

Engineering Data

Wall-mounted IDU DFT Series



DATA70ALQS1

DATA80ALQS1

DATA90ALQS1

Wall Mounted

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DATA70ALQS1; DATA80ALQS1 ; DATA90ALQS1

Table 1.2: DATA70 (80 / 90)ALQS1 specifications

Model (DFT)			DATA70ALQS1	DATA80ALQS1	DATA90ALQS1
Power supply			1 phase, 220-240V, 50Hz		
Cooling ¹	Capacity	kW	7.1	8.0	9.0
	Power input	W	77	77	90
Fan Motor type			AC		
Air flow rate ³		m ³ /h	1240/1171/1107/1045/976/914/869	1248/1194/1119/1056/993/914/863	1427/1403/1303/1232/1186/1096/1043
Indoor Unit Coil	Number of rows		2	2	2
	Tube pitch × row pitch	mm	21x13.37		
	Fin spacing	mm	1.3		
	Fin type		Hydrophilic aluminum		
	Tube OD and type	mm	Φ7 Inner-groove		
	Dimensions (L×H ×W)	mm	825×399×26.74	825×399×26.74	825×399×26.74
	Number of circuits		5	6	5
External Static Pressure		Pa	0	0	0
Sound pressure level ⁴		dB(A)	48/47/45/44/42/39/38	48/47/45/43/42/39/38	52/51/50/49/47/45/43
Unit	Net dimensions ⁵ (W×H×D)	mm	1194×343×262		
	Packed dimensions (W×H×D)	mm	1265×420×345		
	Net/Gross weight	kg	17.4/20.8	17.6/21.0	17.6/21.0
Refrigerant type			R410A		
Pipe connections	Liquid/Gas pipe	mm	Φ9.53/Φ15.9		
	Drain pipe	mm	OD Φ16		

Notes:

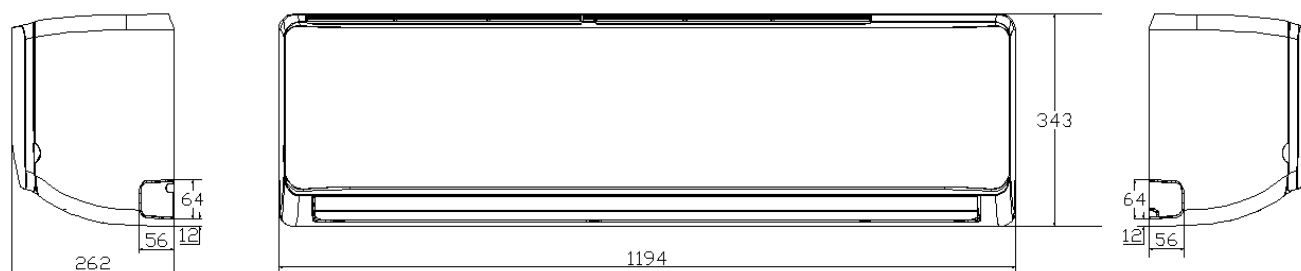
1. Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
2. Fan motor speed and air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
3. Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured in a semi-anechoic chamber.
4. Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

2 Dimensions

2.1 Unit Dimensions

Figure 2.1: Wall mounted dimensions (unit: mm)

DATA70ALQS1, DATA80ALQS1, DATA90ALQS1



3 Indoor Unit Installation

3.1 Choosing an Installation Site

Unit placement should take account of the following considerations:

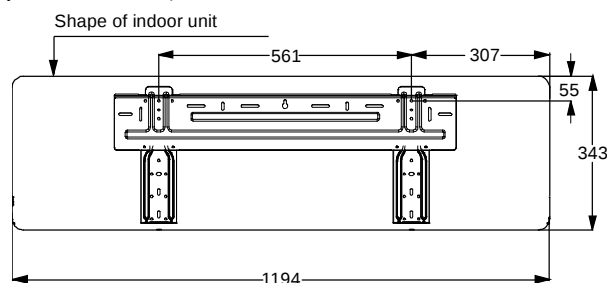
- Units should not be installed in the following locations:
 - Where exposure to direct radiation from a high-temperature heat source or to interference from a source of electromagnetic radiation may occur.
 - Where dust or dirt may affect heat exchangers.
 - Where exposure to oil or to corrosive or harmful gases, such as acidic or alkaline gases, may occur.
 - Where exposure to salinity may occur, such as seaside locations.
 - Where highly flammable materials are present.
 - Where exposure to oily air may occur, such as a kitchen.
 - Where exposure to very high humidity may occur, such as a laundry.
- Units should be installed in positions where:
 - The ceiling is horizontal and is able to bear the unit's weight.
 - There are no obstructions that could impede the airflow into and out of the unit.
 - The airflow out of the unit can reach throughout the room.
 - There is sufficient space for access during installation, servicing and maintenance.
 - The refrigerant piping and drain piping can be easily connected to the refrigerant piping and drain piping systems.
 - Short-circuit ventilation (where outlet air returns quickly to a unit's air inlet) will not occur.

3.2 Drill and Mount the rack for the indoor unit

Rack Dimensions and directions (unit: mm)

Figure 3.1: Wall mounted space requirements (unit: mm)

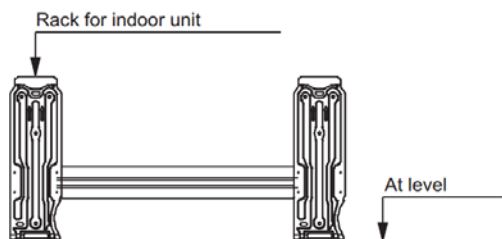
DATA70ALQS1, DATA80ALQS1, DATA90ALQS1



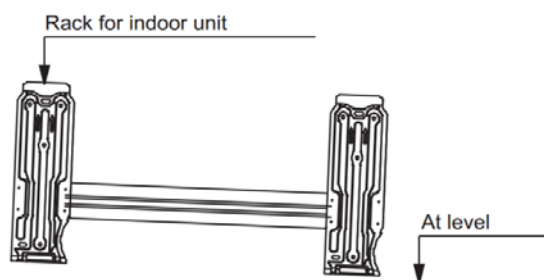
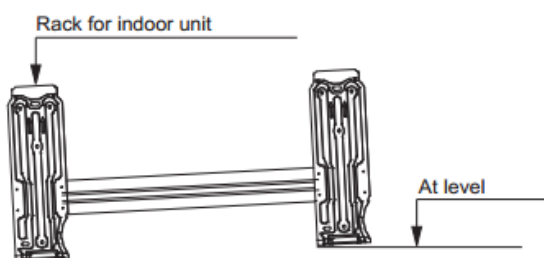
3.2.1 Mounting the Rack of the indoor unit

Select the installation location, and remove the installation panel from the back of the indoor unit, and place it on the installation position you have selected earlier. At this time, make sure the unit is level, and maintain the dimensions of the bottom, top, left and right sides of the unit. Determine the positions of the wall holes to secure the panel.

Correct Installation Method



Wrong Installation



3.2.2 Installation on Wood-based structure

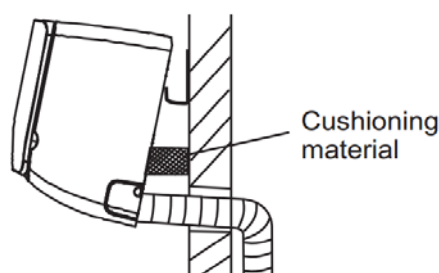
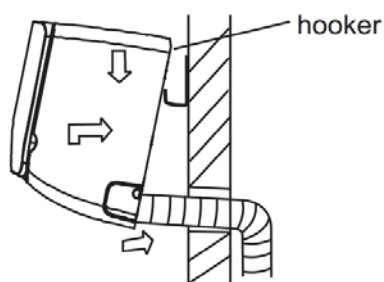
- 1) Before installation, make sure that the wooded walls are strong enough.
- 2) Determine the upper and lower positions of the installation panel based on the distance between the indoor unit and the ceiling.
- 3) With reference to the screw holes of the installation panel as the center, adjust the distance on the left and right sides.
- 4) Fix the installation panel on the wall using self-tapping screws.

3.2.3 Installation on Concrete Structure

- 1) With reference to the installation panel, drill holes in the wall to embed the plastic expansion pipes.
- 2) Fix the installation panel on the wall using self-tapping screws.

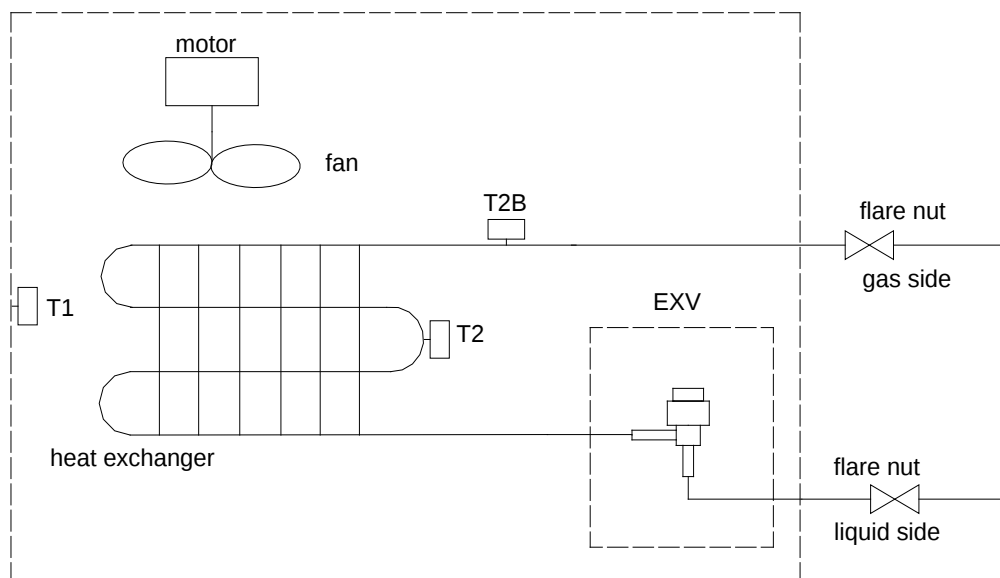
3.2.4 Indoor Unit Installation

- 1) Pass the properly bundled pipeline and connection lines through the wall hole, making sure that the pipe socket is not damaged, and the connecting pipes of the unit are sand-free and dust-free.
- 2) Hang the upper jaw at the back of the indoor unit on the upper hooker of the installation panel. Shift the indoor unit left and right to check that the hanging is secure and firm.
- 3) Push the lower part of the indoor unit against the wall, and shift the unit body up and down and left and right to check that the connection is secure.
- 4) Place a block of shock absorbing material in between the indoor unit and wall to support the indoor unit. Remove the shock absorbing material when the piping installation work is completed. Until the indoor unit can be connected properly, make sure that the indoor unit is buckled into the slots. Use your hands to shake the unit to check that it does not move up, down, left or right. Use a spirit level to verify that the indoor unit is level.



4 Piping Diagram

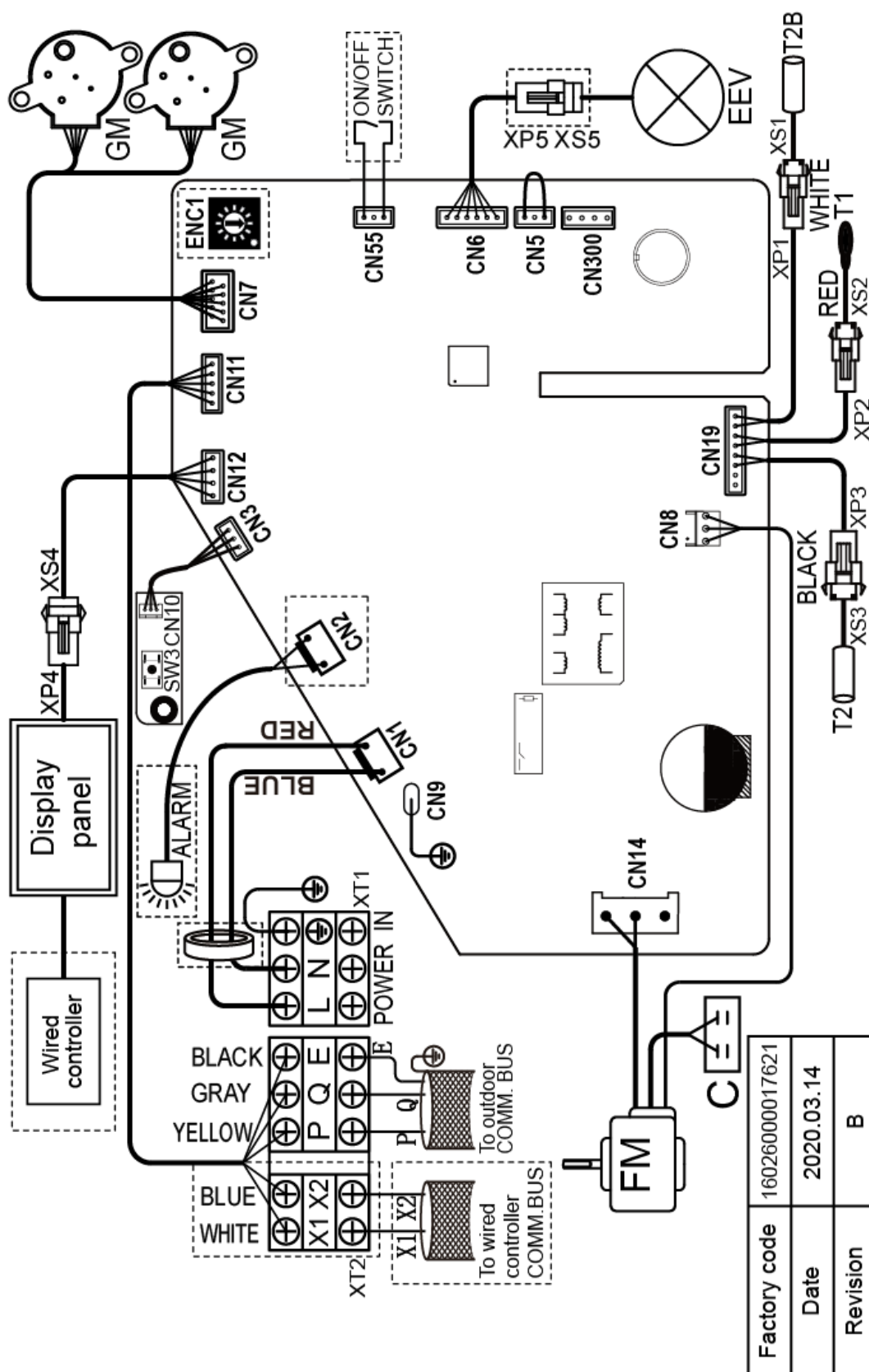
Figure 4.1: Wall mounted piping diagram



Legend	
T1	Indoor ambient temperature sensor
T2	Indoor heat exchanger mid-point temperature sensor
T2B	Indoor heat exchanger outlet temperature sensor

Figure 5.3: DATA70ALQS1, DATA80ALQS1, DATA90ALQS1 Wall mounted wiring diagram

Code	Name	Code	Name	Code	Name
FM	Indoor fan motor	T1	Indoor ambient temp. sensor	CS	Water level switch
GM	Swing motor	T2	Indoor heat exchanger mid-point temp. sensor	XP1-5/XS1-5	Connectors
EEV	Electronic expansion valve	T2B	Indoor heat exchanger outlet temp. sensor	C	Capacitor



6 Capacity Tables

6.1 Cooling Capacity Table

Table 6.1: Wall mounted cooling capacity

Model	Indoor air temperature (°C WB/DB)													
	14/20		16/23		18/26		19/27		20/28		22/30		24/32	
	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
DATA70ALQS1	6.3	6.2	6.7	6.1	7.0	6.1	7.1	5.9	7.2	5.7	7.4	5.4	7.6	5.2
DATA80ALQS1	7.1	6.9	7.6	7.0	7.9	6.8	8.0	6.6	8.1	6.4	8.3	6.1	8.5	5.8
DATA90ALQS1	8.0	7.9	8.5	7.9	8.9	7.8	9.0	7.5	9.1	7.2	9.4	6.9	9.6	6.6

Abbreviations:

TC: Total capacity (kW)

SC: Sensible capacity(kW)

Notes:

1. Shaded cells indicate rating condition.

7 Electrical Characteristics

Table 7.1: Wall mounted electrical characteristics

Model	Power supply						Indoor fan motors	
	Hz	Volts	Min. volts	Max. volts	MCA	MFA	Rated motor output (kW)	FLA
DATA70ALQS1	50	220-240	198	264	0.90	15	0.05	0.45
DATA80ALQS1	50	220-240	198	264	0.90	15	0.05	0.45
DATA90ALQS1	50	220-240	198	264	1.10	15	0.05	0.52

Abbreviations:

MCA: Minimum Circuit Amperes

MFA: Minimum Fuse Amperes

IFM: Indoor Fan Motor

kW: Rated motor output

FLA: Full Load Amperes

8 Sound Levels

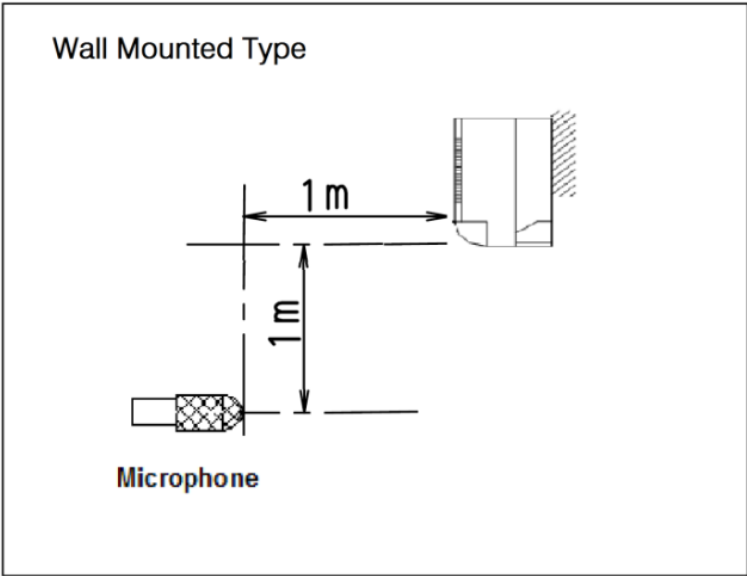
8.1 Overall

Table 8.1: Wall mounted sound pressure levels¹

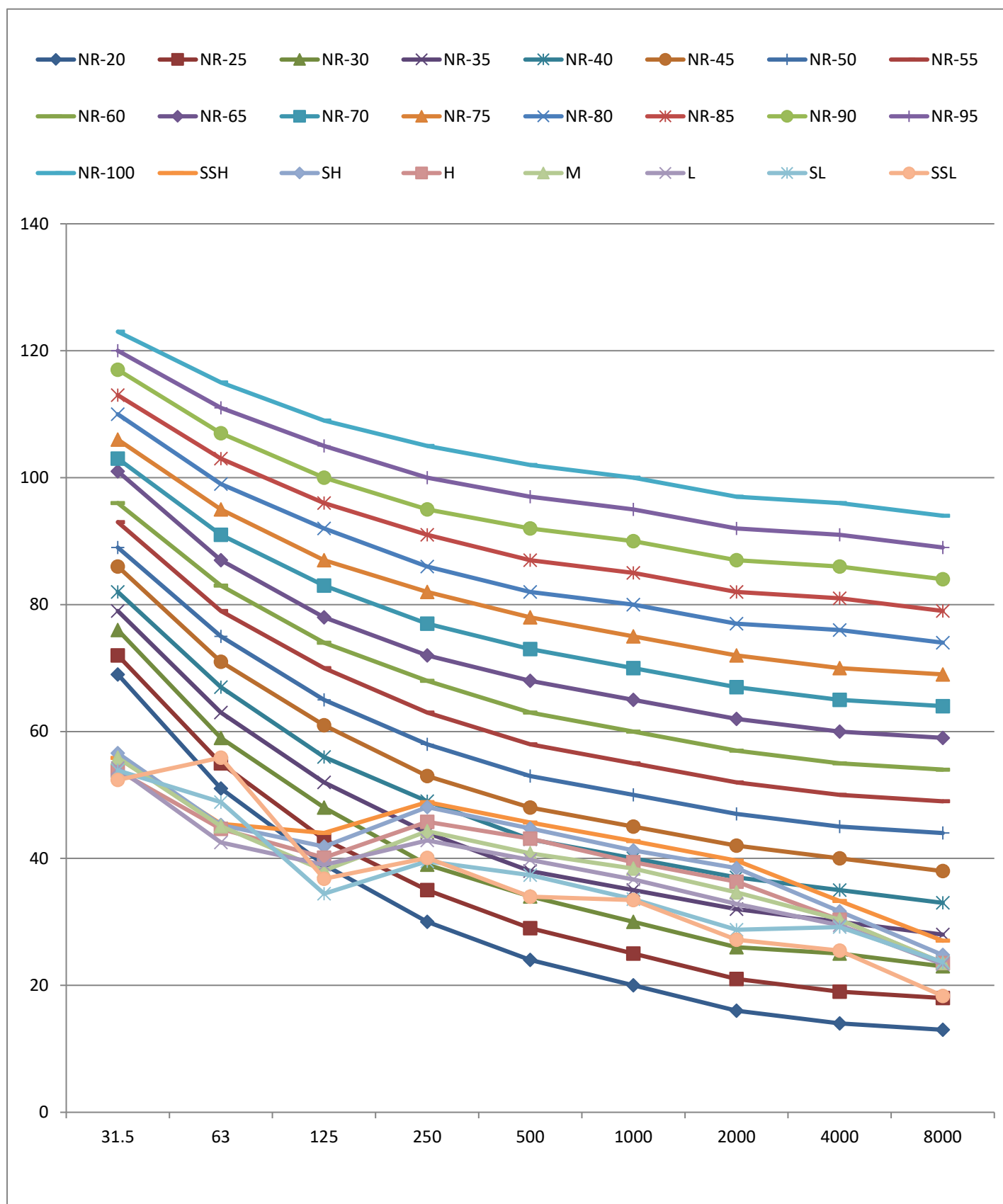
Model name	Sound pressure levels dB(A)						
	SSH	SH	H	M	L	SL	SSL
DATA70ALQS1	48	47	45	44	42	39	38
DATA80ALQS1	48	47	45	43	42	39	38
DATA90ALQS1	52	51	50	49	47	45	43

- Notes:
1. Sound pressure levels are measured in a semi-anechoic chamber. During in-situ operation, sound pressure levels may be higher as a result of ambient noise.

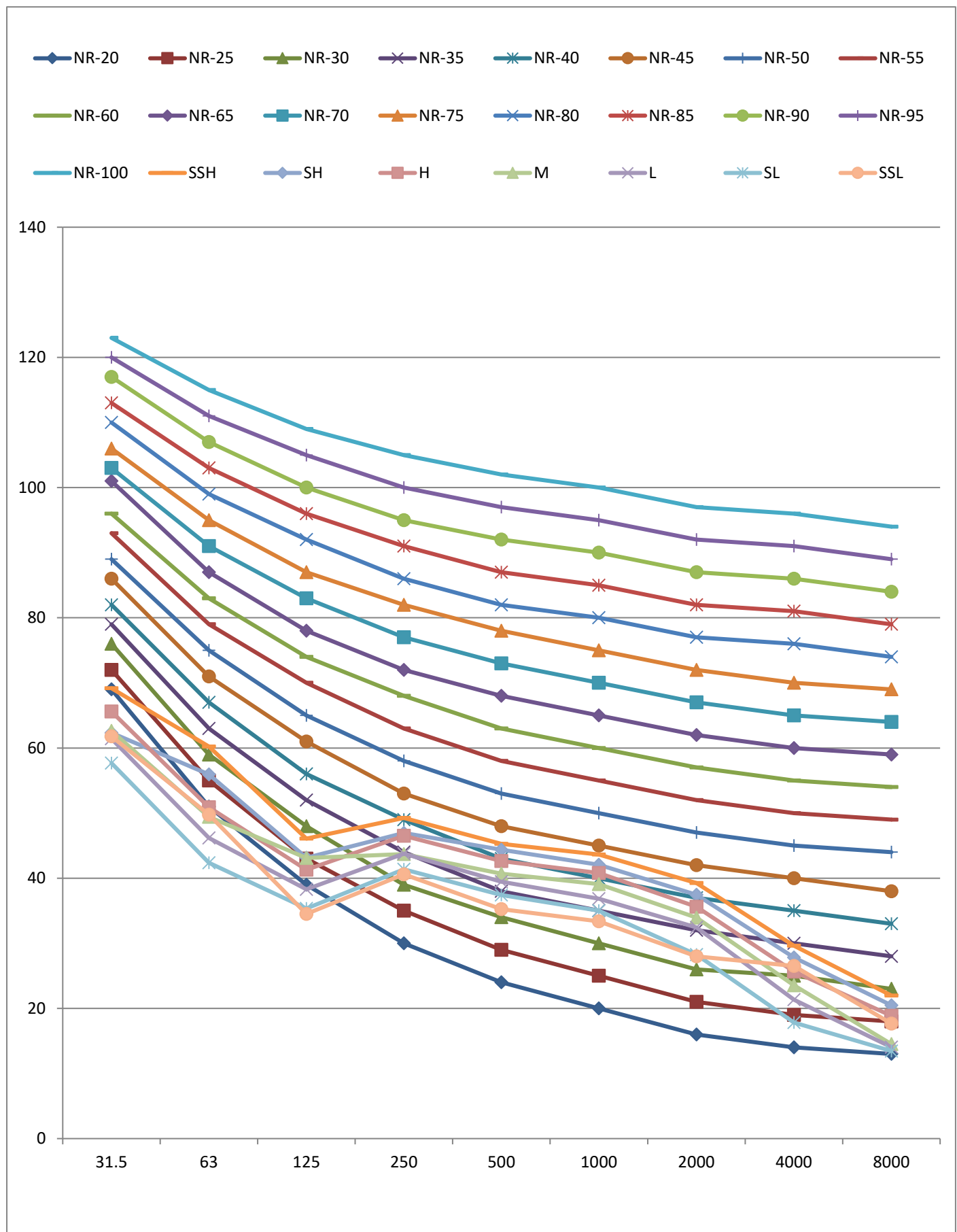
Figure 8.1: Wall mounted sound pressure level measurement



DATA70ALQS1



DATA80ALQS1



DATA90ALQS1

