MVZ MULTI-POSITION AIR HANDLER

CONTENTS MVZ-1

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

1. REFERENCE SERVICE MANUAL

For information on service, please refer to the service manual as follows.

1-1. INDOOR UNIT

Model name	Service Ref.	Service Manual No.
MVZ-A12AA4 MVZ-A18AA4 MVZ-A24AA4 MVZ-A30AA4 MVZ-A36AA4	MVZ-A12AA4.MX MVZ-A18AA4.MX MVZ-A24AA4.MX MVZ-A30AA4.MX MVZ-A36AA4.MX	HWE14070

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

2. SPECIFICATIONS

2-1. INDOOR UNIT
MVZ-A12AA4

Power source			1-phase 208/230 V 60 Hz
Cooling capacity	*1	BTU/h	12,000
	*1	kW	3.5
*2	Power input	kW	0.080
*2	Current input	A	0.80/0.70
Heating capacity	*3	BTU/h	13,500
	*3	kW	4.0
*2	Power input	kW	0.080
*2	Current input	A	0.80/0.70
External dimension HxWxD		inch	50-1/4 x 17 x 21-5/8
		mm	1,275 x 432 x 548
Net weight		lbs (kg)	113 (51)
Heat exchanger			Cross fin (Aluminum fin and copper tube)
FAN	Type x Quantity		Sirocco fan x 1
	External	in.WG	<0.30> - 0.50 - <0.80>
*4	static press.	Pa	<75> - 125 - <200>
	Motor Type		DC motor
	Motor output	kW	0.121
	Air flow rate	cfm	280 - 340 - 400
	(Low-Mid-High)	m^3/min	7.9 - 9.6 - 11.3
		L/s	132 - 160 - 188
Sound pressure level *2 (Low-Mid-High)		dB <A>	27-31-35
Protection device			Fuse
Diameter of refrigerant pipe	Liquid (R410A)	inch (mm)	1/4 (6.35)Flare
	Gas (R410A)	inch (mm)	1/2 (12.7)Flare
Field drain pipe size		inch (mm)	3/4 (19.05) FPT

NOTE:

*1.Nominal cooling conditions
Indoor: 80°FD.B./67°FW.B. (26.7°CD.B./19.4°CW.B.), Outdoor: 95°FD.B. (35°CD.B.)
Pipe length: 25 ft. (7.6 m), Level difference: 0 ft. (0 m)

*2.The values are measured at the factory setting of external static pressure.

*3.Nominal heating conditions
Indoor: 70°FD.B. (21.1°CD.B.), Outdoor: 47°FD.B./43°FW.B. (8.3°CD.B./6.1°CW.B.)
Pipe length: 25 ft. (7.6 m), Level difference: 0 ft. (0 m)

*4.The factory setting of external static pressure is shown without < >.
Refer to "AIR FLOW DATA", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.

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

2. SPECIFICATIONS

MVZ-A18AA4

Power source			1-phase 208/230 V 60 Hz
Cooling capacity	*1	BTU/h	18,000
	*1	kW	5.3
	*2 Power input	kW	0.130
	*2 Current input	A	1.20/1.10
Heating capacity	*3	BTU/h	20,000
	*3	kW	5.9
	*2 Power input	kW	0.130
	*2 Current input	A	1.20/1.10
External dimension HxWxD		inch	50-1/4 x 17 x 21-5/8
		mm	1,275 x 432 x 548
Net weight		lbs (kg)	113 (51)
Heat exchanger			Cross fin (Aluminum fin and copper tube)
FAN	Type x Quantity		Sirocco fan x 1
	External *4 static press.	in.WG	<0.30> - 0.50 - <0.80>
		Pa	<75> - 125 - <200>
	Motor Type		DC motor
	Motor output	kW	0.121
	Air flow rate (Low-Mid-High)	cfm	410 - 497 - 585
		m^3/min	11.6 - 14.1 - 16.6
		L/s	193 - 235 - 277
Sound pressure level *2 (Low-Mid-High)		dB <A>	28-32-36
Protection device			Fuse
Diameter of refrigerant pipe	Liquid (R410A)	inch (mm)	1/4 (6.35)Flare
	Gas (R410A)	inch (mm)	1/2 (12.7)Flare
Field drain pipe size		inch (mm)	3/4 (19.05) FPT

NOTE:

*1.Nominal cooling conditions
Indoor: 80°FD.B./67 °FW.B. (26.7 °CD.B./19.4 °CW.B.), Outdoor: 95 °FD.B. (35 °CD.B.)
Pipe length: 25 ft. (7.6 m), Level difference: 0 ft. (0 m)

*2.The values are measured at the factory setting of external static pressure.

*3.Nominal heating conditions
Indoor: 70°FD.B. (21.1 °CD.B.), Outdoor: 47 °FD.B./43 °FW.B. (8.3 °CD.B./6.1 °CW.B.)
Pipe length: 25 ft. (7.6 m), Level difference: 0 ft. (0 m)

*4.The factory setting of external static pressure is shown without < >.
Refer to "AIR FLOW DATA", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.

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

MVZ-A24AA4

Power source			1-phase 208/230 V 60 Hz
Cooling capacity	*1	BTU/h	24,000
	*1	kW	7.0
	*2 Power input	kW	0.180
	*2 Current input	A	1.60/1.40
Heating capacity	*3	BTU/h	27,000
	*3	kW	7.9
	*2 Power input	kW	0.180
	*2 Current input	A	1.60/1.40
External dimension HxWxD		inch	50-1/4 x 17 x 21-5/8
		mm	1,275 x 432 x 548
Net weight		lbs (kg)	113 (51)
Heat exchanger			Cross fin (Aluminum fin and copper tube)
FAN	Type x Quantity		Sirocco fan x 1
	External	in.WG	<0.30> - 0.50 - <0.80>
	*4 static press.	Pa	<75> - 125 - <200>
	Motor Type		DC motor
	Motor output	kW	0.121
	Air flow rate	cfm	515 - 625 - 735
	(Low-Mid-High)	m^3/min	14.6 - 17.7 - 20.8
		L/s	243 - 295 - 347
Sound pressure level *2 (Low-Mid-High)		dB <A>	30-34-38
Protection device			Fuse
Diameter of refrigerant pipe	Liquid (R410A)	inch (mm)	3/8 (9.52)Flare
	Gas (R410A)	inch (mm)	5/8 (15.88)Flare
Field drain pipe size		inch (mm)	3/4 (19.05) FPT

NOTE:

*1.Nominal cooling conditions
Indoor: 80°FD.B./67 °FW.B. (26.7 °CD.B./19.4 °CW.B.), Outdoor: 95 °FD.B. (35 °CD.B.)
Pipe length: 25 ft. (7.6 m), Level difference: 0 ft. (0 m)

*2.The values are measured at the factory setting of external static pressure.

*3.Nominal heating conditions
Indoor: 70°FD.B. (21.1 °CD.B.), Outdoor: 47 °FD.B./43 °FW.B. (8.3 °CD.B./6.1 °CW.B.)
Pipe length: 25 ft. (7.6 m), Level difference: 0 ft. (0 m)

*4.The factory setting of external static pressure is shown without < >.
Refer to "AIR FLOW DATA", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.

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

MVZ-A30AA4

Power source			1-phase 208/230 V 60 Hz
Cooling capacity	*1	BTU/h	30,000
	*1	kW	8.8
	*2 Power input	kW	0.210
	*2 Current input	A	2.00/1.70
Heating capacity	*3	BTU/h	34,000
	*3	kW	10.0
	*2 Power input	kW	0.210
	*2 Current input	A	2.00/1.70
External dimension HxWxD		inch	54-1/4 x 21 x 21-5/8
		mm	1,378 x 534 x 548
Net weight		lbs (kg)	141 (64)
Heat exchanger			Cross fin (Aluminum fin and copper tube)
FAN	Type x Quantity		Sirocco fan x 1
	External	in.WG	<0.30> - 0.50 - <0.80>
	*4 static press.	Pa	<75> - 125 - <200>
	Motor Type		DC motor
	Motor output	kW	0.244
	Air flow rate	cfm	613 - 744 - 875
	(Low-Mid-High)	m^3/min	17.3 - 21.1 - 24.8
		L/s	288 - 352 - 413
Sound pressure level *2 (Low-Mid-High)		dB <A>	32-36-40
Protection device			Fuse
Diameter of refrigerant pipe	Liquid (R410A)	inch (mm)	3/8 (9.52)Flare
	Gas (R410A)	inch (mm)	5/8 (15.88)Flare
Field drain pipe size		inch (mm)	3/4 (19.05) FPT

NOTE:

*1.Nominal cooling conditions
Indoor: 80°FD.B./67 °FW.B. (26.7 °CD.B./19.4 °CW.B.), Outdoor: 95 °FD.B. (35 °CD.B.)
Pipe length: 25 ft. (7.6 m), Level difference: 0 ft. (0 m)

*2.The values are measured at the factory setting of external static pressure.

*3.Nominal heating conditions
Indoor: 70°FD.B. (21.1 °CD.B.), Outdoor: 47 °FD.B./43 °FW.B. (8.3 °CD.B./6.1 °CW.B.)
Pipe length: 25 ft. (7.6 m), Level difference: 0 ft. (0 m)

*4.The factory setting of external static pressure is shown without < >.
Refer to "AIR FLOW DATA", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.

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

MVZ-A36AA4

Power source			1-phase 208/230 V 60 Hz
Cooling capacity	*1	BTU/h	36,000
	*1	kW	10.6
*2	Power input	kW	0.340
*2	Current input	A	3.00/2.70
Heating capacity	*3	BTU/h	40,000
	*3	kW	11.7
*2	Power input	kW	0.340
*2	Current input	A	3.00/2.70
External dimension HxWxD		inch	54-1/4 x 21 x 21-5/8
		mm	1,378 x 534 x 548
Net weight		lbs (kg)	141 (64)
Heat exchanger			Cross fin (Aluminum fin and copper tube)
FAN	Type x Quantity		Sirocco fan x 1
	External	in.WG	<0.30> - 0.50 - <0.80>
*4	static press.	Pa	<75> - 125 - <200>
	Motor Type		DC motor
	Motor output	kW	0.244
	Air flow rate	cfm	767 - 931 - 1,095
	(Low-Mid-High)	m^3/min	21.7 - 26.4 - 31.0
		L/s	362 - 440 - 517
Sound pressure level *2 (Low-Mid-High)		dB <A>	35-39-43
Protection device			Fuse
Diameter of refrigerant pipe	Liquid (R410A)	inch (mm)	3/8 (9.52)Flare
	Gas (R410A)	inch (mm)	5/8 (15.88)Flare
Field drain pipe size		inch (mm)	3/4 (19.05) FPT

NOTE:

*1.Nominal cooling conditions
Indoor: 80°FD.B./67 °FW.B. (26.7 °CD.B./19.4 °CW.B.), Outdoor: 95 °FD.B. (35 °CD.B.)
Pipe length: 25 ft. (7.6 m), Level difference: 0 ft. (0 m)

*2.The values are measured at the factory setting of external static pressure.

*3.Nominal heating conditions
Indoor: 70°FD.B. (21.1 °CD.B.), Outdoor: 47 °FD.B./43 °FW.B. (8.3 °CD.B./6.1 °CW.B.)
Pipe length: 25 ft. (7.6 m), Level difference: 0 ft. (0 m)

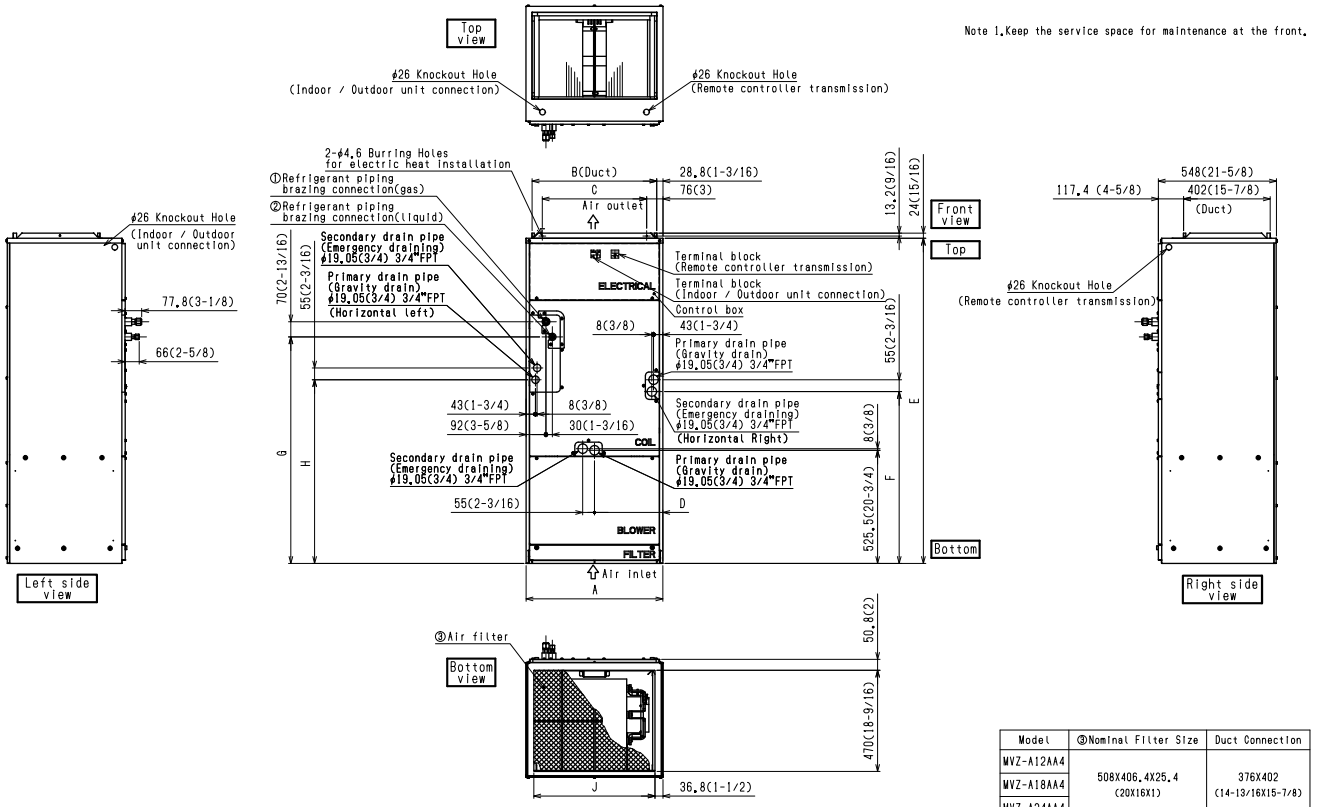
*4.The factory setting of external static pressure is shown without < >.
Refer to "AIR FLOW DATA", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.

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

3-1. INDOOR UNIT

Unit: inch

MVZ-A12AA4 MVZ-A18AA4 MVZ-A24AA4 MVZ-A30AA4 MVZ-A36AA4



Model	③Nominal Filter Size	Duct Connection
MVZ-A12AA4	508X406.4X25.4 (20X16X1)	376X402 (14-13/16X15-7/8)
MVZ-A18AA4		
MVZ-A24AA4		
MVZ-A30AA4	508X508X25.4 (20X20X1)	477X402 (18-13/16X15-7/8)
MVZ-A36AA4		

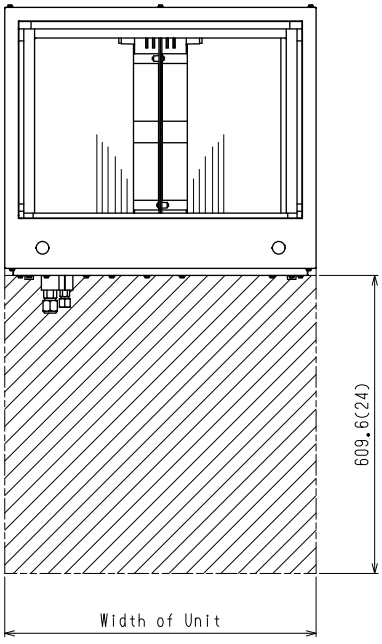
Unit:mm(in.)

Model	A	B	C	D	E	F	G	H	J	①Gas pipe	②Liquid pipe
MVZ-A12AA4	432 (17)	376 (14-13/16)	281 (11-1/8)	224 (8-7/8)	1275 (50-1/4)	680 (26-13/16)	823 (32-7/16)	735.5 (29)	360 (14-3/16)	ϕ12.7 (1/2)	ϕ6.35 (1/4)
MVZ-A18AA4											
MVZ-A24AA4										ϕ15.88 (5/8)	ϕ9.52 (3/8)
MVZ-A30AA4	534 (21)	477 (18-13/16)	382.6 (15-1/8)	266.5 (10-1/2)	1378 (54-1/4)	737 (29-1/16)	953.5 (37-9/16)	792 (31-3/16)	461 (18-3/16)		
MVZ-A36AA4											

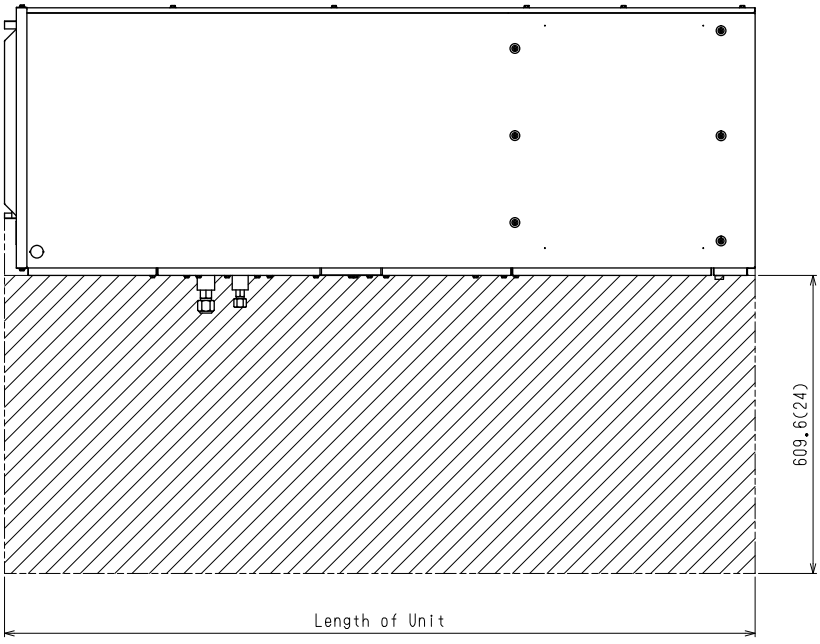
Due to continuing improvement, above specification may be subject to change without notice.

MVZ-A12AA4 MVZ-A18AA4 MVZ-A24AA4 MVZ-A30AA4 MVZ-A36AA4

Clearance Area



Vertical Installation

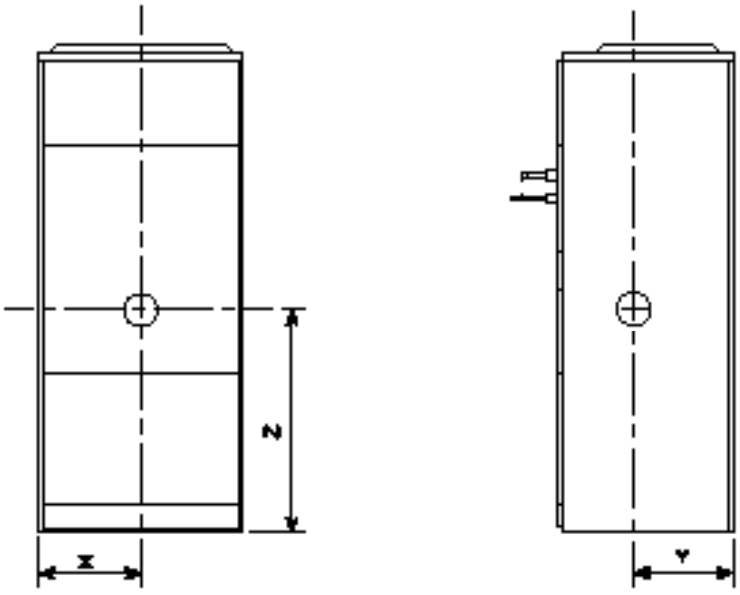


Horizontal Installation

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

4. POSITION OF THE CENTER OF GRAVITY

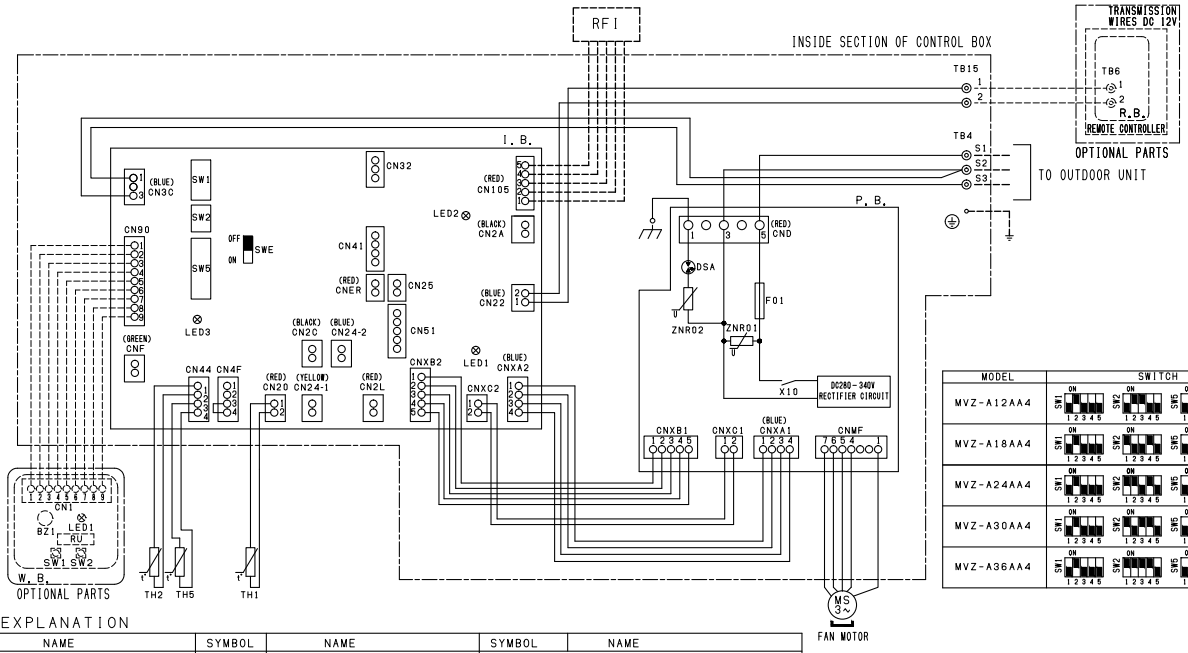
4-1. INDOOR UNIT



Unit: inch (mm)

Model name	X	Y	Z
MVZ-A12AA4 **MVZ-A18AA4** **MVZ-A24AA4**	8-7/8 (225)	11-1/4 (285)	24-1/16 (610)
MVZ-A30AA4 **MVZ-A36AA4**	11-1/16 (280)	11-7/16 (290)	26 (660)

5-1. INDOOR UNIT
MVZ-A12AA4 MVZ-A18AA4 MVZ-A24AA4 MVZ-A30AA4 MVZ-A36AA4



MODEL	SWITCH
MVZ-A12AA4	
MVZ-A18AA4	
MVZ-A24AA4	
MVZ-A30AA4	
MVZ-A36AA4	

SYMBOL EXPLANATION

SYMBOL	NAME
I. B.	INDOOR CONTROLLER BOARD
CN24-1	CONNECTOR (HEATER CONTROL 1ST)
CN24-2	CONNECTOR (HEATER CONTROL 2ND)
CN25	CONNECTOR (HUMIDITY OUTPUT)
CN2A	CONNECTOR (0-10V ANALOG INPUT)
CN2C	CONNECTOR (ERV OUTPUT)
CN2L	CONNECTOR (LOSSNAY)
CN32	CONNECTOR (REMOTE SWITCH)
CN41	CONNECTOR (HA TERMINAL-A)
CN51	CONNECTOR (CENTRALLY CONTROL)
CN90	CONNECTOR (WIRELESS)
CN105	CONNECTOR (RADIO FREQUENCY INTERFACE)
CNER	CONNECTOR (ERV INPUT)
CNF	CONNECTOR (HUMIDITY INPUT)
LED1	LED(POWER SUPPLY)
LED2	LED(REMOTE CONTROLLER SUPPLY)
LED3	LED(TRANSMISSION INDOOR-OUTDOOR)

SYMBOL	NAME
I. B.	INDOOR CONTROLLER BOARD
SW1	SWITCH (FOR MODEL SELECTION)
SW2	SWITCH (FOR CAPACITY CODE)
SW5	SWITCH (FOR MODE SELECTION)
SWE	CONNECTOR (EMERGENCY OPERATION)
P. B.	POWER SUPPLY BOARD
F01	FUSE AC250V 6.3A
ZNR01, 02	VARISTOR
DSA	ARRESTOR
X10	AUX. RELAY
TH1	INTAKE AIR TEMP. THERMISTOR
TH2	PIPE TEMP. THERMISTOR/LIQUID
TH5	COND./EVA.TEMP. THERMISTOR
TB4	TERMINAL BLOCK (INDOOR/OUTDOOR CONNECTING LINE)
TB15	TERMINAL BLOCK (REMOTE CONTROLLER TRANSMISSION LINE)
RFI	RADIO FREQUENCY INTERFACE FOR RF THERMOSTAT

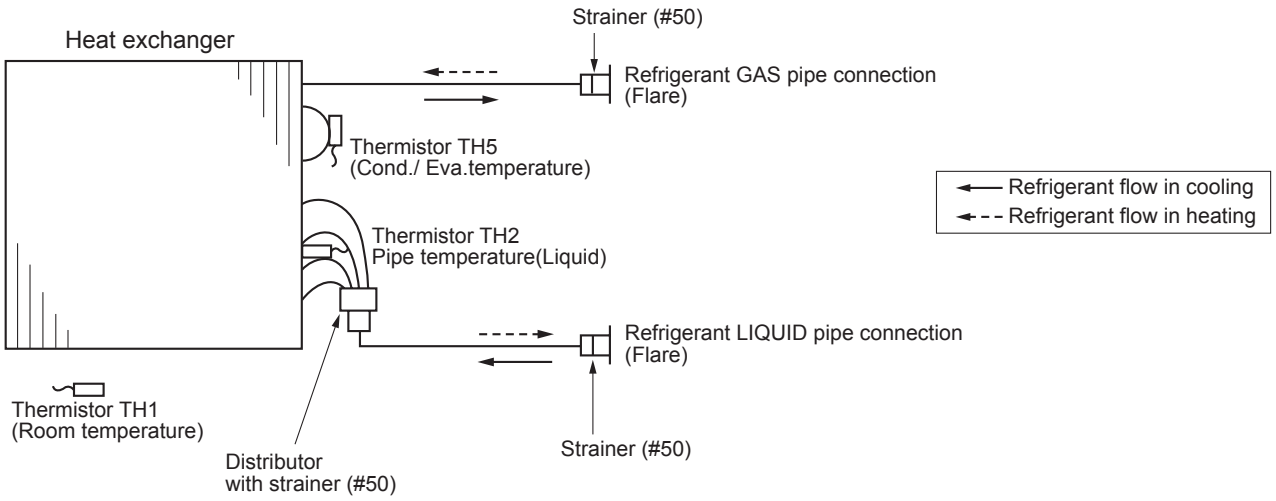
SYMBOL	NAME
OPTIONAL PARTS	
W. B.	IR WIRELESS REMOTE CONTROLLER BOARD
RU	RECEIVING UNIT
BZ1	BUZZER
LED1	LED(RUN INDICATOR)
SW1	SWITCH(HEATING ON/OFF)
SW2	SWITCH(COOLING ON/OFF)
R. B.	WIRED REMOTE CONTROLLER BOARD
TB6	TERMINAL BLOCK (REMOTE CONTROLLER TRANSMISSION LINE)

Note1. Since the outdoor side electric wiring may change be sure to check the outdoor unit electric wiring for servicing.
2. Indoor and outdoor connecting wires are made with polarities, make wiring matching terminal numbers (S1, S2, S3).
3. Symbols used in wiring diagram above are as follows.
:CONNECTOR
:TERMINAL
--- (HEAVY DOTTED LINE):FIELD WIRING
--- (THIN DOTTED LINE):OPTIONAL PARTS
4. Use copper supply wire.
UTILISER DES FILS D'ALIMENTATION EN CUIVRE.

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

6. REFRIGERANT SYSTEM DIAGRAM

6-1. INDOOR UNIT
MVZ-A12AA4 MVZ-A18AA4 MVZ-A24AA4 MVZ-A30AA4 MVZ-A36AA4



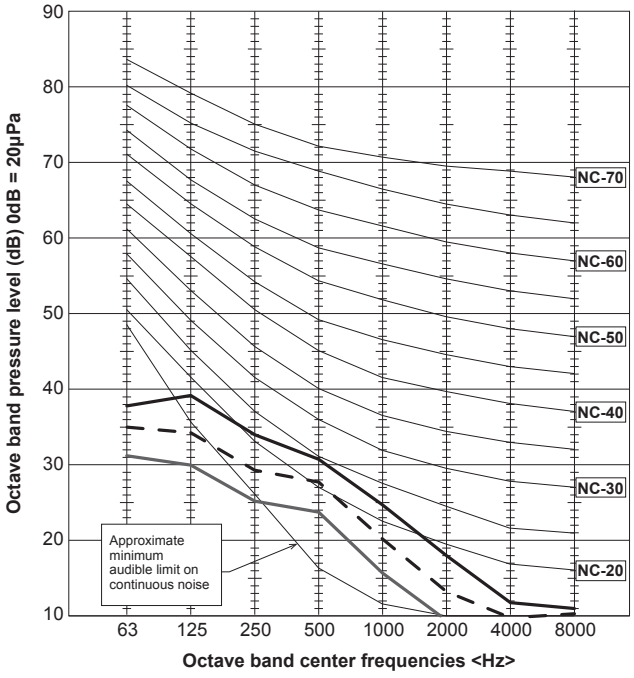
7. NOISE CRITERION CURVES

7-1. INDOOR UNIT

MVZ-A12AA4

Condition	A scale	LINE
High	32.0	———
Middle	28.0	- - -
Low	24.0	———

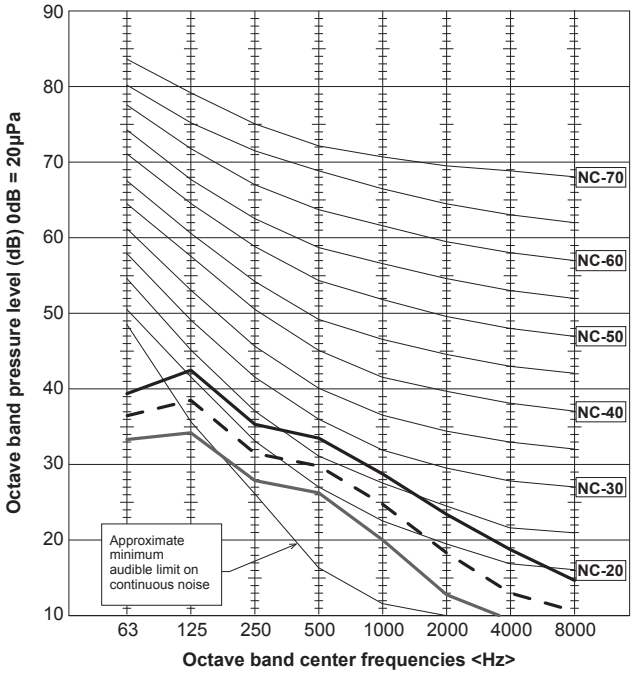
External Static Pressure: 75Pa



MVZ-A12AA4

Condition	A scale	LINE
High	35.0	———
Middle	31.0	- - -
Low	27.0	———

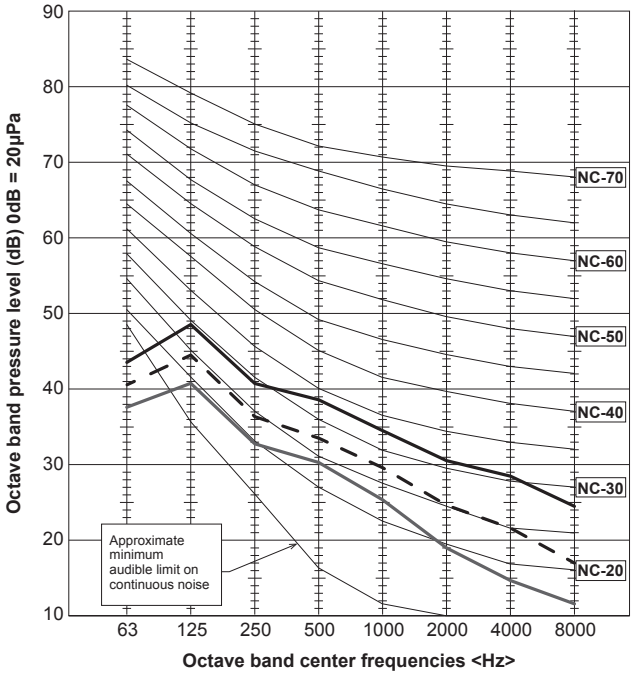
External Static Pressure: 125Pa



MVZ-A12AA4

Condition	A scale	LINE
High	41.0	———
Middle	36.0	- - -
Low	32.0	———

External Static Pressure: 200Pa



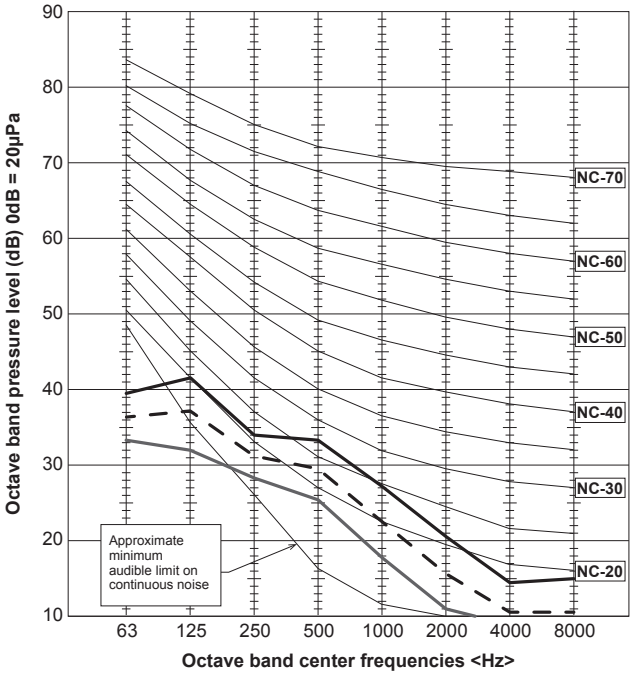
Due to continuing improvement, above specification may be subject to change without notice.

7. NOISE CRITERION CURVES

MVZ-A18AA4

Condition	A scale	LINE
High	34.0	———
Middle	30.0	- - -
Low	26.0	———

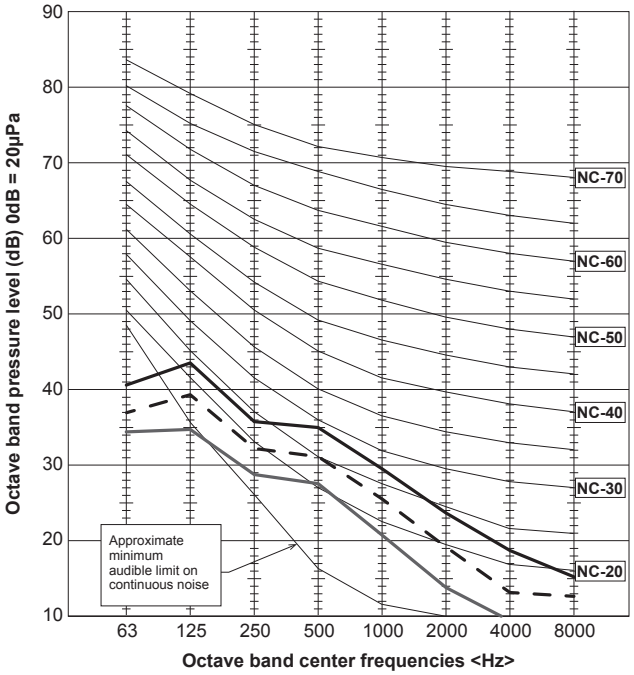
External Static Pressure: 75Pa



MVZ-A18AA4

Condition	A scale	LINE
High	36.0	———
Middle	32.0	- - -
Low	28.0	———

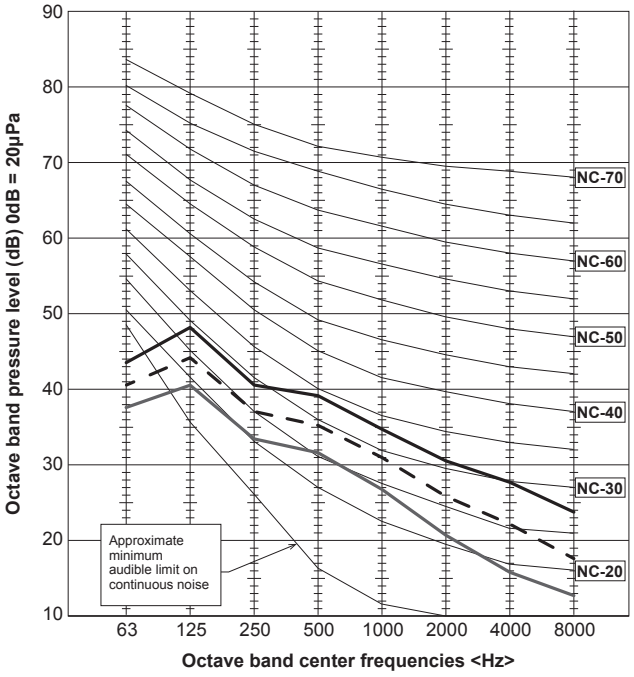
External Static Pressure: 125Pa



MVZ-A18AA4

Condition	A scale	LINE
High	41.0	———
Middle	37.0	- - -
Low	33.0	———

External Static Pressure: 200Pa



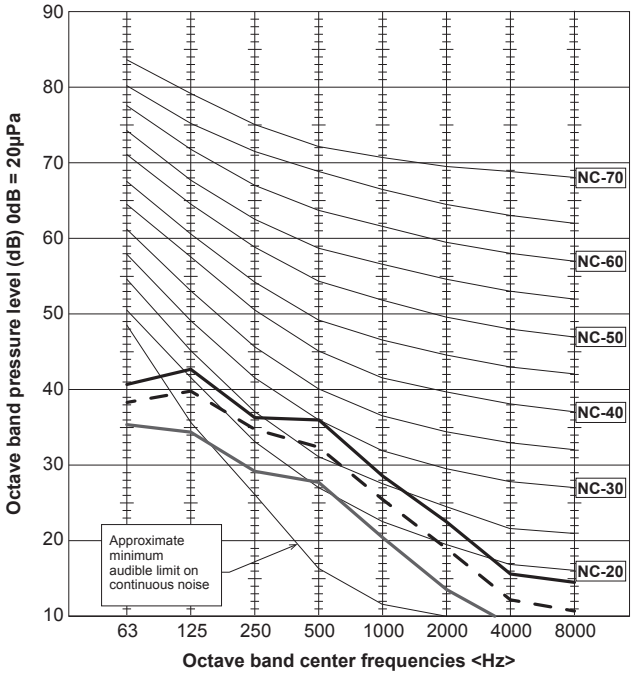
Due to continuing improvement, above specification may be subject to change without notice.

7. NOISE CRITERION CURVES

MVZ-A24AA4

Condition	A scale	LINE
High	36.0	———
Middle	33.0	- - -
Low	28.0	———

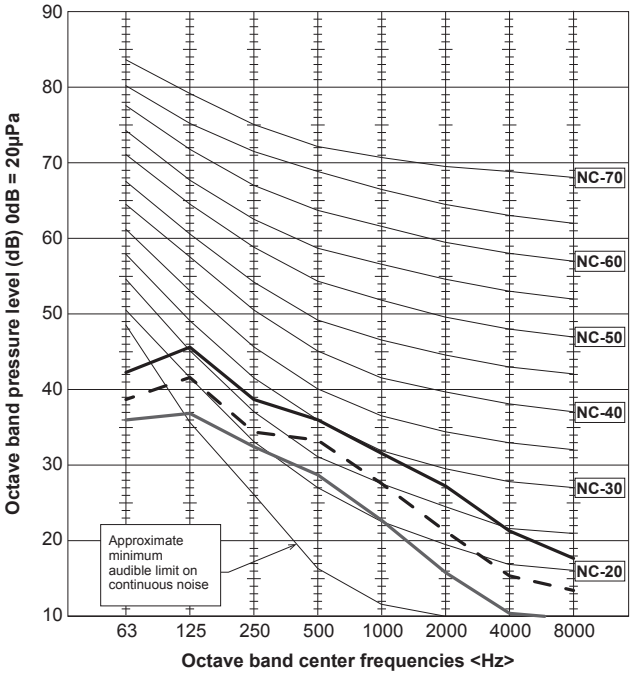
External Static Pressure: 75Pa



MVZ-A24AA4

Condition	A scale	LINE
High	38.0	———
Middle	34.0	- - -
Low	30.0	———

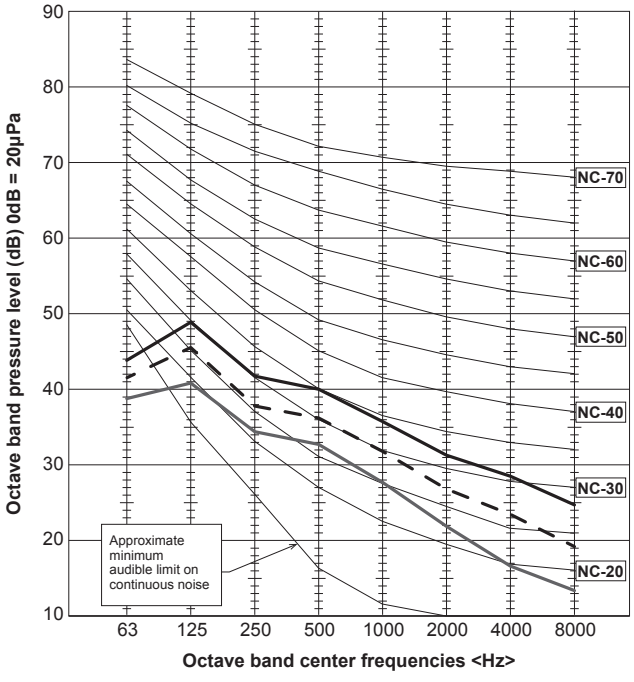
External Static Pressure: 125Pa



MVZ-A24AA4

Condition	A scale	LINE
High	42.0	———
Middle	38.0	- - -
Low	34.0	———

External Static Pressure: 200Pa



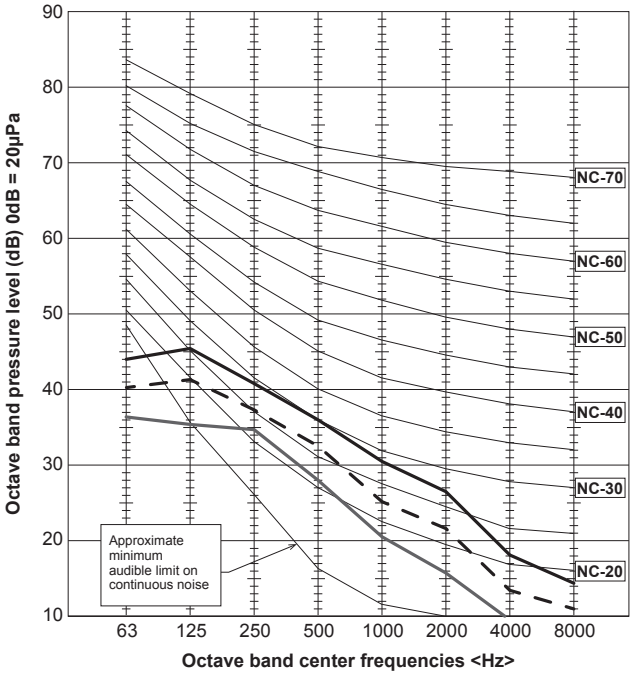
Due to continuing improvement, above specification may be subject to change without notice.

7. NOISE CRITERION CURVES

MVZ-A30AA4

Condition	A scale	LINE
High	38.0	———
Middle	34.0	- - -
Low	30.0	———

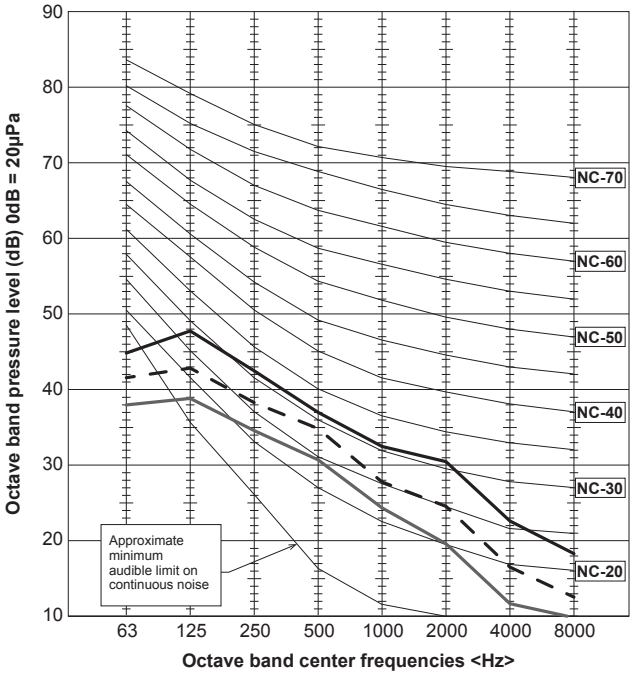
External Static Pressure: 75Pa



MVZ-A30AA4

Condition	A scale	LINE
High	40.0	———
Middle	36.0	- - -
Low	32.0	———

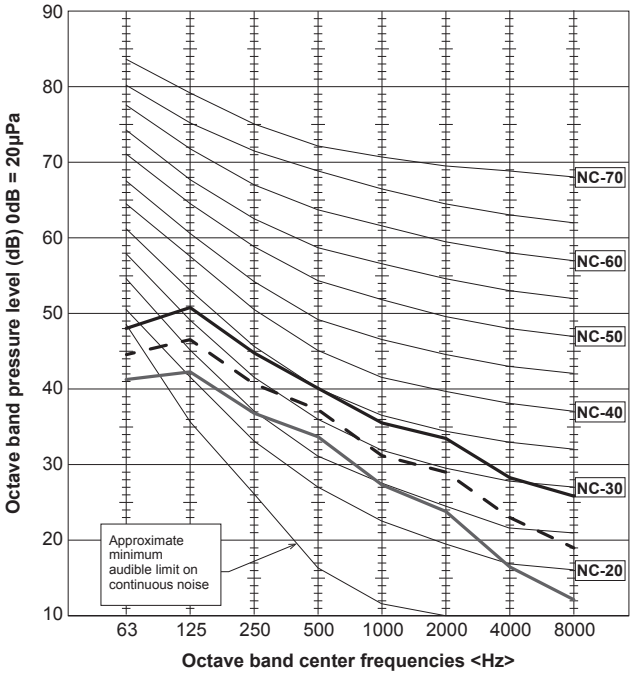
External Static Pressure: 125Pa



MVZ-A30AA4

Condition	A scale	LINE
High	43.0	———
Middle	39.0	- - -
Low	35.0	———

External Static Pressure: 200Pa



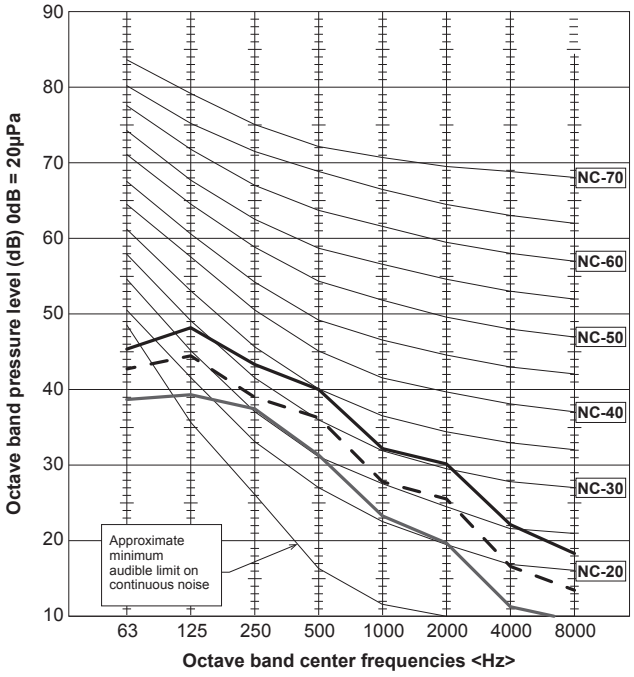
Due to continuing improvement, above specification may be subject to change without notice.

7. NOISE CRITERION CURVES

MVZ-A36AA4

Condition	A scale	LINE
High	41.0	———
Middle	37.0	- - -
Low	33.0	———

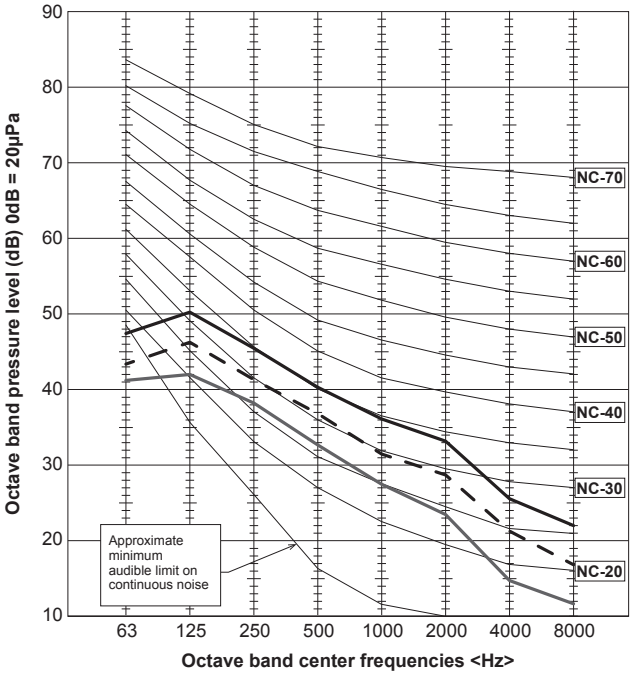
External Static Pressure: 75Pa



MVZ-A36AA4

Condition	A scale	LINE
High	43.0	———
Middle	39.0	- - -
Low	35.0	———

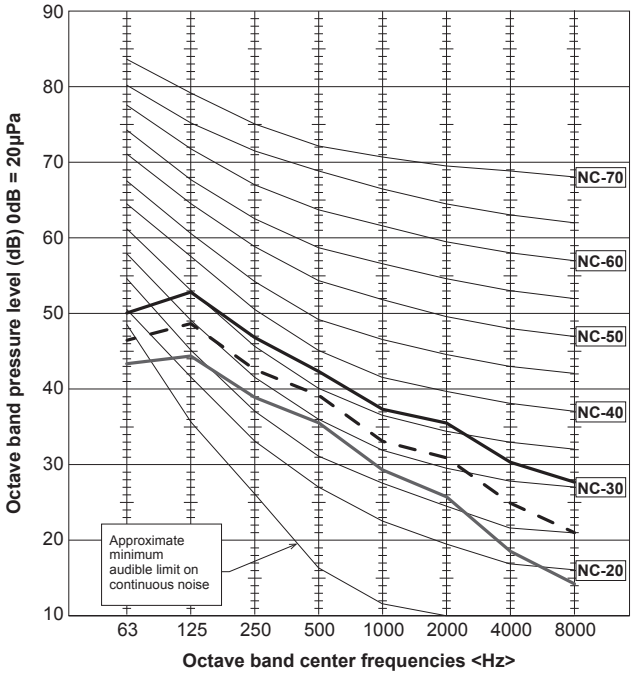
External Static Pressure: 125Pa

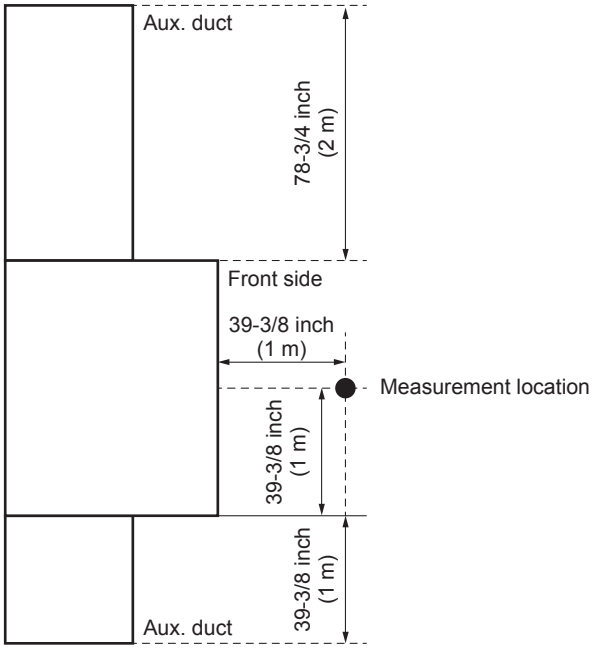


MVZ-A36AA4

Condition	A scale	LINE
High	45.0	———
Middle	41.0	- - -
Low	37.0	———

External Static Pressure: 200Pa

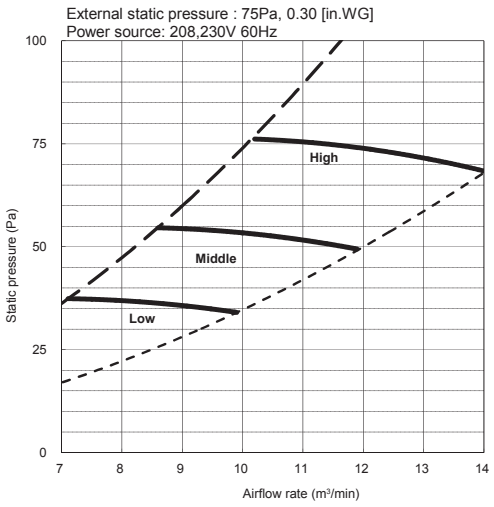




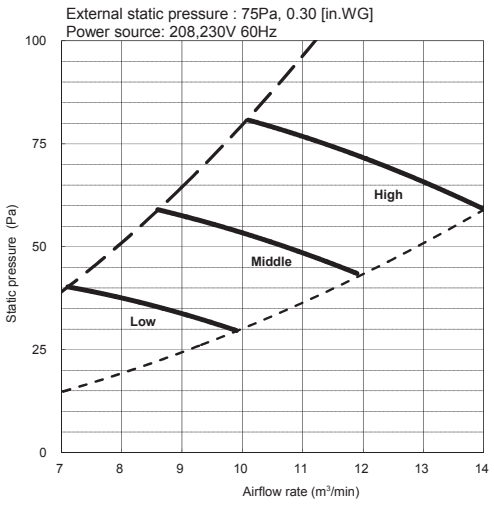
Due to continuing improvement, above specification may be subject to change without notice.

8-1. INDOOR UNIT
MVZ-A12AA4

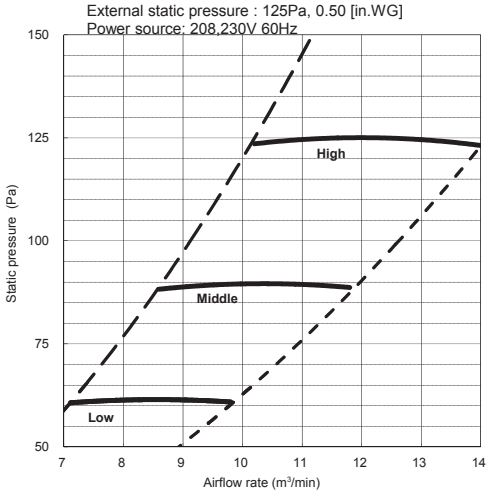
Vertical, Horizontal Right, Horizontal Left



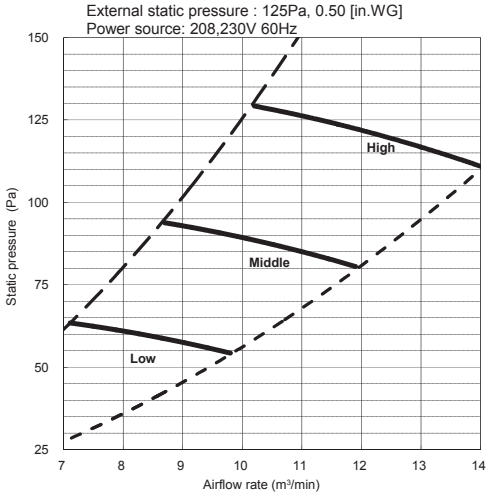
Down flow



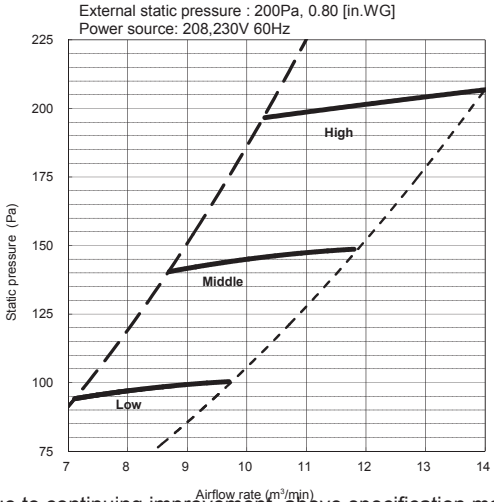
Vertical, Horizontal Right, Horizontal Left



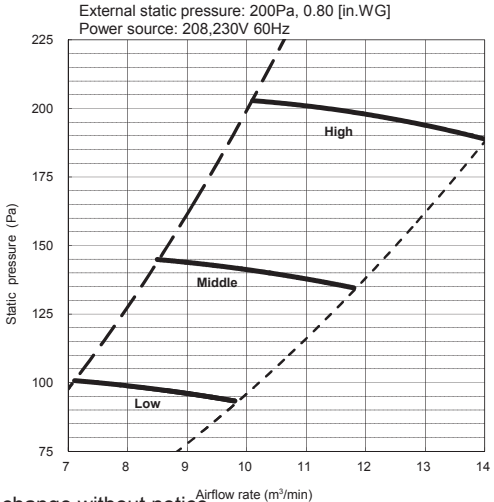
Down flow



Vertical, Horizontal Right, Horizontal Left



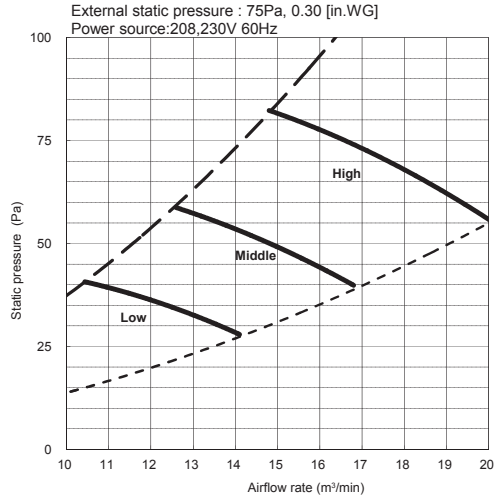
Down flow



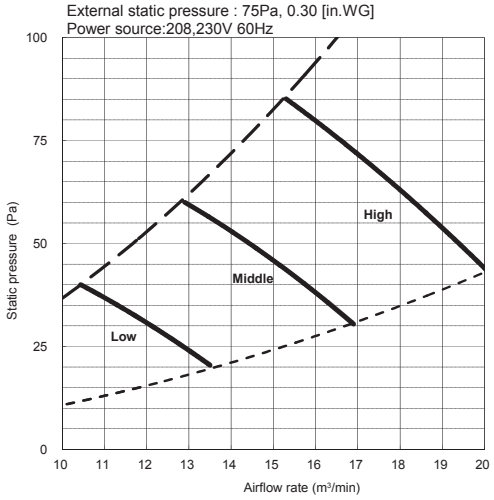
Due to continuing improvement, above specification may be subject to change without notice.

MVZ-A18AA4

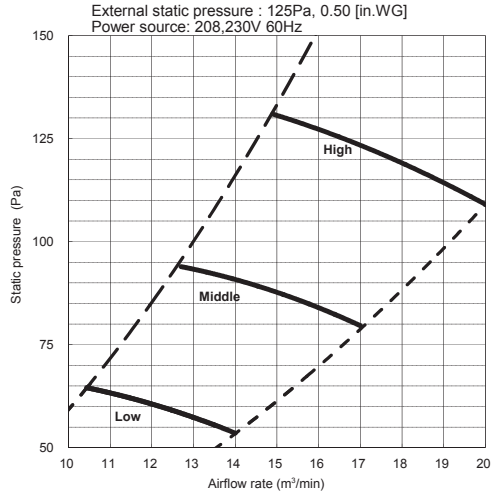
Vertical, Horizontal Right, Horizontal Left



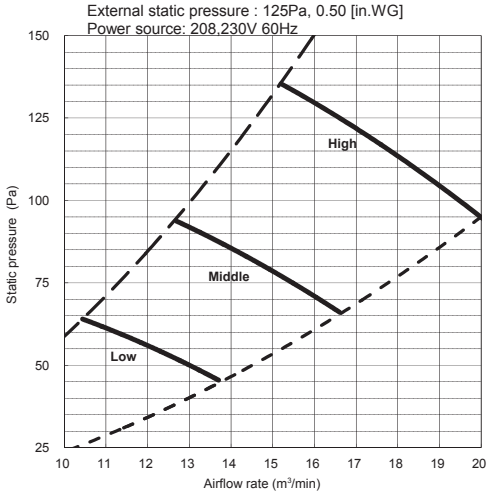
Down flow



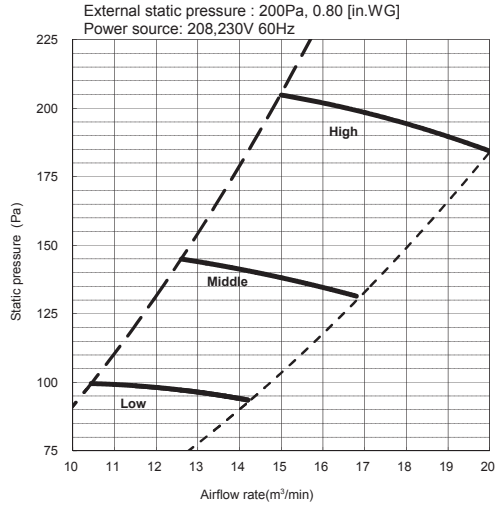
Vertical, Horizontal Right, Horizontal Left



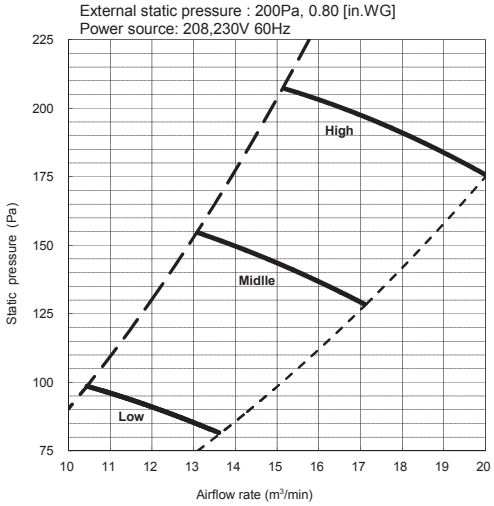
Down flow



Vertical, Horizontal Right, Horizontal Left



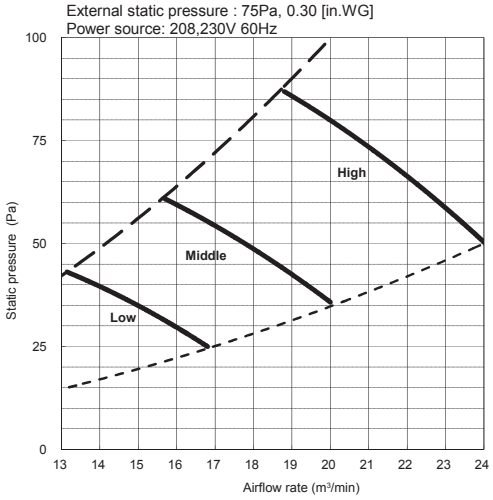
Down flow



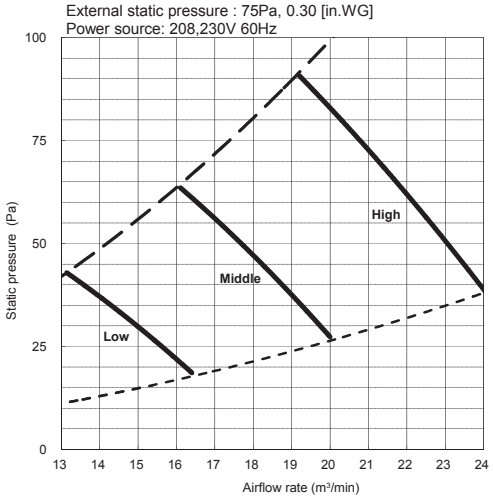
Due to continuing improvement, above specification may be subject to change without notice.

MVZ-A24AA4

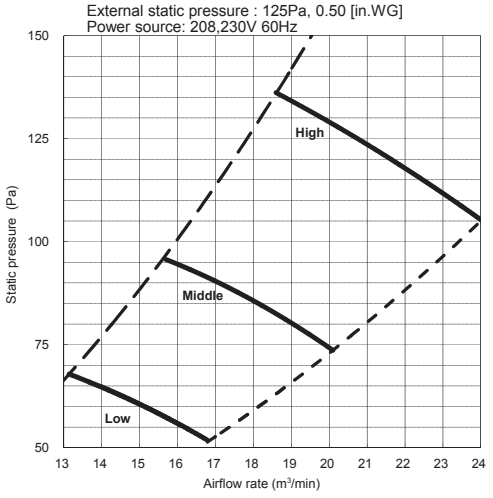
Vertical, Horizontal Right, Horizontal Left



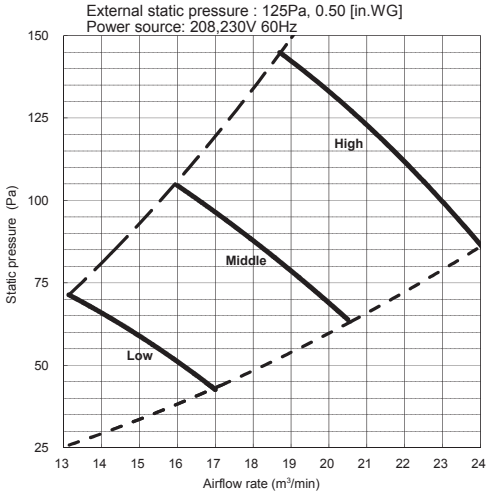
Down flow



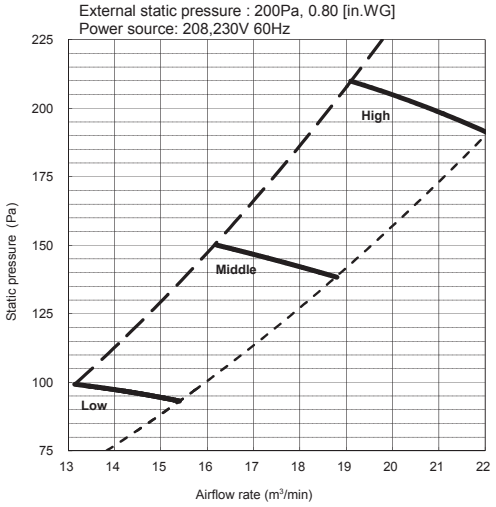
Vertical, Horizontal Right, Horizontal Left



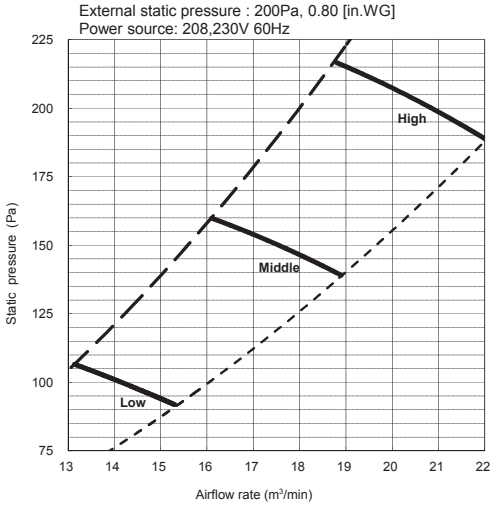
Down flow



Vertical, Horizontal Right, Horizontal Left



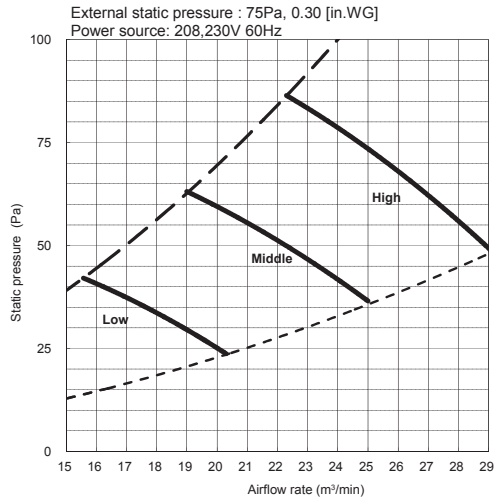
Down flow



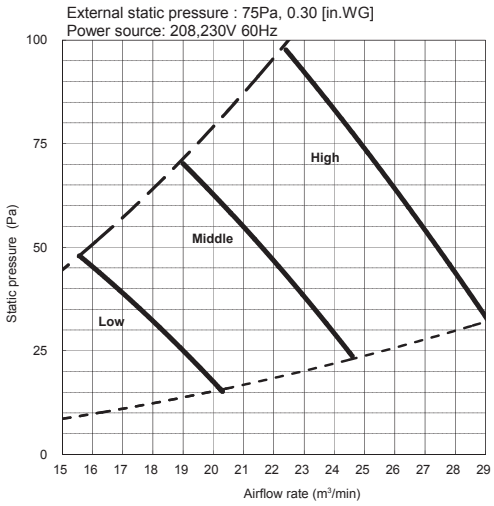
Due to continuing improvement, above specification may be subject to change without notice.

MVZ-A30AA4

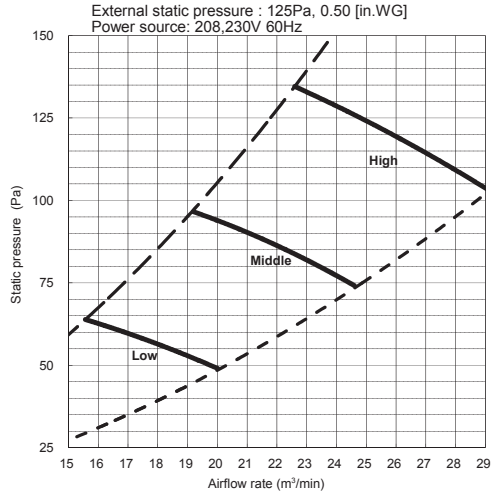
Vertical, Horizontal Right, Horizontal Left



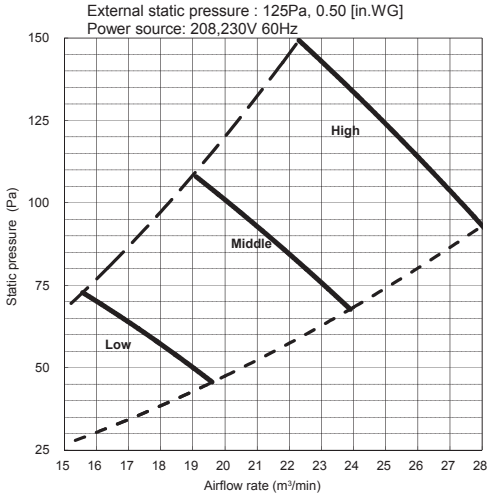
Down flow



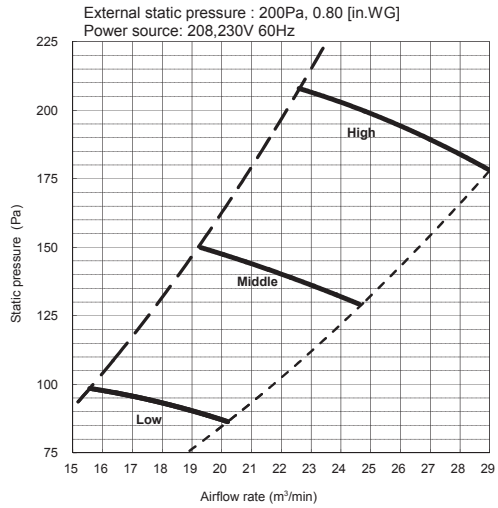
Vertical, Horizontal Right, Horizontal Left



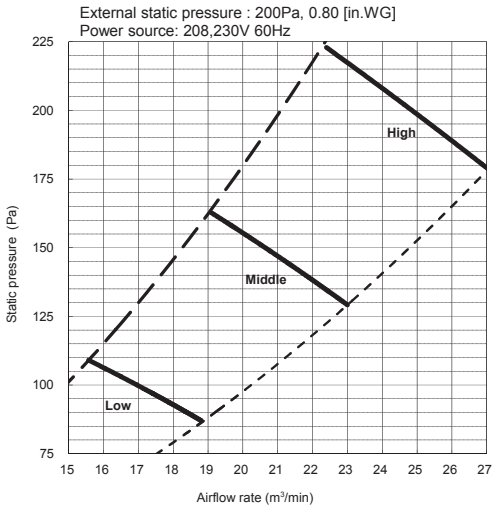
Down flow



Vertical, Horizontal Right, Horizontal Left



Down flow

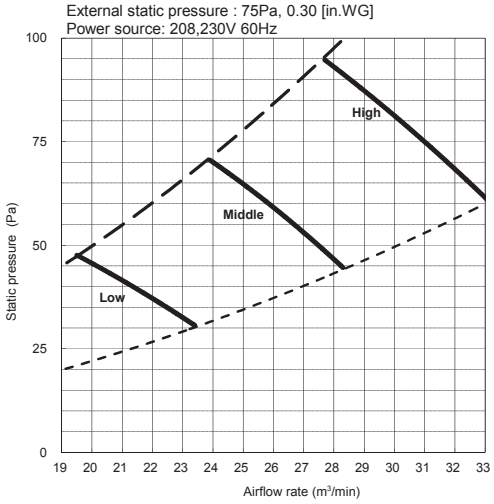


Due to continuing improvement, above specification may be subject to change without notice.

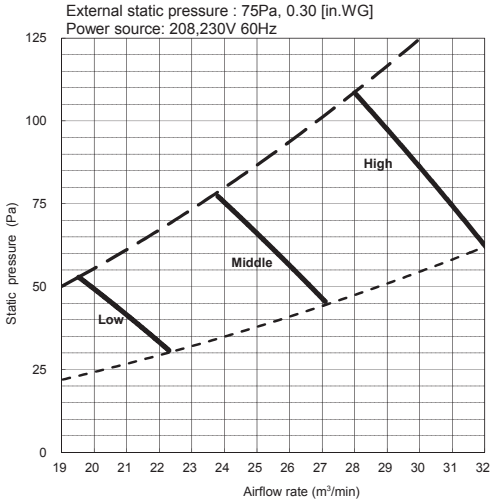
8. AIR FLOW DATA

MVZ-A36AA4

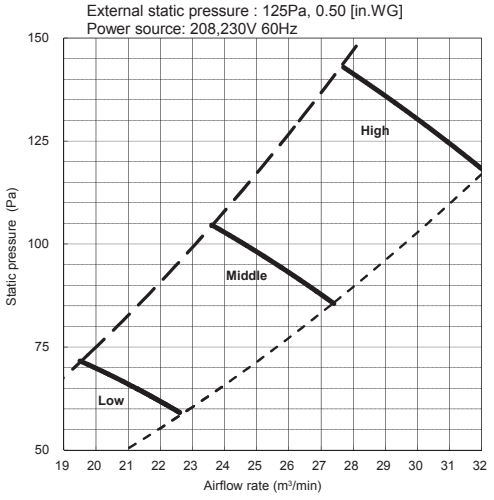
Vertical, Horizontal Right, Horizontal Left



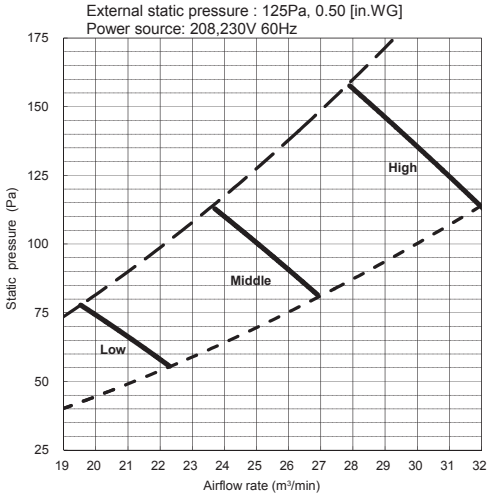
Down flow



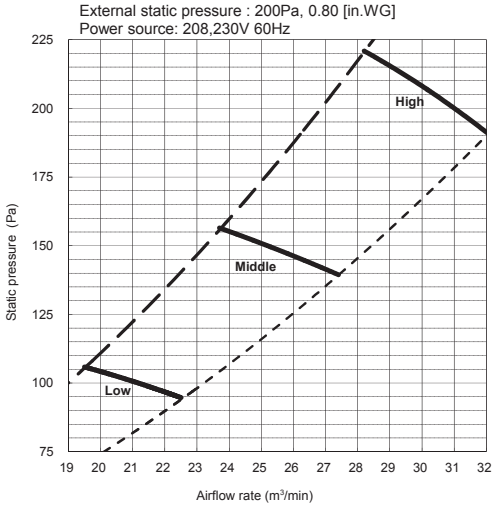
Vertical, Horizontal Right, Horizontal Left



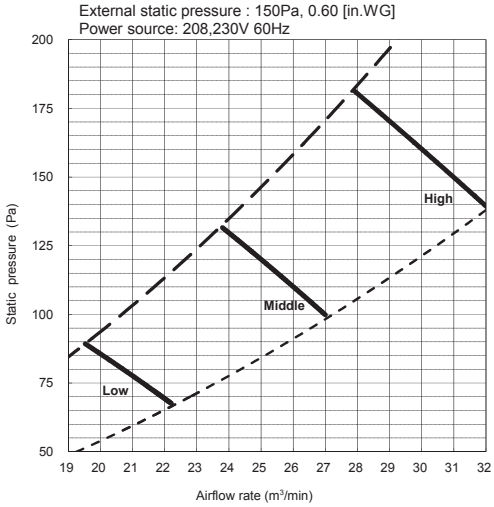
Down flow



Vertical, Horizontal Right, Horizontal Left



Down flow



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