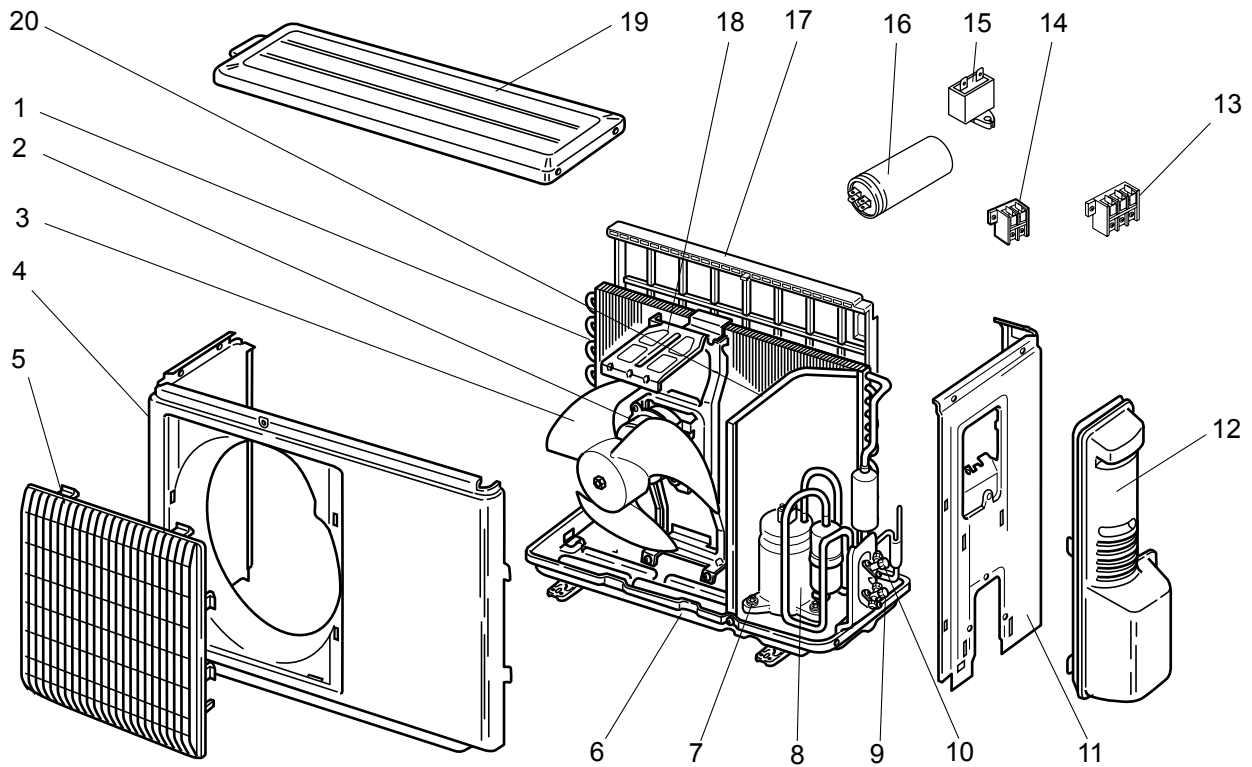
OPERATING PROCEDURE	PHOTOS
<p>1. Removing the cabinet</p> <ol style="list-style-type: none"> (1) Remove the screws of the top panel. (2) Remove the screw of the service panel. (3) Remove the screws of the cabinet. (4) Remove the screws of the cabinet and motor support. (5) Remove the service panel, and remove the screw from the insides. (6) Remove the top panel. (7) Remove the cabinet. <p>Photo 3</p> <p>Screws of the top panel</p> <p>Screw of the Service panel</p> <p>Screw of the cabinet</p>	<p>Photo 1</p> <p>Screw of the cabinet and motor support</p> <p>Screws of the cabinet</p> <p>Photo 2 MU-GA20/GA25VB</p> <p>Screws of the top panel</p> <p>Screws of the cabinet</p>



OPERATING PROCEDURE	PHOTOS
<p>2. Removing the electrical parts</p> <p>(1) Remove the service panel and the cabinet. (Refer to 1.)</p> <p>(2) Remove the following parts.</p> <ul style="list-style-type: none">• Compressor capacitor (C1)• Outdoor fan capacitor (C2)• Terminal block (TB1, TB2)• Surge absorber (DSAR)• Compressor contactor (52C)• Compressor thermal protector(26C) (Photo 6)	<p>Photo 4</p> <p>Compressor capacitor (C1) Compressor contactor (52C) Terminal block (TB2)</p>  <p>Outdoor fan capacitor (C2) Surge absorber (DSAR)</p> <p>Terminal block (TB1)</p>
<p>3. Removing the propeller and the outdoor fan motor</p> <p>(1) Remove the cabinet. (Refer to 1.)</p> <p>(2) Remove the propeller nut.</p> <p>(3) Remove the propeller.</p> <p>NOTE : Loosen the propeller in the rotating direction for removal.</p> <p>When attaching the propeller, align the mark on the propeller and the motor shaft cut section. Set the propeller in position by using the cut on the shaft and the mark on the propeller.</p> <p>(4) Remove lead clamps and disconnect the outdoor fan motor connector.</p> <p>(5) Remove screws fixing the fan motor.</p> <p>(6) Remove the outdoor fan motor.</p>	<p>Photo 5</p> <p>Screws of the outdoor fan motor Hook Outdoor fan motor Outdoor fan motor connector</p>  <p>Propeller</p> <p>Propeller nut</p> <p>Screws of the outdoor fan motor</p>
<p>4. Removing the compressor</p> <p>(1) Remove the cabinet. (Refer to 1.)</p> <p>(2) Remove the relay panel.</p> <p>(3) Remove the soundproof felt.</p> <p>(4) Remove the terminal cover on the compressor.</p> <p>(5) Disconnect lead wires from the glass terminal of the compressor.</p> <p>(6) Recover gas from the refrigerant circuit.</p> <p>NOTE: Recover gas from the pipes until the pressure gauge shows 0 kg/cm² (0 MPa) .</p> <p>(7) Disconnect the welded part of the discharge pipe.</p> <p>(8) Disconnect the welded part of the suction pipe.</p> <p>(9) Remove nuts fixing the compressor.</p> <p>(10) Remove the compressor.</p>	<p>Photo 6</p>  <p>Glass terminal</p> <p>Compressor thermal protector (26C)</p> <p>Compressor</p> <p>Compressor nuts</p> <p>Discharge pipe</p> <p>Suction pipe</p>

MU-GA20VB
MU-GA25VB
MU-GA35VB

11-1. OUTDOOR UNIT STRUCTURAL PARTS, ELECTRICAL PARTS AND FUNCTIONAL PARTS



PARTS LIST (non-RoHS compliant)

MU-GA20VB MU-GA25VB MU-GA35VB

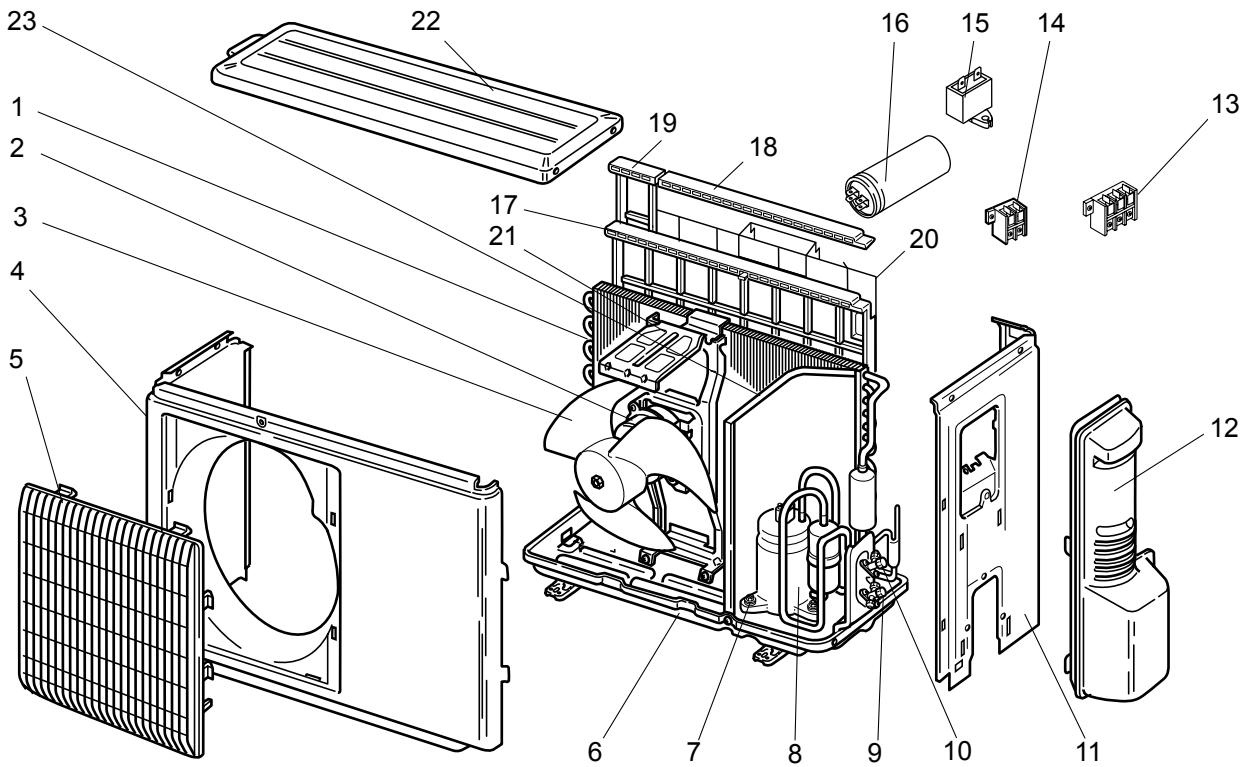
11-1. OUTDOOR UNIT STRUCTURAL PARTS, ELECTRICAL PARTS AND FUNCTIONAL PARTS

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

No.	Part No.	Part name	Symbol in Wiring Diagram	Q'ty/unit			Remarks
				MU-GA20VB-[E1]	MU-GA25VB-[E1]	MU-GA35VB-[E1]	
1	E02 901 630	OUTDOOR HEAT EXCHANGER		1	1		
	E02 903 630	OUTDOOR HEAT EXCHANGER				1	
2	E02 899 301	OUTDOOR FAN MOTOR	MF	1	1		RA6V21-□□
	E02 900 301	OUTDOOR FAN MOTOR	MF			1	RA6V33-□□
3	E02 665 501	PROPELLER		1	1	1	
4	E02 899 232	CABINET		1	1		
	E02 903 232	CABINET				1	
5	E02 927 521	GRILLE(OUT)		1	1	1	
6	E02 899 290	BASE		1	1		
	E02 903 290	BASE				1	
7	E02 075 506	COMPRESSOR RUBBER SET		3	3		3RUBBERS/SET
	E02 781 506	COMPRESSOR RUBBER SET				3	3RUBBERS/SET
8	E02 742 900	COMPRESSOR	MC	1	1		RN092VHSHT
	E02 903 900	COMPRESSOR	MC			1	5PS132DAH01
9	E02 901 661	STOP VALVE(GAS)		1	1	1	φ9.52
10	E02 901 662	STOP VALVE(LIQUID)		1	1	1	φ6.35
11	E02 901 233	BACK PANEL		1	1		
	E02 927 233	BACK PANEL				1	
12	E02 927 245	SERVICE PANEL		1	1	1	
13	E02 817 374	TERMINAL BLOCK	TB1	1	1	1	3P
14	E02 832 374	TERMINAL BLOCK	TB2	1	1	1	2P
15	E02 899 351	OUTDOOR FAN CAPACITOR	C2	1	1		1.8μF/440VAC
	E02 900 351	OUTDOOR FAN CAPACITOR	C2			1	2.0μF/440VAC
16	E02 742 353	COMPRESSOR CAPACITOR	C1	1	1		20μF/440VAC
	E02 665 353	COMPRESSOR CAPACITOR	C1			1	25μF/440VAC
17	E02 899 523	CONDENSER NET		1	1		
	E02 838 523	CONDENSER NET				1	
18	E02 899 515	MOTOR SUPPORT		1	1	1	
19	E02 927 297	TOP PANEL		1	1	1	
20	E02 899 293	SEPARATOR		1	1	1	
21	E02 735 382	FUSE	F			1	T20AL250V
22	E02 735 241	FUSE HOLDER				1	
23	E02 466 340	COMPRESSOR CONTACTOR	52C	1	1	1	
24	E02 895 383	SURGE ABSORBER	DSAR	1	1	1	
25	E02 408 936	CAPILLARY TUBE		1	1		φ3.0 x φ1.4 x 700
	E02 637 936	CAPILLARY TUBE				1	φ3.0 x φ1.4 x 450
26	E02 903 330	OVERLOAD RELAY	51C			1	

**MU-GA20VB
 MU-GA25VB
 MU-GA35VB**

12-1. OUTDOOR UNIT STRUCTURAL PARTS, ELECTRICAL PARTS AND FUNCTIONAL PARTS



RoHS PARTS LIST (RoHS compliant)

MU-GA20VB MU-GA25VB MU-GA35VB

12-1. OUTDOOR UNIT STRUCTURAL PARTS, ELECTRICAL PARTS AND FUNCTIONAL PARTS

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

No.	RoHS	Part No.	Part name	Symbol in Wiring Diagram	Q'ty/unit						Remarks	
					MU-GA20VB- E1	MU-GA20VB- E2	MU-GA20VB- E3	MU-GA25VB- E1	MU-GA25VB- E2	MU-GA35VB- E1		MU-GA35VB- E2
1	G	E12 901 630	OUTDOOR HEAT EXCHANGER		1	1		1	1			
	G	E12 903 630	OUTDOOR HEAT EXCHANGER						1			
	G	E12 A83 630	OUTDOOR HEAT EXCHANGER							1		
	G	E12 E92 630	OUTDOOR HEAT EXCHANGER			1						
	G	E12 E93 630	OUTDOOR HEAT EXCHANGER								1	
2	G	E12 899 301	OUTDOOR FAN MOTOR	MF	1	1	1	1	1			RA6V21-□□
	G	E12 900 301	OUTDOOR FAN MOTOR	MF						1	1	RA6V33-□□
3	G	E12 665 501	PROPELLER		1	1	1	1	1	1	1	
4	G	E12 899 232	CABINET		1	1	1	1	1			
	G	E12 903 232	CABINET						1			
	G	E12 A83 232	CABINET							1	1	
5	G	E12 927 521	GRILLE(OUT)		1	1	1	1	1	1	1	
6	G	E12 899 290	BASE		1			1				
	G	E12 903 290	BASE						1	1		
	G	E12 A89 290	BASE			1			1			
	G	E12 B14 290	BASE				1					
	G	E12 E93 290	BASE								1	
7	G	E12 075 506	COMPRESSOR RUBBER SET		3			3				3RUBBERS/SET
	G	E12 781 506	COMPRESSOR RUBBER SET						3	3	3	3RUBBERS/SET
	G	E12 065 506	COMPRESSOR RUBBER SET			3	3		3			3RUBBERS/SET
8	G	E12 742 900	COMPRESSOR	MC	1			1				RN092VHSHT
	G	E12 903 900	COMPRESSOR	MC					1	1	1	5PS132DAH01
	G	E12 B14 900	COMPRESSOR	MC		1			1			KN092VDMHC
	G	E12 E92 900	COMPRESSOR	MC			1					KN083VDMHC
9	G	E12 901 661	STOP VALVE (GAS)		1	1	1	1	1	1	1	φ9.52
10	G	E12 901 662	STOP VALVE (LIQUID)		1			1	1			φ6.35
	G	E12 B14 662	STOP VALVE (LIQUID)			1	1	1		1	1	φ6.35
11	G	E12 901 233	BACK PANEL		1	1	1	1	1			
	G	E12 927 233	BACK PANEL						1	1		
	G	E12 C39 233	BACK PANEL								1	
12	G	E12 927 245	SERVICE PANEL		1	1	1	1	1	1	1	
13	G	E12 817 374	TERMINAL BLOCK	TB1	1	1		1	1	1	1	3P
	G	E12 D89 374	TERMINAL BLOCK	TB1			1				1	3P
14	G	E12 832 374	TERMINAL BLOCK	TB2	1	1	1	1	1	1	1	2P
15	G	E12 899 351	OUTDOOR FAN CAPACITOR	C2	1	1	1	1	1			1.8μF/440VAC
	G	E12 900 351	OUTDOOR FAN CAPACITOR	C2						1	1	2.0μF/440VAC
16	G	E12 742 353	COMPRESSOR CAPACITOR	C1	1			1				20μF/450VAC
	G	E12 665 353	COMPRESSOR CAPACITOR	C1		1	1		1	1	1	25μF/450VAC
17	G	E12 899 523	CONDENSER NET		1	1	1	1	1			
	G	E12 838 523	CONDENSER NET						1			
	G	E12 929 523	CONDENSER NET							1		
18	G	E12 B63 523	CONDENSER NET (A)								1	
19	G	E12 B64 523	CONDENSER NET (B)								1	
20	G	E12 C39 525	CONDENSER WIRE NET								1	
21	G	E12 899 515	MOTOR SUPPORT		1	1	1	1	1	1		
	G	E12 900 515	MOTOR SUPPORT							1		
	G	E12 B63 515	MOTOR SUPPORT								1	
22	G	E12 927 297	TOP PANEL		1	1	1	1	1	1	1	
23	G	E12 899 293	SEPARATOR		1	1	1	1	1	1		
	G	E12 900 293	SEPARATOR							1		
	G	E12 B63 293	SEPARATOR								1	
24	G	E12 735 382	FUSE	F					1	1	1	T20AL250V
25	G	E12 735 241	FUSE HOLDER						1	1	1	
26	G	E12 466 340	COMPRESSOR CONTACTOR	52C	1	1	1	1	1	1	1	
27	G	E12 895 383	SURGE ABSORBER	DSAR	1	1	1	1	1	1	1	
28	G	E12 408 936	CAPILLARY TUBE		1			1				φ3.0 x φ1.4 x 700
	G	E12 637 936	CAPILLARY TUBE						1			φ3.0 x φ1.4 x 450
	G	E12 B14 936	CAPILLARY TUBE			1	1		1			φ3.0 x φ1.4 x 900
	G	E12 A86 936	CAPILLARY TUBE							1		φ3.0 x φ1.4 x 350
	G	E12 642 936	CAPILLARY TUBE								1	φ3.0 x φ1.4 x 400
29	G	E12 903 330	OVERLOAD RELAY	51C					1	1		
30	G	E12 903 330	COMPRESSOR THERMAL PROTECTOR	26C							1	



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