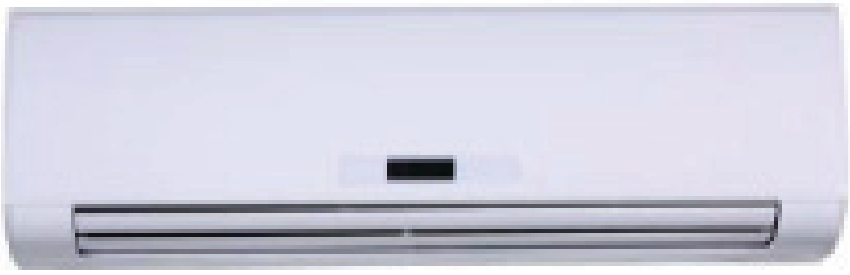
40VMW005-030
High Wall Indoor Unit for
Variable Refrigerant Flow (VRF) Systems

Engineering Data Book



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Specifications

Table 1 —Data Table

MODEL			40VMW005---3	40VMW007---3	40VMW009---3
Power Supply		V/Ph/Hz	208/230-1-60		
Total Cooling Capacity*1		Btu/h	5,000	7,500	9,500
Sensible Cooling Capacity*1		Btu/h	4,060	5,640	6,520
Heating Capacity*1		Btu/h	6,000	8,500	10,900
MCA		A	0.29	0.45	
MOCP		A	15		
Filter			Included		
Dimensions (H x W x D)		in.	11-3/8 x 36 x 9		
Net Weight		lbs	28.0		
Heat Exchanger			Inner Groove Copper Tube and Hydrophilic Aluminum fin		
Blower / Motor	Fan Type		Cross Flow		
	Motor Type		DC motor		
	Air Flow Rate (H/M/L)	CFM	245/245/245	320/270/245	
	Sound Pressure Level (H/M/L)*2	dBA	31.7/31.7/31.7	34.0/32.2/31.2	34.5/32.6/31.8
	Motor Output	W	9	20	
Piping Connections	Gas (Low) Pressure	in.	1/2		
	Liquid (High) Pressure	in.	1/4		
	Condensate	in.	3/4 NPT		
Refrigerant Control			Electronic Expansion Valve		
Connectable Outdoor Unit			38VMH – Heat Pump 38VMR – Heat Recovery 38VMH-1P – Single Phase Heat Pump		
Wiring	Power Wiring	AWG	Sized per NEC and Local Codes based on Nameplate Electrical Data		
	Control Wiring	AWG	2-core stranded shielded cable 18AWG		

NOTES:

*1 Rated per AHRI (Air Conditioning, Heating, and Refrigeration Institute) 1230 Standard
Cooling: Indoor 80°F (27°C) db / 67°F (20°C) wb; Outdoor 95°F (35°C) db
Heating: Indoor 70°F (21°C) db; Outdoor 47°F (8°C) db / 43°F (6°C) wb

*2 These values are measured in anechoic chamber at a distance of 4.6 feet below the center of unit.

Table 2 —Data Table

MODEL			40VMW012---3	40VMW015---3	40VMW018---3
Power Supply		V/Ph/Hz	208/230-1-60		
Total Cooling Capacity*1		Btu/h	12,000	15,000	18,000
Sensible Cooling Capacity*1		Btu/h	7,930	10,140	12,040
Heating Capacity*1		Btu/h	13,500	17,000	21,000
MCA		A	0.45		
MOCP		A	15		
Filter			Included		
Dimensions (H x W x D)		in.	11-3/8 x 36 x 9	12-3/8 x 42-1/4 x 9	
Net Weight		lbs	28	32	
Heat Exchanger			Inner Groove Copper Tube and Hydrophilic Aluminum fin		
Blower / Motor	Fan Type		Cross-flow		
	Motor Type		DC motor		
	Standard airflow (H/M/L)	CFM	360/280/250	480/420/380	560/470/440
	Sound Pressure Level (H/M/L)*2	dBA	36.4/34.6/32.8	41.7/39.6/38.4	41.8/40.2/38.9
	Motor output	W	20		
Piping Connections	Gas (Low) Pressure	in.	1/2	5/8	
	Liquid (High) Pressure	in.	1/4		3/8
	Condensate	in.	3/4 NPT		
Refrigerant Control			Electronic Expansion Valve		
Connectable Outdoor Unit			38VMH – Heat Pump 38VMR – Heat Recovery 38VMH-1P – Single Phase Heat Pump		
Wiring	Power Wiring	AWG	Sized per NEC and Local Codes based on Nameplate Electrical Data		
	Control Wiring	AWG	2-core stranded shielded cable 18AWG		

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Heating: Indoor 70°F (21°C) db; Outdoor 47°F (8°C) db / 43°F (6°C) wb

*2 These values are measured in anechoic chamber at a distance of 4.6 feet below the center of unit.

Table 3 —Data Table

MODEL			40VMW024---3	40VMW030---3
Power Supply		V/Ph/Hz	208/230-1-60	
Total Cooling Capacity*1		Btu/h	24,000	30,000
Sensible Cooling Capacity*1		Btu/h	15,330	18,950
Heating Capacity*1		Btu/h	27,000	34,000
MCA		A	0.86	
MOCP		A	15	
Filter			Included	
Dimensions (H x W x D)		in.	13-1/2 x 47 x 10-1/8	
Net Weight		lbs	38.0	
Heat Exchanger			Inner Groove Copper Tube and Hydrophilic Aluminum fin	
Blower / Motor	Fan Type		Cross-flow	
	Motor Type		DC motor	
	Standard airflow (H/M/L)	CFM	650/530/460	770/600/480
	Sound Pressure Level (H/M/L)*2	dBA	43.2/42.0/36.8	48.3/43.6/38.1
	Motor output	W	20	60
Piping Connections	Gas (Low) Pressure	in.	5/8	
	Liquid (High) Pressure	in.	3/8	
	Condensate	in.	3/4 NPT	
Refrigerant Control			Electronic Expansion Valve	
Connectable Outdoor Units			38VMH – Heat Pump 38VMR – Heat Recovery 38VMH-1P – Single Phase Heat Pump	
Wiring	Power Wiring	AWG	Sized per NEC and Local Codes based on Nameplate Electrical Data	
	Control Wiring	AWG	2-core stranded shielded cable 18AWG	

NOTES:

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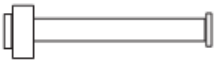
Heating: Indoor 70°F (21°C) db; Outdoor 47°F (8°C) db / 43°F (6°C) wb

*2 These values are measured in anechoic chamber at a distance of 4.6 feet below the center of unit.

Accessories

Table 4 —Table of Accessories

NAME of ACCESSORIES	QUANTITY	OUTLINE	FUNCTION
Screw ST3.9x25 for installation board	8		Secure the mounting plate
Plastic screw anchor	8		Anchoring screw
Wrapping tape	1		For routing condensate from right to left
Condensate connection	1		For connecting drain
Sleeve cap	1		Exterior wall opening
Piping sleeve	1		Routing refrigerant pipes
Copper Nut	1		Connect piping
Flexible conduit and connectors	1		Routing power lines
PQE Connection Wire	2		To connect outdoor unit, indoor unit, and sub MDC
Connection wire	1		For occupancy sensor

LEGEND:
MDC – Multiport Distribution Controller

PIPING DIAGRAM

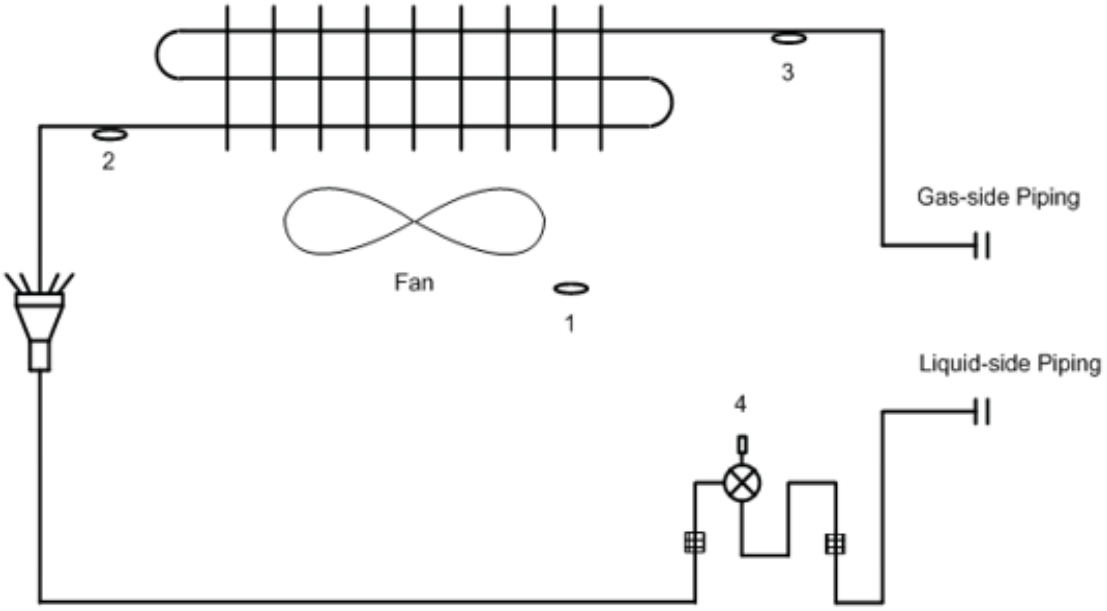


Fig. 4 —Piping

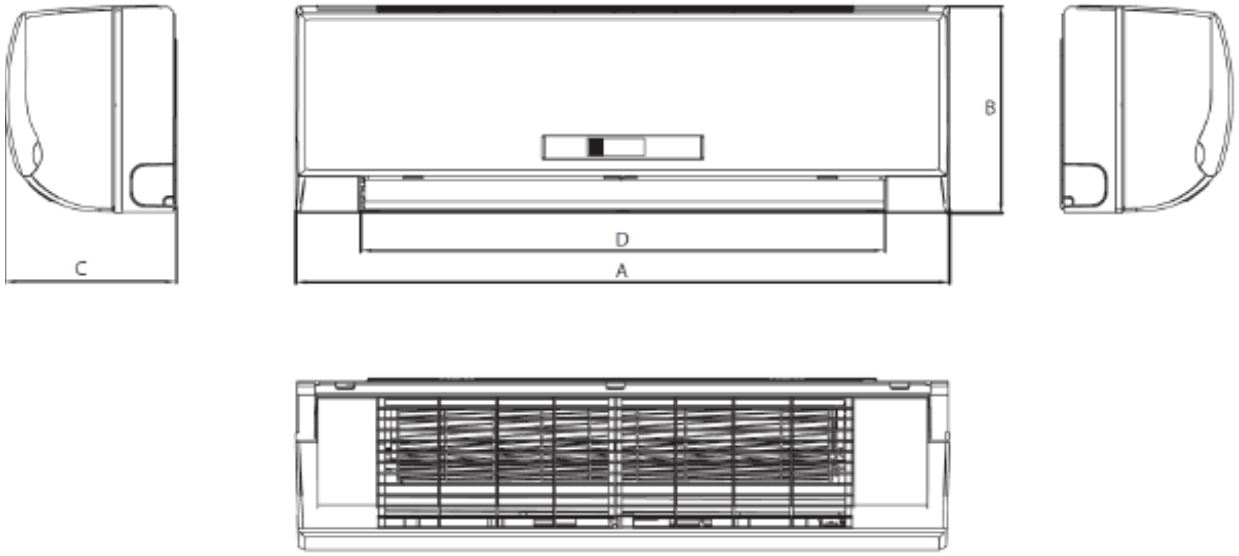
Table 5 —Piping

NUMBER	SYMBOL	NAME
1	T1	Room temperature sensor
2	T2A	Inlet pipe temperature sensor
3	T2B	Outlet pipe temperature sensor
4	EEV	Electronic expansion valve

Table 6 —Gas/Liquid Line Sizes

MODEL	GAS	LIQUID
40VMW005/007/009/012/015---3	1/2	1/4
40VMW018/024/030---3	5/8	3/8

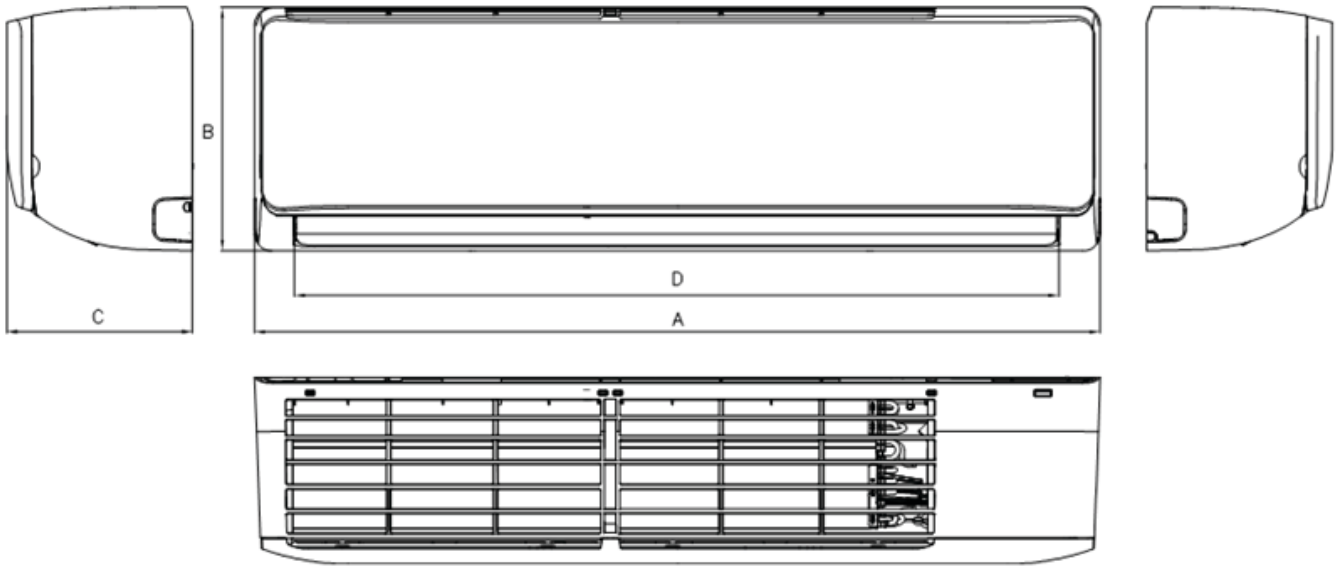
DIMENSIONS



NOTE: All dimensions are shown in inches.

MODEL	A	B	C	D
40VMW005/007/009/012---3	36	11-3/8	9	28-3/4
40VMW015/018---3	42-1/4	12-3/8	9	35-1/8

Fig. 5 —40VMW005/007/009/012/015/018



NOTE: All dimensions are shown in inches.

MODEL	A	B	C	D
40VMW024/030---3	47	13-1/2	10-1/8	42-3/8

Fig. 6 —40VMW024/030---3

WIRING DIAGRAM

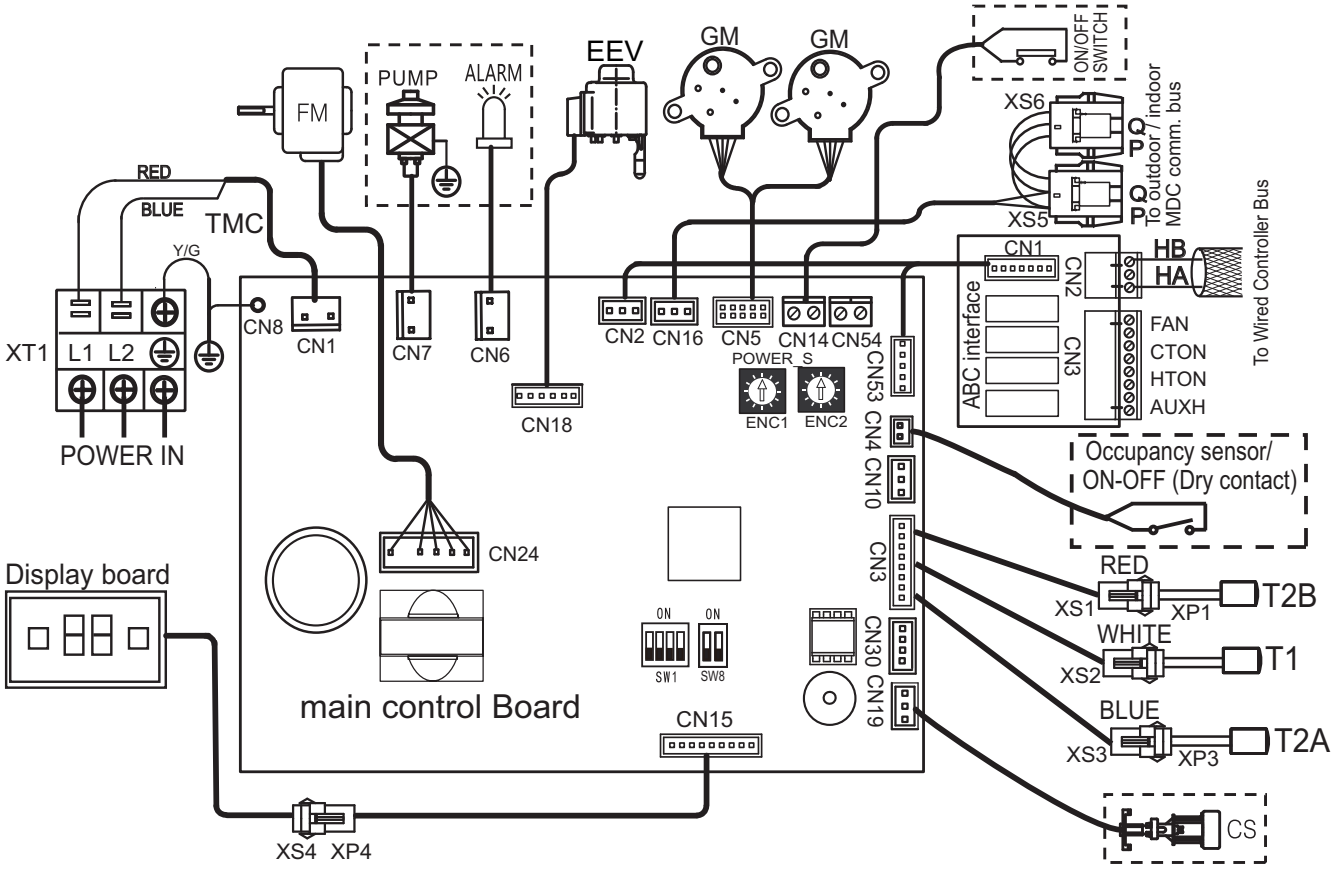


Fig. 7 —Wiring Diagram (40VMW005/007/009/012/015/018/024/030---3)

Wiring Diagram Definitions and Settings (40VMW005 to 030--3)

Table 7 —Code / Title

CODE	TITLE
FM	Indoor Fan Motor
T1	Room Temperature Sensor
T2A	Inlet Pipe Temperature Sensor
T2B	Outlet Pipe Temperature Sensor
ALARM	Warning Lamp
EEV	Electronic Extension Valve
XP1-6	Connectors
XS1-4	
XT1	Terminal
PUMP	Pump Motor
CS	Condensate Switch

Table 8 —ENC1 / ENC2

 ENC1	Reserved	 ENC2	Reserved

Table 9 —SW8 Definition

	Reserved
	Reserved

Table 10 —SW1 Definition

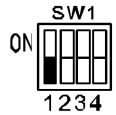
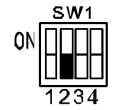
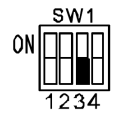
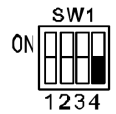
	0 means auto addressing mode (Default)
	1 means factory test mode
	0 means normal mode (Default)
	1 means factory self-checking mode (Reserved)
	Reserved
	0 means standard indoor unit (Default)
	1 means main indoor unit (must be addressed #63)

Table 11 —0/1 Definition

	Means 0
	Means 1

Table 12 —Wiring Diagram Error Codes (40VMW005 to 030--3)

ERROR CODE	ERROR CONTENT
dd	Heating/Cooling Conflict
E1	Communication Error with Outdoor Unit
E2	Temperature Sensor (T1) Error
E4	Temperature Sensor (T2B) Error
E5	Temp Sensor (T2A) Error
E6	DC Fan Error
E7	EEPROM Error (Data Storage)
UU	MDC Error in Auto System-Check Mode
E9	Communication Error with Wired Controller
Eb	EEV Error
EC	Indoor Fan Error in Auto System-Check Mode
Ed	Outdoor Unit Error
EE	Condensate Error
FE	No Address when Power On for First Time

ELECTRICAL CHARACTERISTICS

Table 13 —Electrical Characteristics

MODEL	POWER SUPPLY					IFM	
	HZ	VOLTS	VOLTAGE RANGE	MCA	MOCP	kW	FLA
40VMW005---3	60	208/230V	Max.253V Min.187V	0.29	15	0.009	0.23
40VMW007---3				0.45	15	0.02	0.36
40VMW009---3				0.45	15	0.02	0.36
40VMW012---3				0.45	15	0.02	0.36
40VMW015---3				0.45	15	0.02	0.36
40VMW018---3				0.45	15	0.02	0.36
40VMW024---3				0.86	15	0.06	0.69
40VMW030---3				0.86	15	0.06	0.69

SYMBOLS:
MCA: Minimum Circuit Amps (A)
MOCP: Maximum Overcurrent Protection (A)
kW: Fan Motor Rated Output (kW)
FLA: Full Load Amps (A)
IFM: Indoor Fan Motor

AIR THROW CHARTS

40VMW005---3

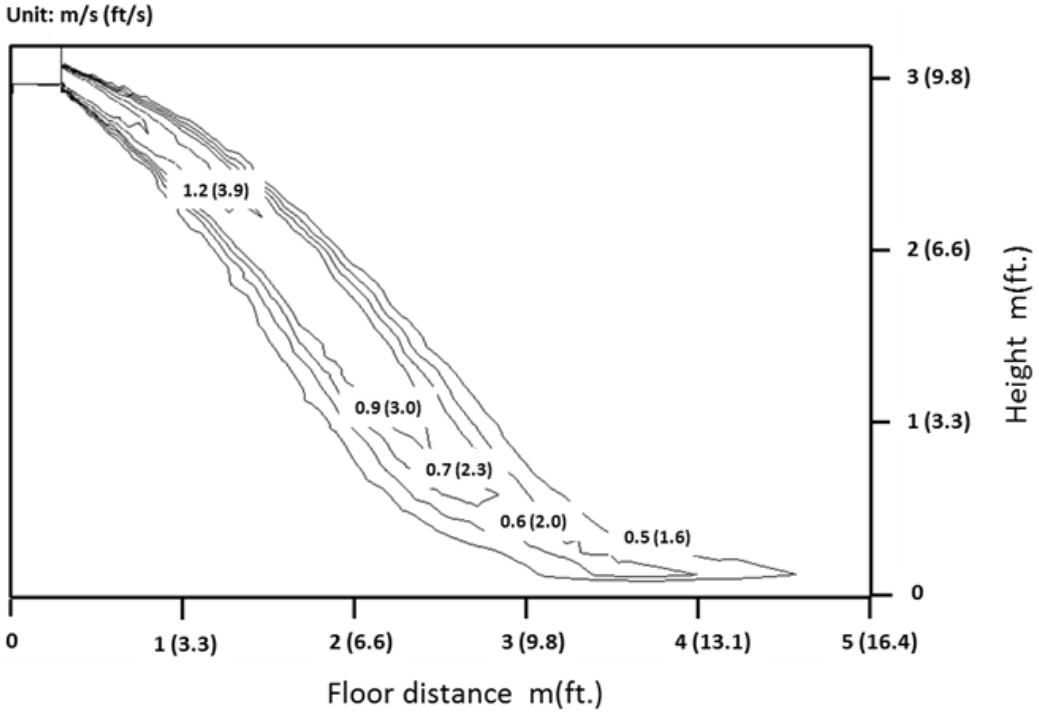


Fig. 8 —Cooling mode with 30° swing

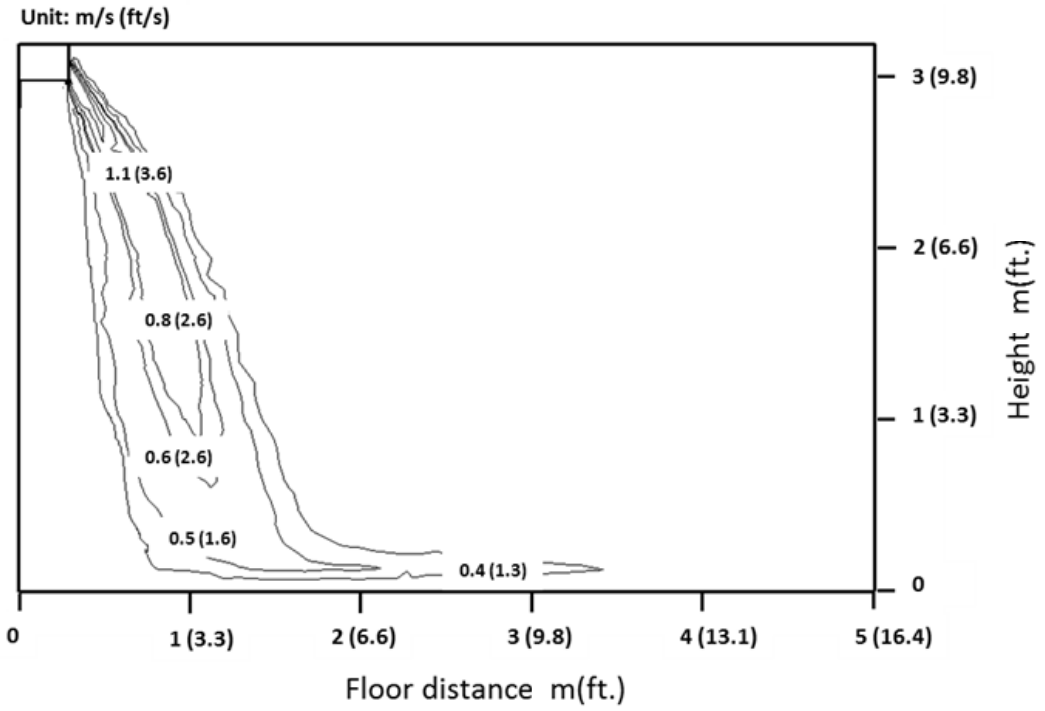


Fig. 9 —Heating mode with 60° swing

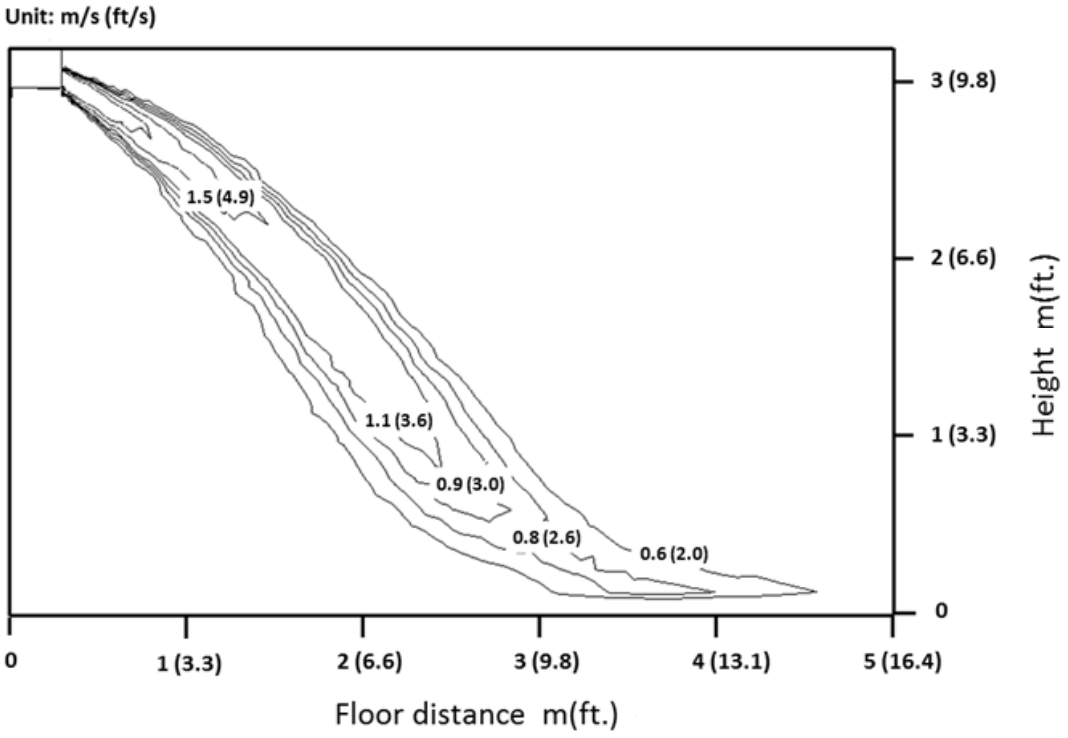


Fig. 10 —Cooling mode with 30° swing

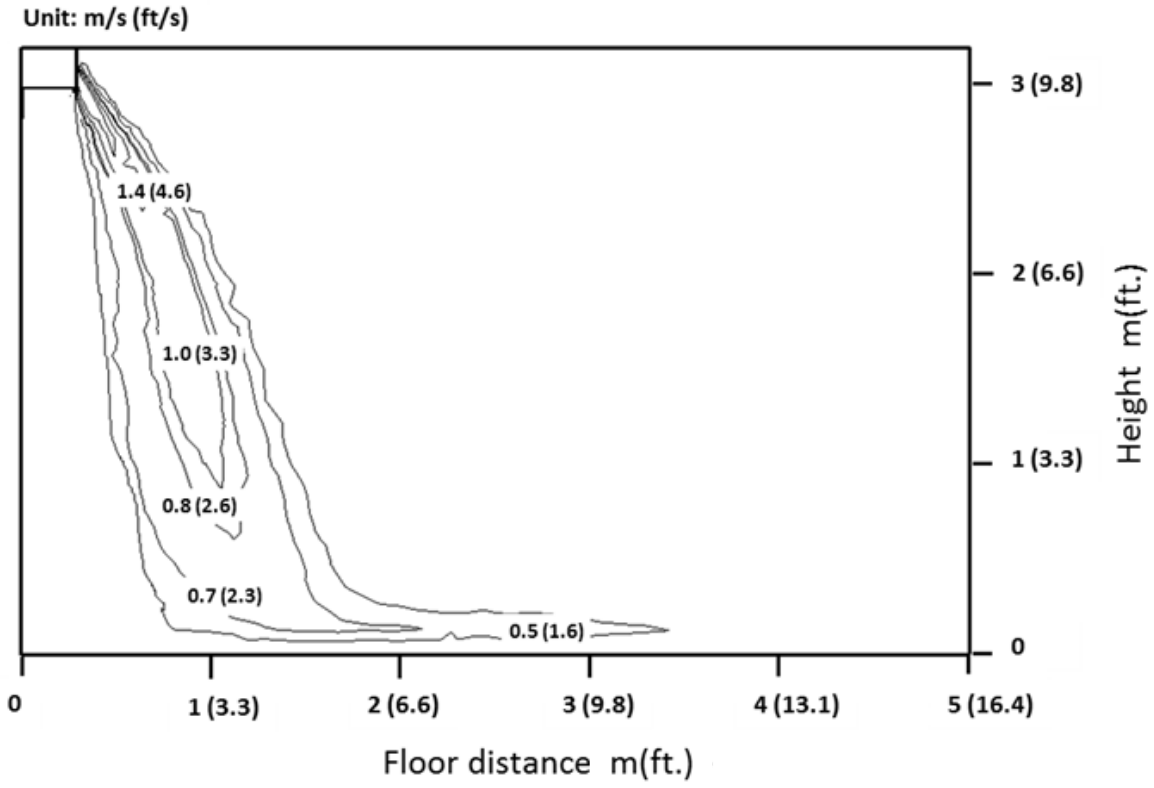


Fig. 11 —Heating mode with 60° swing

40VMW009---3

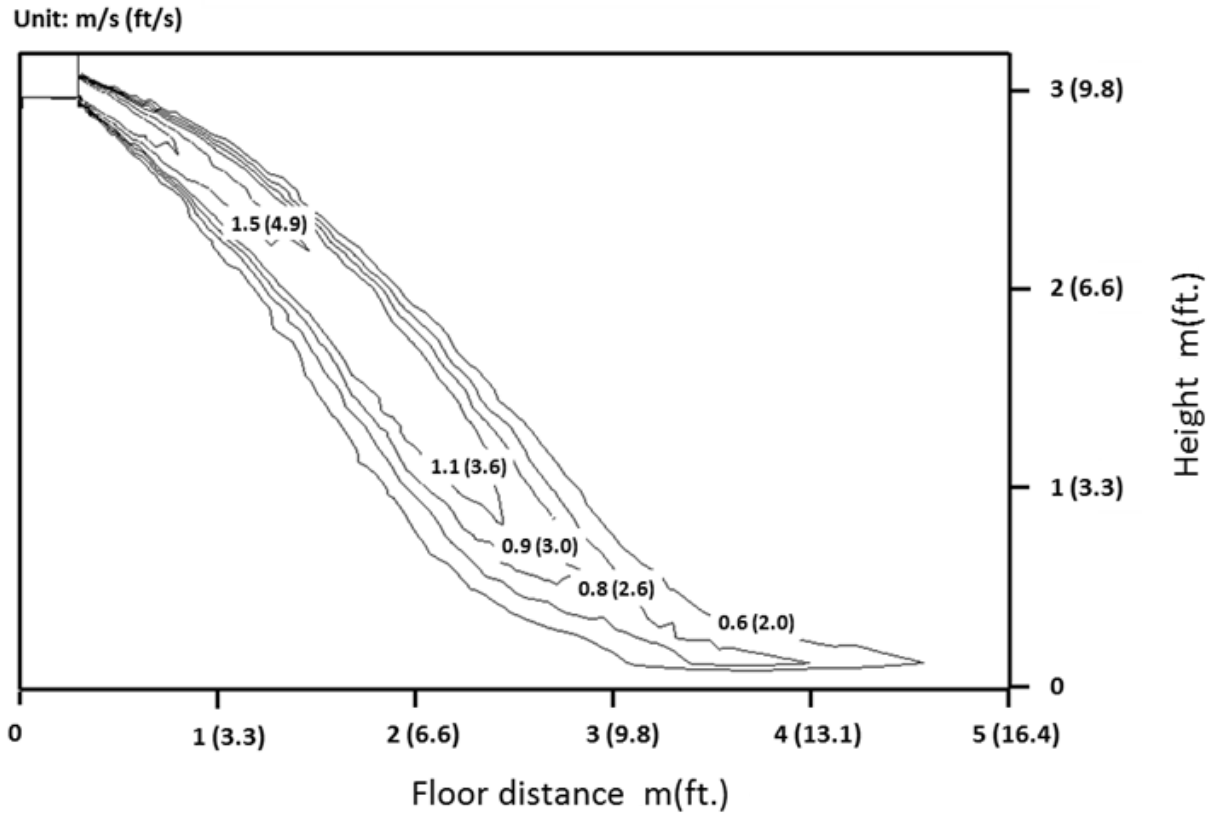


Fig. 12 —Cooling mode with 30° swing

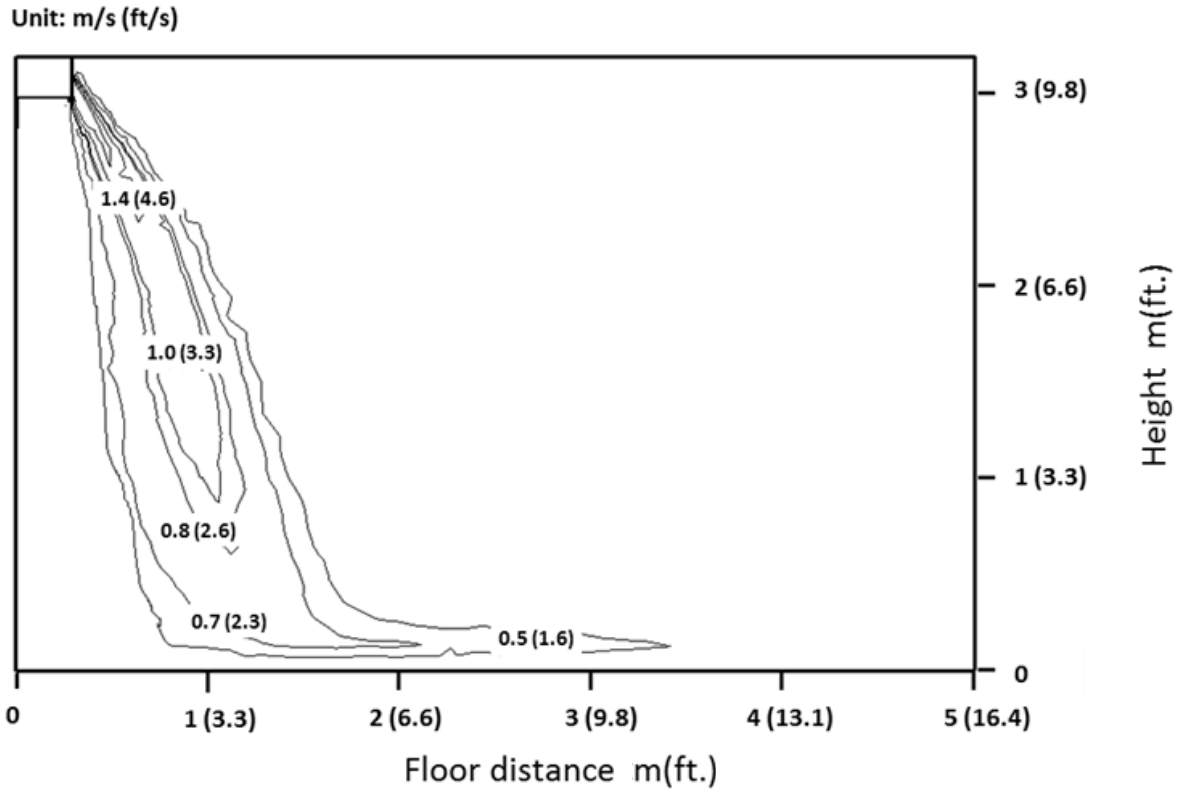


Fig. 13 —Heating mode with 60° swing

40VMW012---3

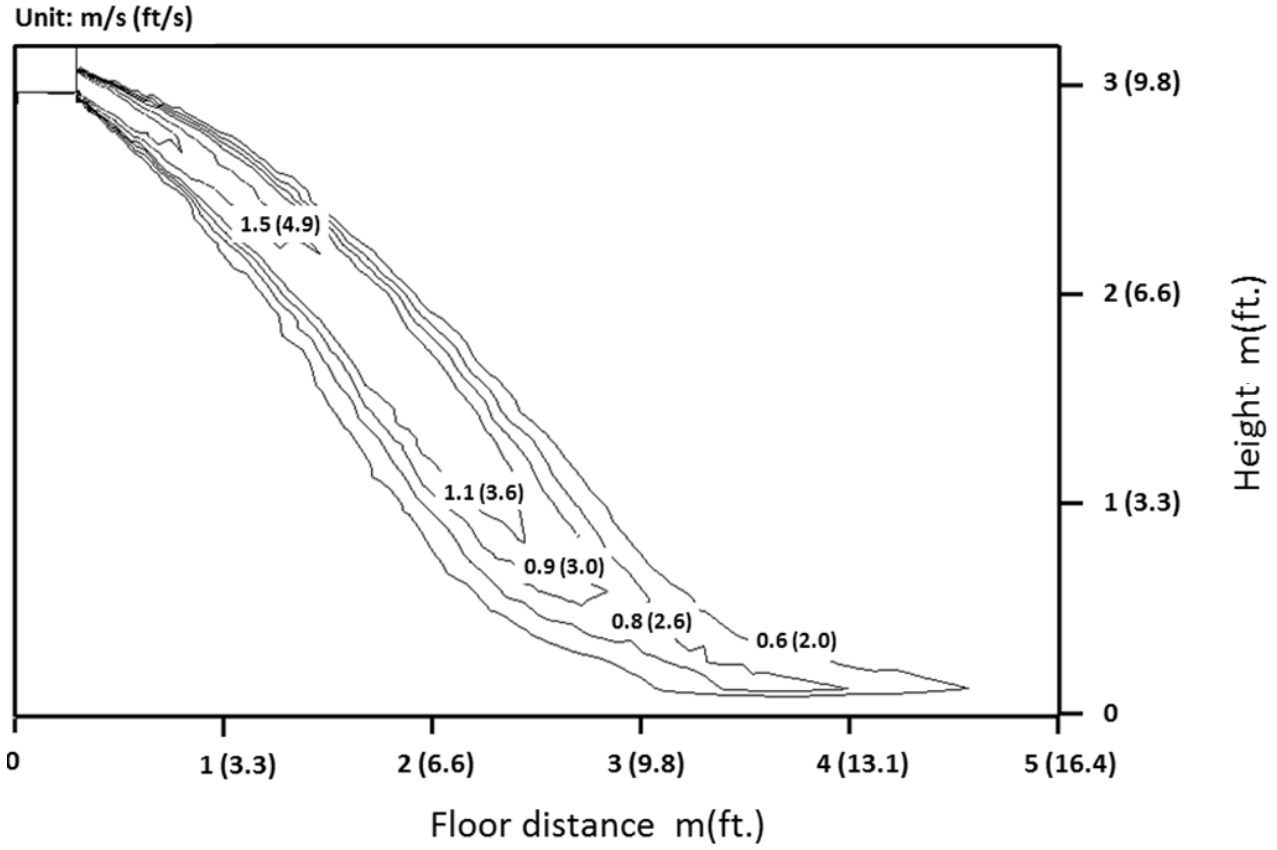


Fig. 14 —Cooling mode with 30° swing

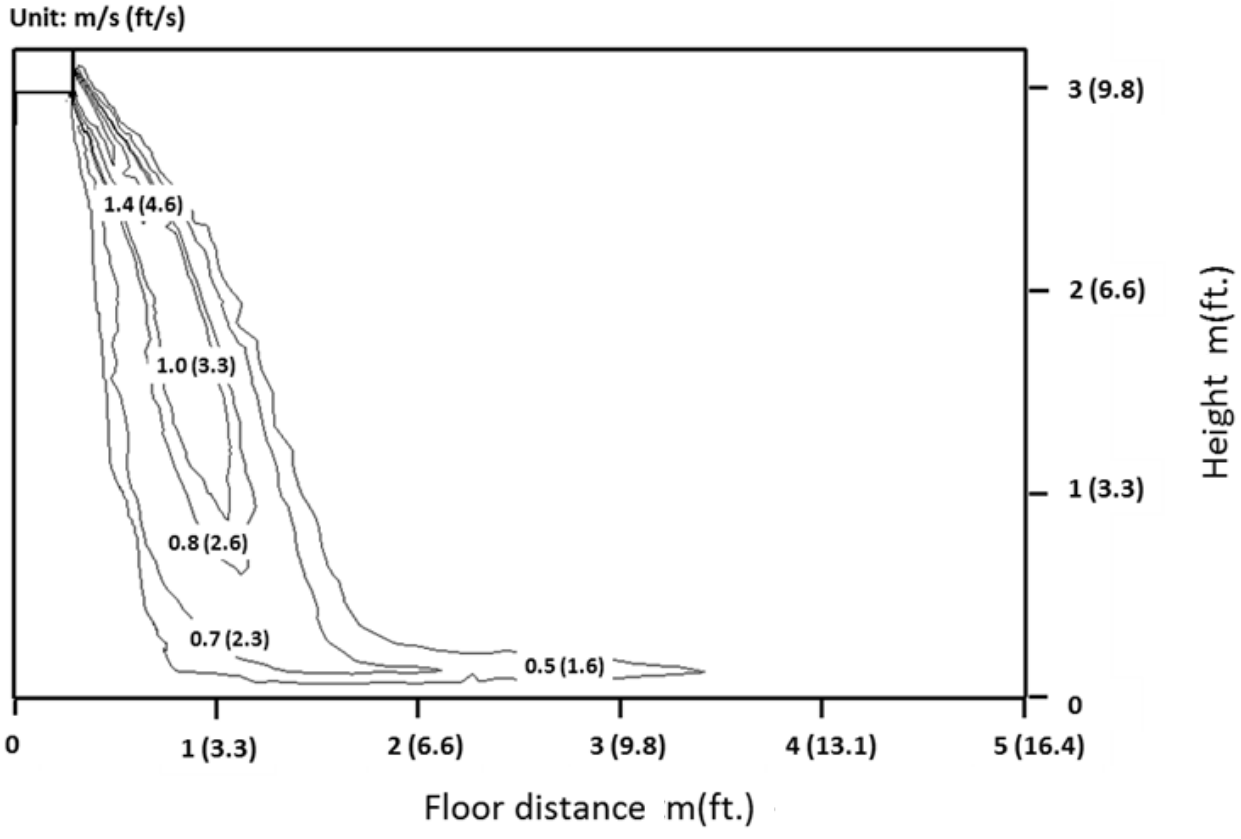


Fig. 15 —Heating mode with 60° swing

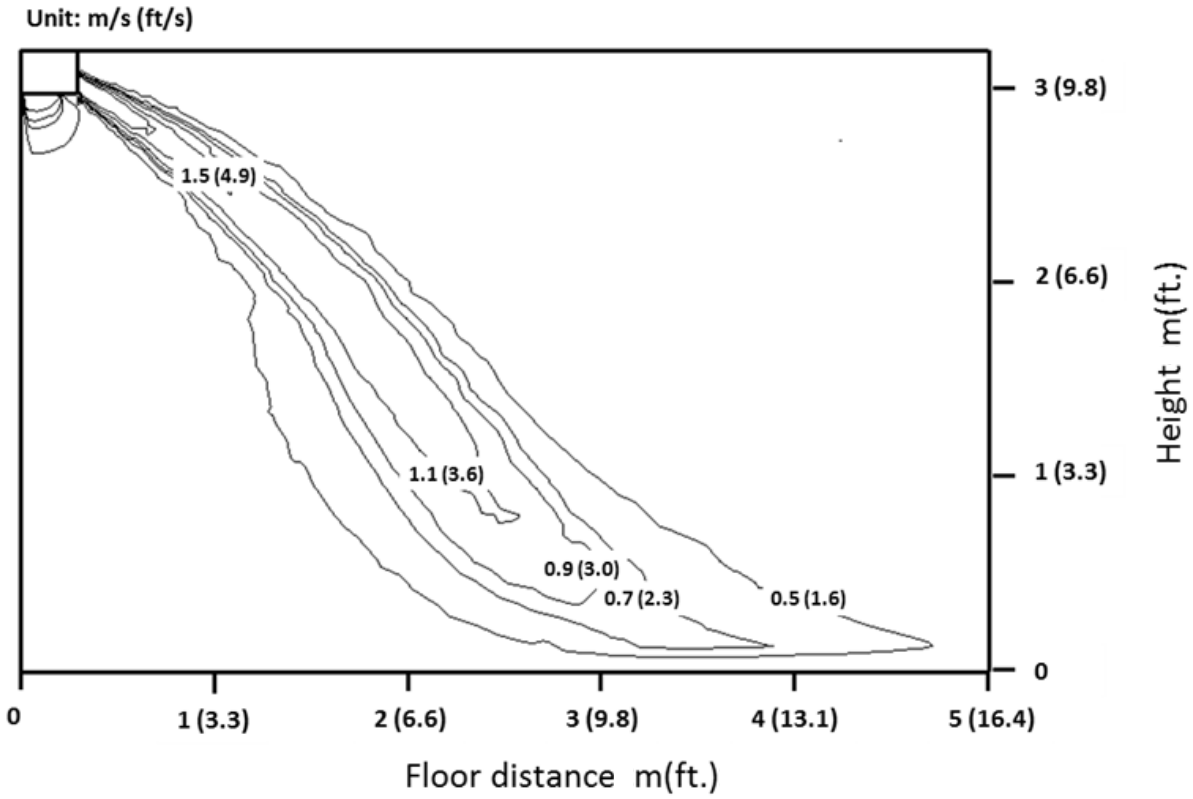


Fig. 16 —Cooling mode with 30° swing

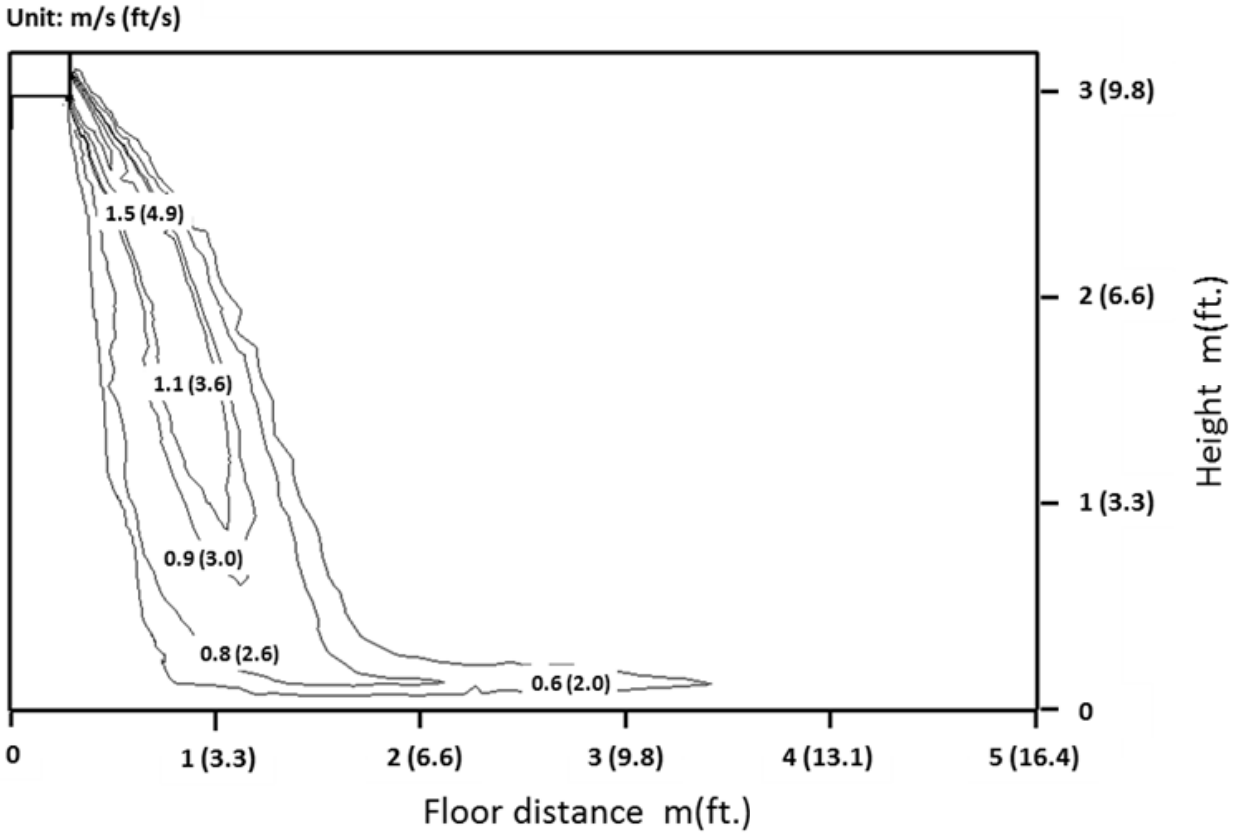


Fig. 17 —Heating mode with 60° swing

40VMW018---3

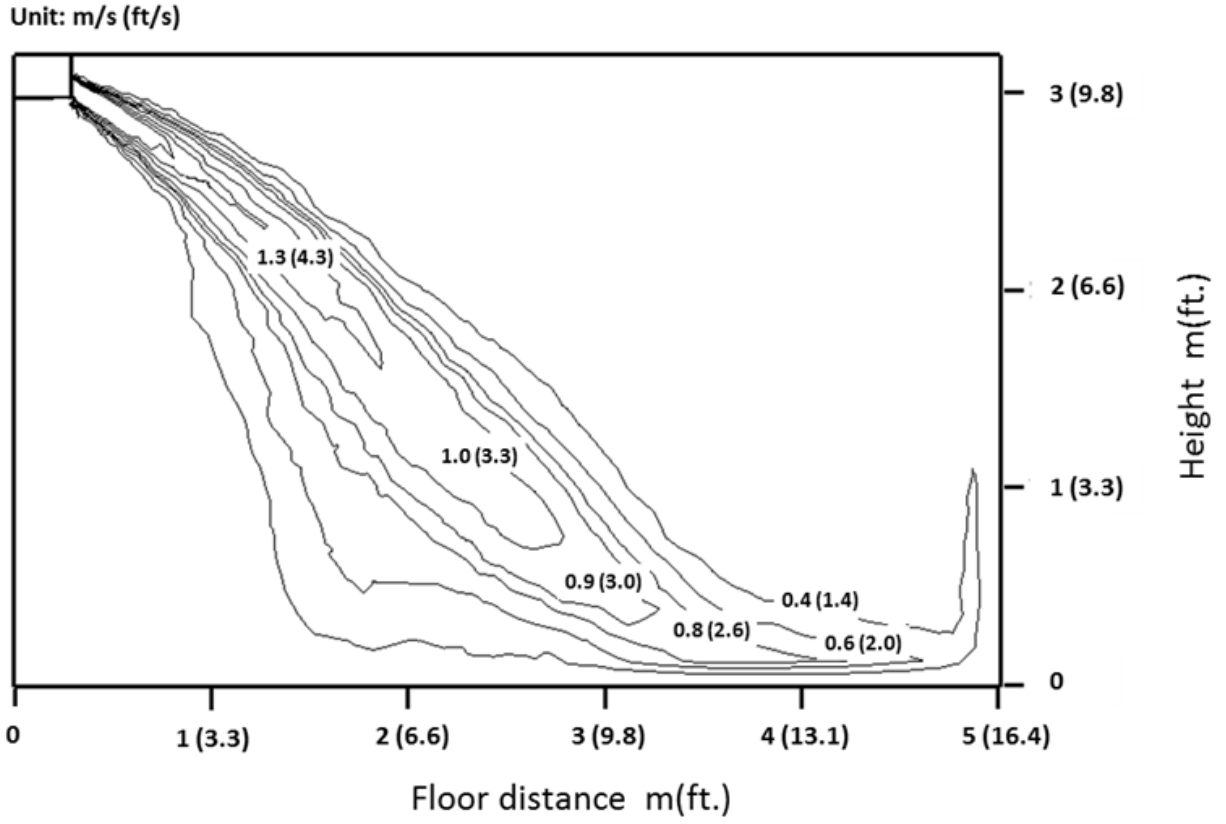


Fig. 18 —Cooling mode with 30° swing

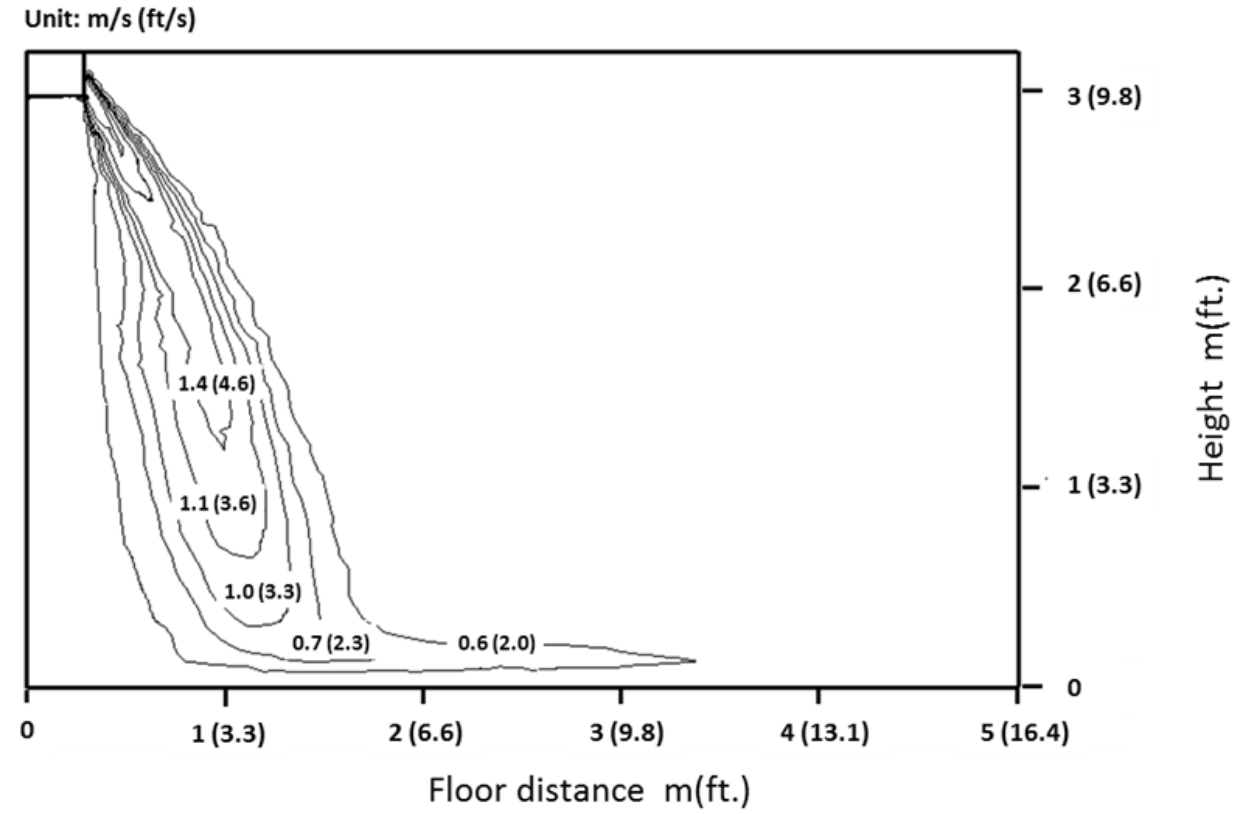


Fig. 19 —Heating mode with 60° swing

40VMW024---3

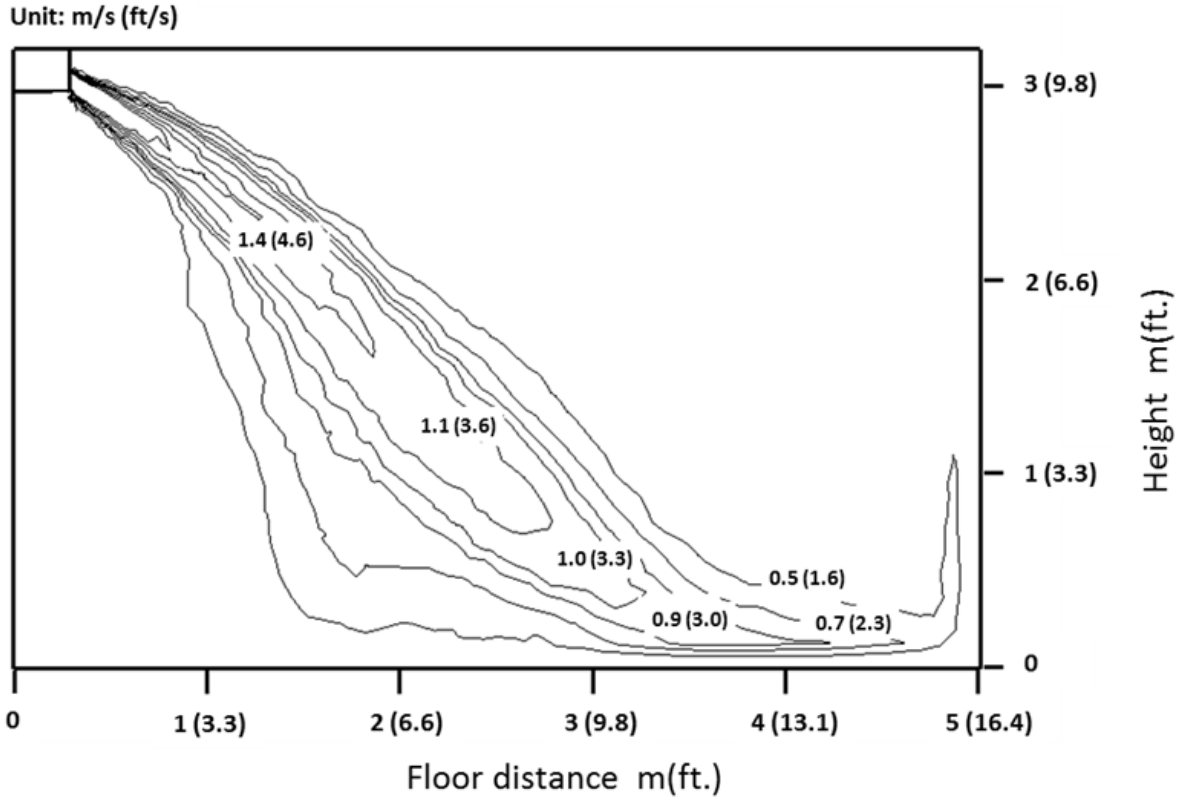


Fig. 20 —Cooling mode with 30° swing

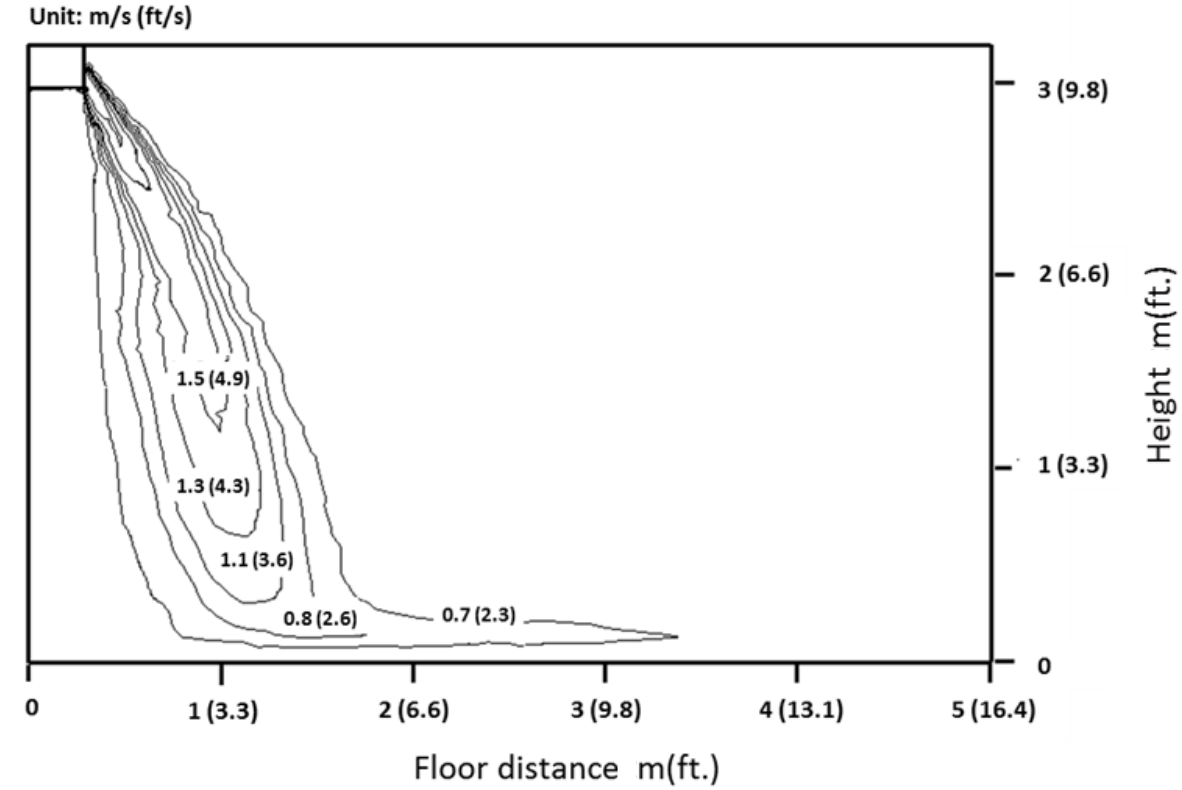


Fig. 21 —Heating mode with 60° swing

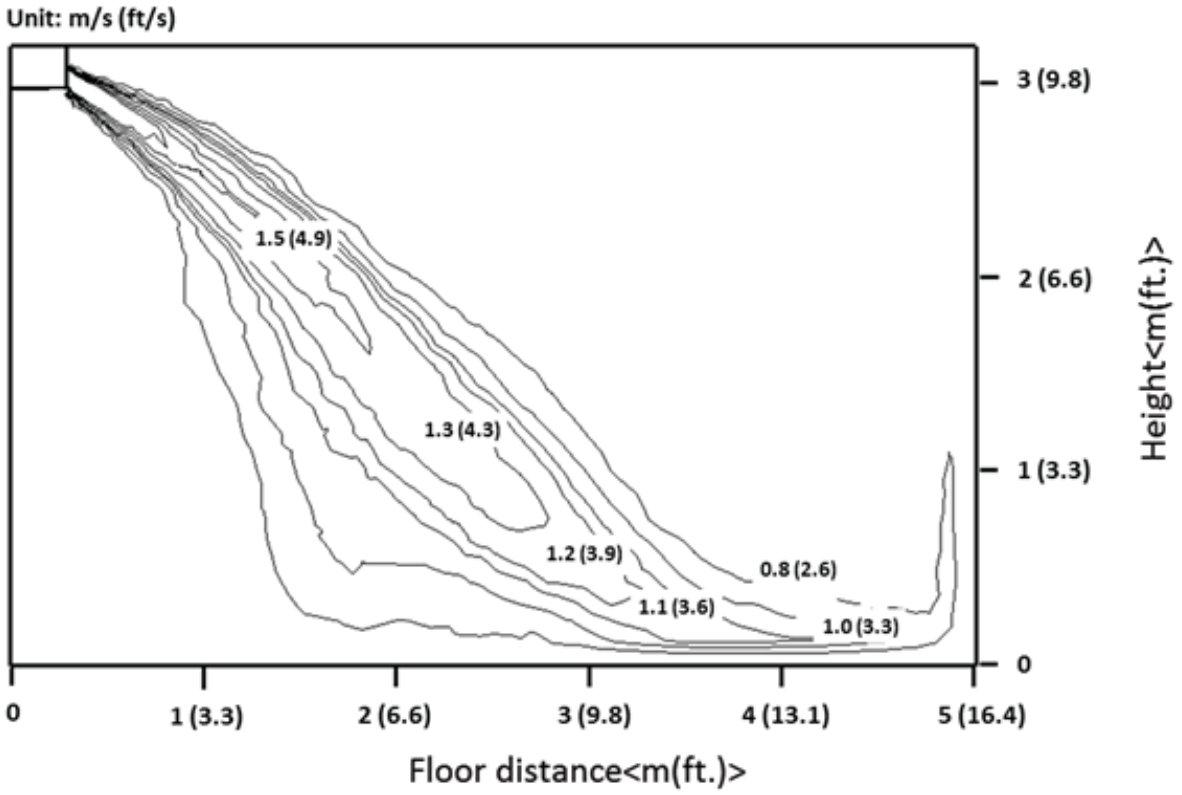


Fig. 22 —Cooling mode with 30° swing

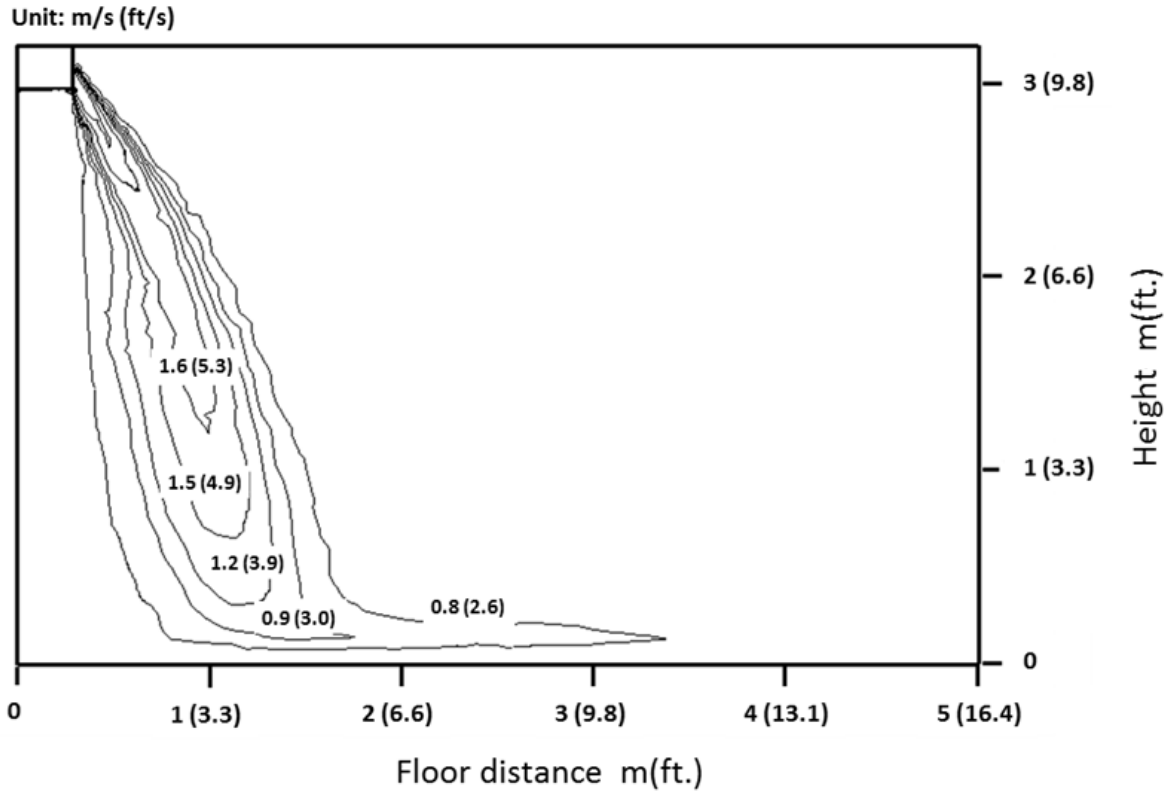


Fig. 23 —Heating mode with 60° swing

SOUND DATA

Sound Pressure Levels

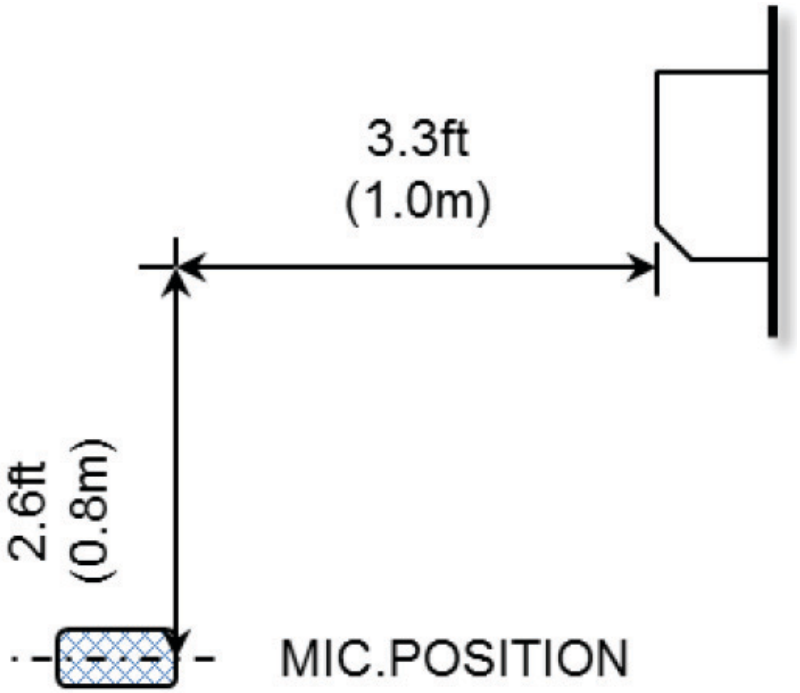


Fig. 24 —Overall Sound Levels

Table 14 —Sound Pressure Level

MODEL	FAN SPEED		
	H	M	L
40VMW005---3	31.7	31.7	31.7
40VMW007---3	34.0	32.2	31.2
40VMW009---3	34.5	32.6	31.8
40VMW012---3	36.4	34.6	32.8
40VMW015---3	41.7	39.5	38.4
40VMW018---3	41.8	40.2	38.9
40VMW024---3	43.2	42.0	36.8
40VMW030---3	48.3	43.6	38.1

Units are in dBA.

NC Curves

NOTES:

External Static Pressure: 0 in. (0 Pa)

Power source: 208/230V-1Ph-60Hz

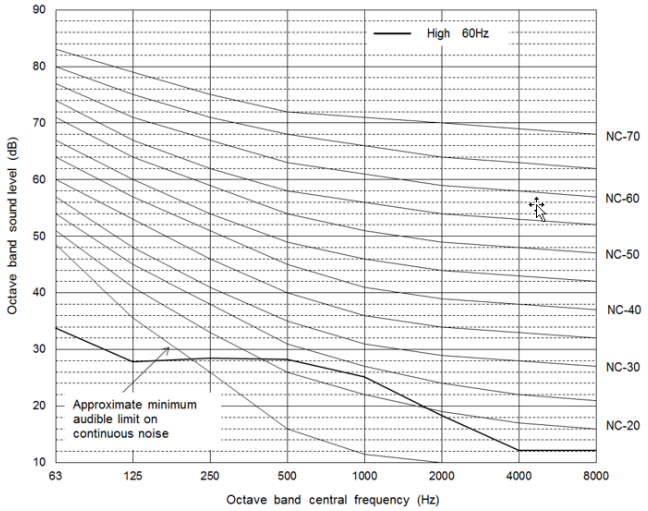


Fig. 25 —49VMW005---3

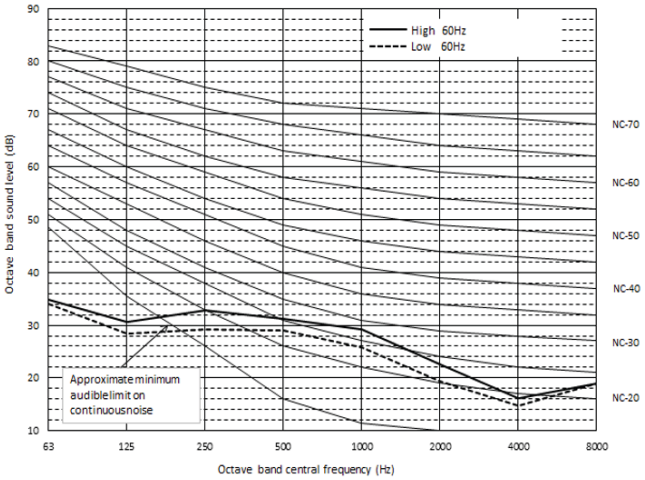


Fig. 26 —49VMW007---3

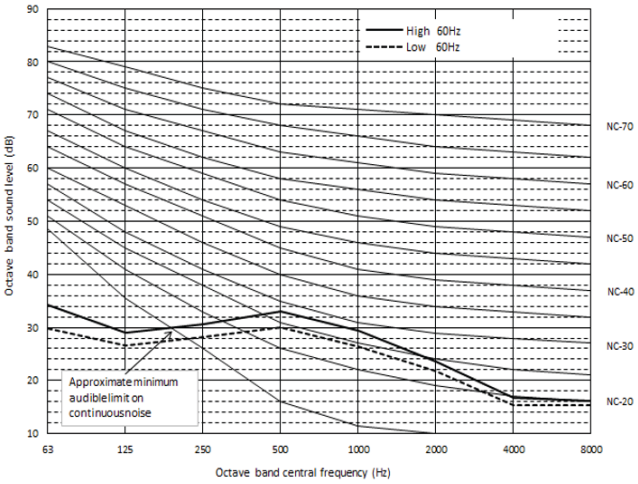


Fig. 27 —49VMW009---3

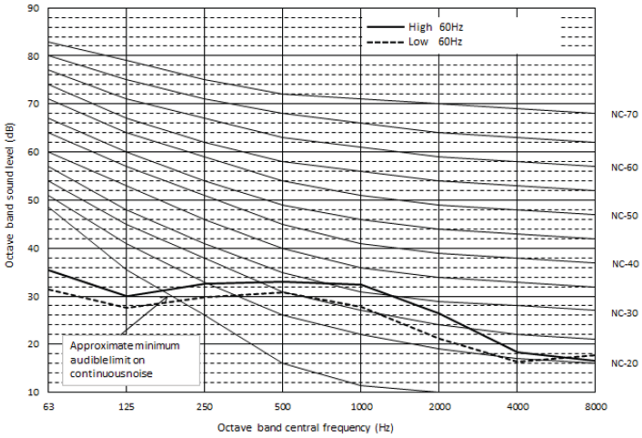


Fig. 28 —49VMW012---3

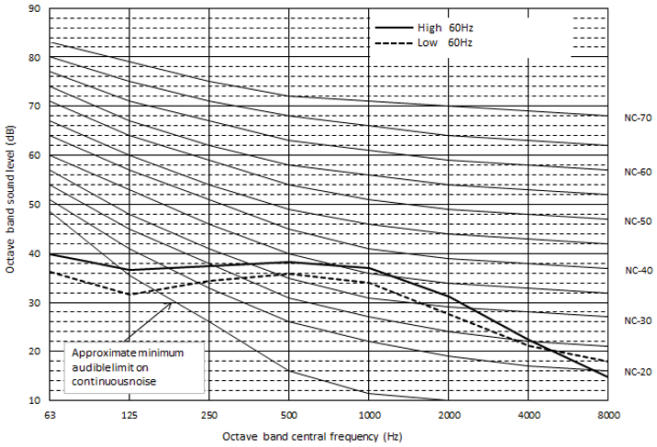


Fig. 29 —49VMW015---3

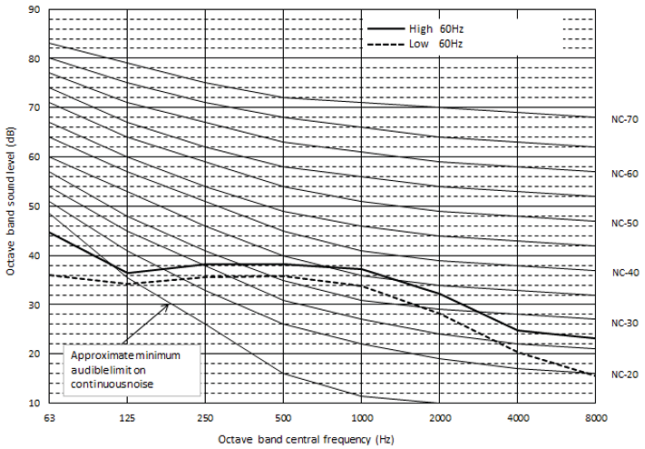


Fig. 30 —49VMW018---3

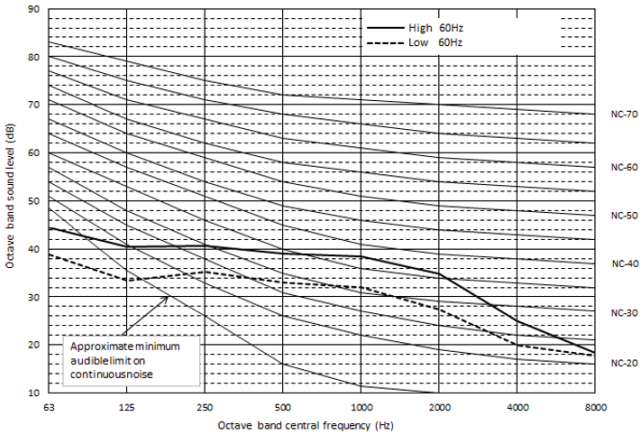


Fig. 31 —49VMW024---3

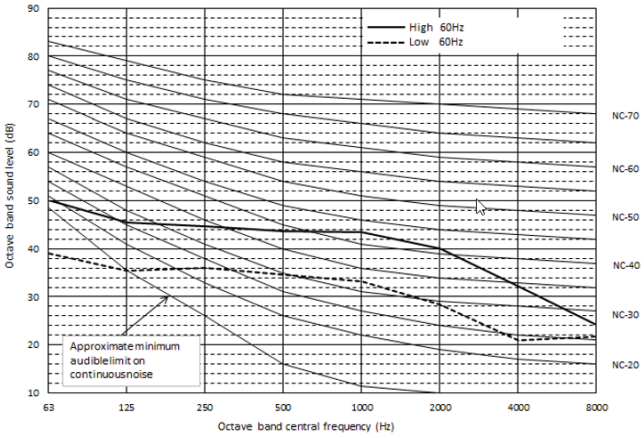


Fig. 32 —49VMW030---3

CAPACITY DATA TABLES

Table 15 —Cooling Capacity

INDOOR UNIT ENTERING AIR CONDITIONS:		COOLING CAPACITY INDICATION															
		5K		7K		9K		12K		15K		18K		24K		30K	
drybulb (°F)	wetbulb (°F)	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
70	58	3.14	3.12	4.71	4.67	5.97	5.28	7.54	6.34	9.42	8.16	11.31	9.66	15.07	12.09	18.84	14.86
70	62	3.97	2.86	5.95	4.05	7.54	4.79	9.52	5.88	11.9	7.48	14.28	8.9	19.04	11.44	23.8	14.2
70	67	5	2.11	7.5	3.18	9.5	4.06	12	5.16	15	6.44	18	7.73	24	10.33	30	13.03
70	72	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
70	76	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
75	58	3.16	3.14	4.74	4.71	6.01	5.97	7.59	7.54	9.49	9.42	11.39	11.31	15.18	14.59	18.97	17.82
75	62	4.00	3.83	5.99	5.28	7.59	6.02	9.59	7.27	11.98	9.33	14.38	11.06	19.17	13.94	23.97	17.17
75	67	5.04	3.09	7.55	4.41	9.57	5.29	12.08	6.55	15.11	8.29	18.13	9.88	24.17	12.83	30.21	15.98
75	72	5.41	2.03	8.12	3.06	10.29	3.93	12.99	5.01	16.24	6.25	19.49	7.50	25.98	10.04	32.48	12.68
75	76	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
80	58	3.18	3.14	4.78	4.71	6.05	5.97	7.65	7.54	9.55	9.42	11.47	11.31	15.28	15.07	19.10	18.84
80	62	4.03	3.92	6.03	5.85	7.65	7.26	9.65	8.66	12.07	11.18	14.48	13.22	19.31	16.45	24.13	20.13
80	67	5.07	4.06	7.61	5.64	9.63	6.52	12.17	7.93	15.21	10.14	18.25	12.04	24.34	15.33	30.42	18.95
80	72	5.45	3.01	8.18	4.30	10.36	5.17	13.08	6.40	16.35	8.09	19.63	9.65	26.16	12.54	32.71	15.64
80	76	5.74	2.15	8.62	3.20	10.91	4.05	13.79	5.13	17.23	6.41	20.68	7.69	27.57	10.23	34.46	12.88
85	58	3.21	3.14	4.81	4.71	6.10	5.97	7.70	7.54	9.62	9.42	11.55	11.31	15.39	15.07	19.24	18.84
85	62	4.05	3.97	6.08	5.95	7.70	7.54	9.72	9.52	12.15	11.90	14.58	14.28	19.44	19.04	24.30	23.80
85	67	5.11	4.52	7.66	6.88	9.70	7.76	12.25	9.32	15.32	11.99	18.38	14.20	24.51	17.84	30.63	21.91
85	72	5.49	3.98	8.23	5.53	10.43	6.40	13.17	7.78	16.47	9.94	19.76	11.81	26.34	15.04	32.94	18.60
85	76	5.78	3.12	8.68	4.43	10.99	5.28	13.89	6.52	17.35	8.26	20.82	9.84	27.76	12.73	34.70	15.84
90	58	3.23	3.14	4.84	4.71	6.14	5.97	7.75	7.54	9.69	9.42	11.63	11.31	15.50	15.07	19.37	18.84
90	62	4.08	3.97	6.12	5.95	7.75	7.54	9.79	9.52	12.24	11.90	14.68	14.28	19.58	19.04	24.47	23.80
90	67	5.14	5.00	7.71	7.50	9.77	9.50	12.34	12.00	15.42	15.00	18.51	18.00	24.68	24.00	30.85	30.00
90	72	5.52	4.96	8.29	6.77	10.51	7.64	13.26	9.17	16.58	11.80	19.90	13.97	26.53	17.55	33.17	21.57
90	76	5.82	4.10	8.74	5.67	11.06	6.52	13.98	7.91	17.47	10.12	20.97	12.01	27.96	15.24	34.94	18.81

Table 16 —Heating Capacity

MODEL	CAPACITY INDICATION	HEATING INDOOR AIR TEMPERATURE							
		61°FDB	64°FDB	67°FDB	70°FDB	73°FDB	75°FDB	77°FDB	80°FDB
		TC	TC	TC	TC	TC	TC	TC	TC
High wall	5	6.36	6.24	6.12	6.00	5.60	5.33	5.06	4.66
	7	9.01	8.84	8.67	8.50	7.93	7.55	7.17	6.60
	9	11.56	11.34	11.12	10.90	10.17	9.68	9.20	8.47
	12	14.31	14.04	13.77	13.50	12.60	11.99	11.39	10.49
	15	18.02	17.68	17.34	17.00	15.86	15.10	14.34	13.21
	18	22.27	21.84	21.42	21.00	19.59	18.66	17.72	16.31
	24	28.63	28.08	27.54	27.00	25.19	23.99	22.78	20.97
	30	36.05	35.37	34.68	34.00	31.72	30.21	28.69	26.41