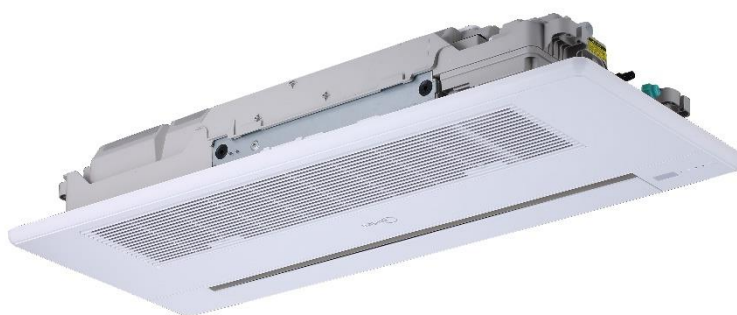


Engineering Data

One-way Cassette VRF IDU



MIH18Q1HN18

MIH45Q1HN18

MIH22Q1HN18

MIH56Q1HN18

MIH28Q1HN18

MIH71Q1HN18

MIH36Q1HN18

One-way Cassette

1 Specifications	4
2 Dimensions.....	6
3 Unit Placement.....	8
4 Piping Diagram	9
5 Wiring Diagram	10
6 Capacity Tables.....	12
7 Electrical Characteristics	13
8 Sound Levels	14
9 Temperature and Airflow Distributions	16

V8 VRF Indoor Units



1 Specifications

MIH18Q1HN18 / MIH22Q1HN18 / MIH28Q1HN18 / MIH36Q1HN18

Table 1.1: MIH18(22, 28,36)Q1HN18 specifications

Model			MIH18Q1HN18	MIH22Q1HN18	MIH28Q1HN18	MIH36Q1HN18
Power supply			1-phase, 220-240V, 50/60Hz			
Cooling ¹	Capacity	kW	1.8	2.2	2.8	3.6
		kBtu/h	6.1	7.5	9.6	12.3
	Power input	W	25	25	30	30
Heating ²	Capacity	kW	2.2	2.6	3.2	4.0
		kBtu/h	7.5	8.9	10.9	13.6
	Power input	W	25	25	30	30
Fan motor	Type		DC			
	Number		1			
Indoor coil	Number of rows		2	2	2	2
	Tube pitch × row pitch	mm	21×13.37	21×13.37	21×13.37	21×13.37
	Fin spacing	mm	1.5	1.5	1.5	1.5
	Fin type		Hydrophilic aluminum			
	Tube OD and type	mm	Φ7 Inner-groove			
	Dimensions (L×H×W)	mm	760×252.4×26.74			
	Number of circuits		2	2	3	3
Air flow rate ³		m³/h	380/355/330/300/286/263/240		460/440/410/380/355/330/300	
Sound pressure level ⁴		dB(A)	30/28/27/26/25/24/22		37/36/35/34/32/31/30	38/37/35/34/32/31/30
Main body	Net dimensions ⁵ (W×H×D)	mm	1054×153×428			
	Net dimensions(no water tray)(W×H×D)	mm	1054×141×428			
	Packed dimensions (W×H×D)	mm	1155×245×490			
	Net/Gross weight	kg	11.5/14.5		11.8/14.8	
Panel	Net dimensions (W×H×D)	mm	1180×25×465			
	Packed dimensions (W×H×D)	mm	1232×107×517			
	Net/Gross weight	kg	3.5/4.7			
Refrigerant type			R410A/R32			
Design pressure (H/L)		MPa	4.4/2.6			
Pipe	Liquid/Gas pipe	mm	Φ6.35/Φ12.7			
connections	Drain pipe	mm	OD Φ25			

Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
- Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured 1.4m below the unit in a anechoic chamber.
- Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

MIH45Q1HN18 / MIH56Q1HN18 / MIH71Q1HN18

Table 1.2: MIH45(56,71)Q1HN18 specifications

Model			MIH45Q1HN18	MIH56Q1HN18	MIH71Q1HN18
Power supply			1-phase, 220-240V, 50/60Hz		
Cooling ¹	Capacity	kW	4.5	5.6	7.1
		kBtu/h	15.4	19.1	24.2
	Power input	W	40	48	60
Heating ²	Capacity	kW	5.0	6.3	8.0
		kBtu/h	17.1	21.5	27.3
	Power input	W	40	48	60
Fan motor	Type		DC		
	Number		1		
Indoor coil	Number of rows		2	2	2
	Tube pitch × row pitch	mm	21×13.37	21×13.37	21×13.37
	Fin spacing	mm	1.5	1.5	1.5
	Fin type		Hydrophilic aluminum		
	Tube OD and type	mm	Φ7 Inner-groove		
	Dimensions (L×H×W)	mm	955×231×26.74		
	Number of circuits		3	3	5
Air flow rate ³		m ³ /h	693/662/638/600/556/510/476	792/763/728/688/643/589/549	933/873/815/749/689/637/592
Sound pressure level ⁴		dB(A)	39/37/36/35/34/32/31	41/39/38/37/36/35/33	43/41/40/39/37/36/35
Main body	Net dimensions ⁵ (W×H×D)	mm	1275×189×452		
	Net dimensions(no water tray)(W×H×D)		1275×176×452		
	Packed dimensions (W×H×D)	mm	1370×295×505		
	Net/Gross weight	kg	15.8/20.2		16.9/21.4
Panel	Net dimensions (W×H×D)	mm	1350×25×505		
	Packed dimensions (W×H×D)	mm	1410×95×560		
	Net/Gross weight	kg	4/5.6		
Refrigerant type			R410A/R32		
Design pressure (H/L)		MPa	4.4/2.6		
Pipe	Liquid/Gas pipe	mm	Φ6.35/Φ12.7		Φ9.52/Φ15.9
connections	Drain pipe	mm	OD Φ25		

Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference.
- Air flow rate are from the highest speed to the lowest speed, total 7 rates for each model.
- Sound pressure level is from highest level to lowest level, total 7 levels for each model. Sound pressure level is measured 1.4m below the unit in a anechoic chamber.
- Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments.

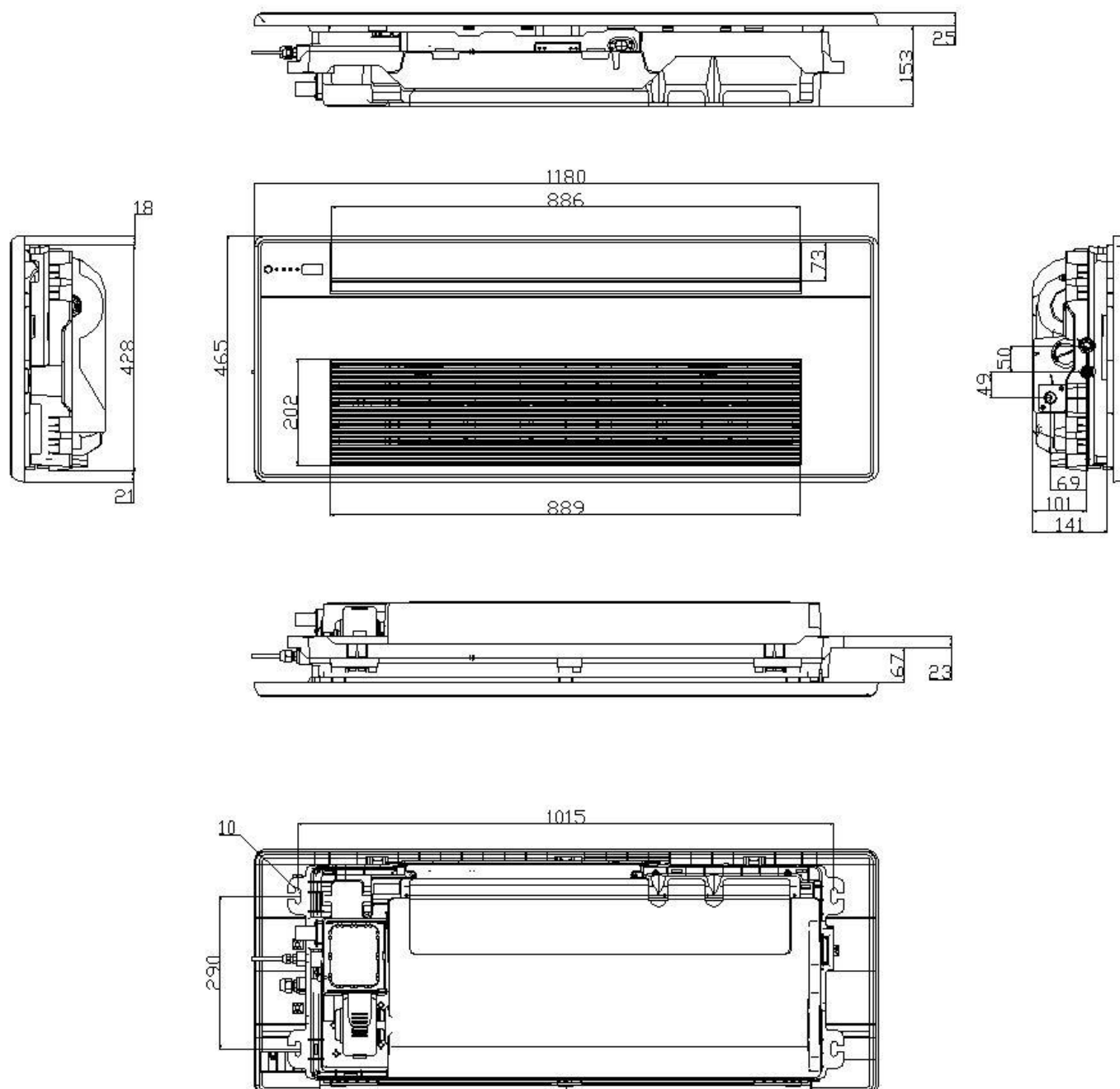
V8 VRF Indoor Units



2 Dimensions

2.1 Unit Dimensions

Figure 2.1: MIH18(22, 28,36)Q1HN18 dimensions (unit: mm)



[illegible]

V8 VRF Indoor Units

3 Unit Placement

3.1 Placement Considerations

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 Space Requirements

Figure 3.1: One-way Cassette space requirements (unit: mm)

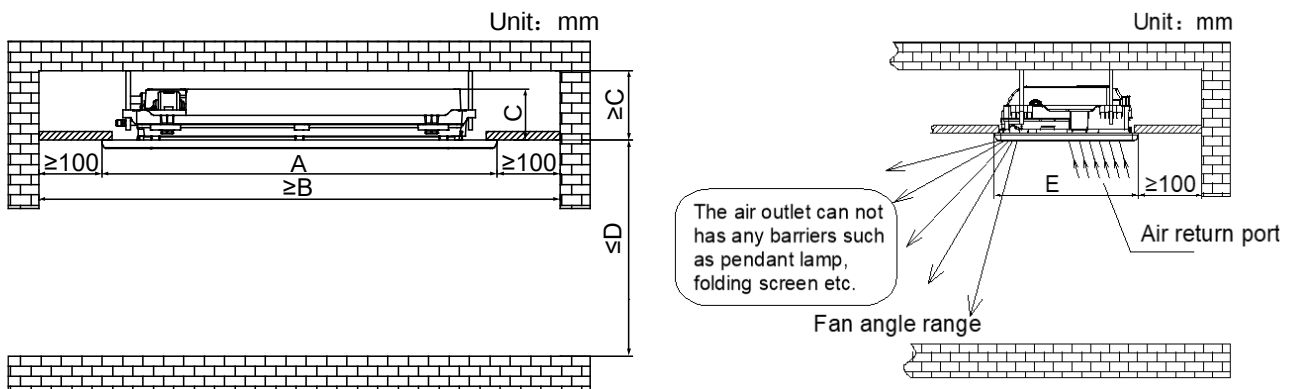
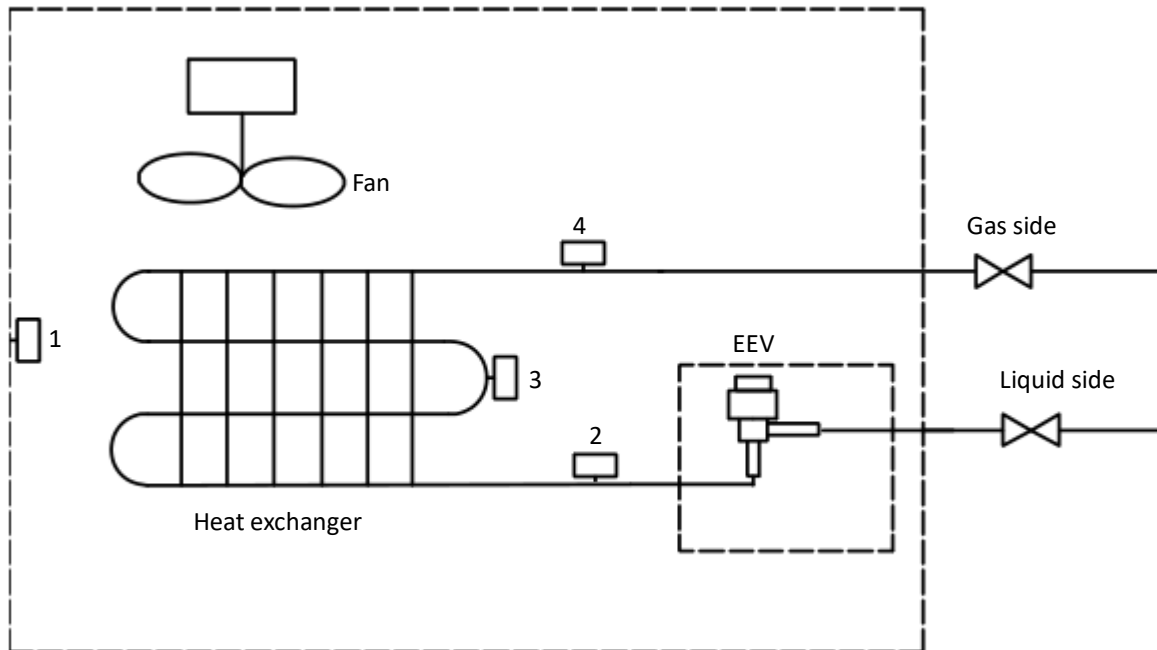


Table 3.1: One-way Cassette dimensions and space requirements

Model name	Dimensions / Requirements (mm)				
	A	B	C	D	E
MIH18Q1HN18 MIH22Q1HN18 MIH28Q1HN18 MIH36Q1HN18	1180	1380	153	3200	465
MIH45Q1HN18 MIH56Q1HN18 MIH71Q1HN18	1350	1550	189	4000	505

4 Piping Diagram

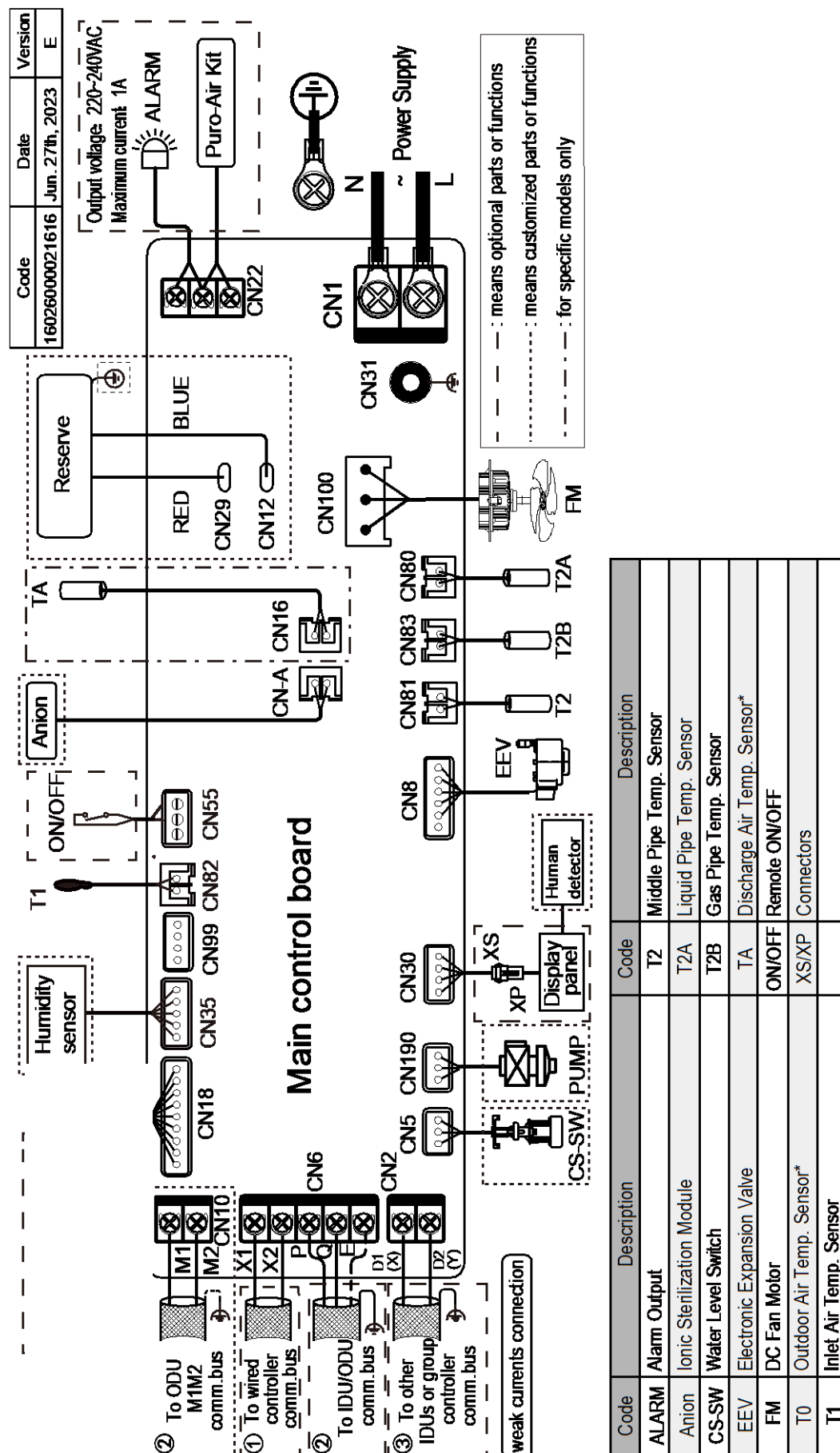
Figure 4.1: One-way Cassette piping diagram



Legend		
1	T1	Inlet Air Temp. Sensor
2	T2A	Liquid Pipe Temp. Sensor
3	T2	Middle Pipe Temp. Sensor
4	T2B	Gas Pipe Temp. Sensor
5	EEV	Electronic Expansion Valve
6	FAN	DC Fan Motor

5 Wiring Diagram

Figure 5.1: MIH18Q1HN18, MIH22Q1HN18, MIH28Q1HN18, MIH36Q1HN18, MIH45Q1HN18. MIH56Q1HN18, MIH71Q1HN18



* Indicates that this sensor is only available for Fresh Air Processing Unit.

Notes for installers and service engineers **Caution**

- All installation, servicing and maintenance must be carried out by competent and suitably qualified, certified and accredited professionals and in accordance with all applicable legislation.
- Units should be grounded in accordance with all applicable legislation. Metal and other conductive components should be insulated in accordance with all applicable legislation.
- Power supply wiring should be securely fastened at the power supply terminals – loose power supply wiring would represent a fire risk.
- After installation, servicing or maintenance, the electric control box cover should be closed. Failing to close the electric control box cover risks fire or electric shock.
- The dotted lines indicate the field wiring or optional function.
- PQ and M1M2 communication ports both are used for indoor and outdoor communication, and only one of them can be used at a time. Meanwhile, be sure to connect the same communication ports (PQ to PQ; M1M2 to M1M2) in case of damage of the main control board.
- D1D2 communication ports are used for group control communication. When connecting the group controller, the D1D2 port of the indoor units that are to be group controlled must be connected in daisy chain, and the group controller must be connected to the X1X2 port of one of the indoor units in the group control, and set to group control mode. In addition, D1D2 communication ports can also be connected to the central controller.

V8 VRF Indoor Units



6 Capacity Tables

6.1 Cooling Capacity Table

Table 6.1: One-way Cassette 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
MIH18Q1HN18	1.6	1.5	1.7	1.5	1.8	1.6	1.8	1.5	1.9	1.5	1.9	1.4	2.0	1.4
MIH22Q1HN18	2.0	1.9	2.1	1.9	2.2	1.9	2.2	1.8	2.3	1.8	2.3	1.7	2.4	1.7
MIH28Q1HN18	2.5	2.3	2.7	2.4	2.8	2.4	2.8	2.3	2.9	2.3	2.9	2.1	3.0	2.1
MIH36Q1HN18	3.2	2.9	3.4	3.0	3.6	3.1	3.6	3.0	3.7	2.9	3.8	2.8	3.9	2.7
MIH45Q1HN18	4.0	3.7	4.3	3.8	4.5	3.9	4.5	3.7	4.6	3.6	4.7	3.4	4.8	3.3
MIH56Q1HN18	5.0	4.6	5.3	4.7	5.6	4.8	5.6	4.6	5.7	4.5	5.8	4.3	6.0	4.1
MIH71Q1HN18	6.3	5.7	6.7	5.9	7.0	5.9	7.1	5.8	7.2	5.7	7.4	5.4	7.6	5.2

Abbreviations:

TC: Total capacity (kW)

SC: Sensible capacity(kW)

Notes:

1.Shaded cells indicate rating condition

6.2 Heating Capacity Table

Table 6.2: One-way Cassette heating capacity

Model	Indoor air temperature (°C DB)					
	16	18	20	21	22	24
	SHC	SHC	SHC	SHC	SHC	SHC
MIH18Q1HN18	2.4	2.4	2.2	2.1	2.1	1.9
MIH22Q1HN18	2.8	2.8	2.6	2.5	2.4	2.3
MIH28Q1HN18	3.4	3.4	3.2	3.1	3.0	2.8
MIH36Q1HN18	4.2	4.2	4.0	3.8	3.8	3.5
MIH45Q1HN18	5.3	5.3	5.0	4.8	4.7	4.4
MIH56Q1HN18	6.7	6.6	6.3	6.1	5.9	5.5
MIH71Q1HN18	8.5	8.4	8.0	7.8	7.5	7.0

Abbreviations:

SHC: Sensible heating capacity(kW)

Notes:

1.Shaded cells indicate rating condition

7 Electrical Characteristics

Table 7.1: One-way Cassette electrical characteristics

Model name	Power supply						Indoor fan motors	
	Hz	Volts	Min. volts	Max. volts	MCA	MFA	Rated motor output (W)	FLA
MIH18Q1HN18	50/60	220-240	198	242	0.38	15	20	0.30
MIH22Q1HN18	50/60	220-240	198	242	0.38	15	20	0.30
MIH28Q1HN18	50/60	220-240	198	242	0.39	15	20	0.31
MIH36Q1HN18	50/60	220-240	198	242	0.39	15	20	0.31
MIH45Q1HN18	50/60	220-240	198	242	0.53	15	50	0.42
MIH56Q1HN18	50/60	220-240	198	242	0.58	15	50	0.46
MIH71Q1HN18	50/60	220-240	198	242	0.59	15	50	0.47

Abbreviations:

MCA: Minimum Circuit Amps

MFA: Maximum Fuse Amps

FLA: Full Load Amps

V8 VRF Indoor Units



8 Sound Levels

8.1 Overall

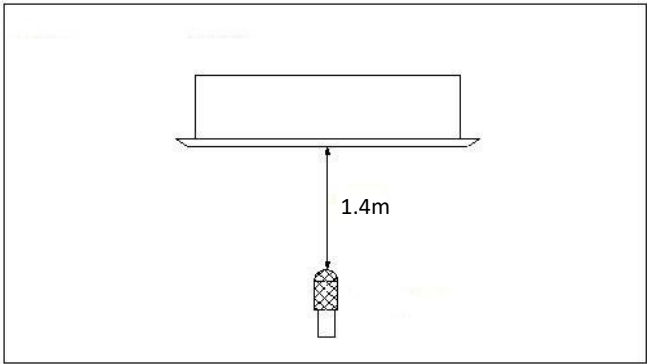
Table 8.1: One-way Cassette sound pressure levels¹

Model name	Sound pressure levels dB(A)						
	SSH	SH	H	M	L	SL	SSL
MIH18Q1HN18	30	28	27	26	25	24	22
MIH22Q1HN18	30	28	27	26	25	24	22
MIH28Q1HN18	37	36	35	34	32	31	30
MIH36Q1HN18	38	37	35	34	32	31	30
MIH45Q1HN18	39	37	36	35	34	32	31
MIH56Q1HN18	41	39	38	37	36	35	33
MIH71Q1HN18	43	41	40	39	37	36	35

Notes:

1. Sound pressure levels are measured 1.4m below the unit in a anechoic chamber. During in-situ operation, sound pressure levels may be higher as a result of ambient noise.

Figure 8.1: One-way Cassette sound pressure level measurement



8.2 Octave Band Levels

Figure 8.2: MIH18(22)Q1HN18 octave band levels

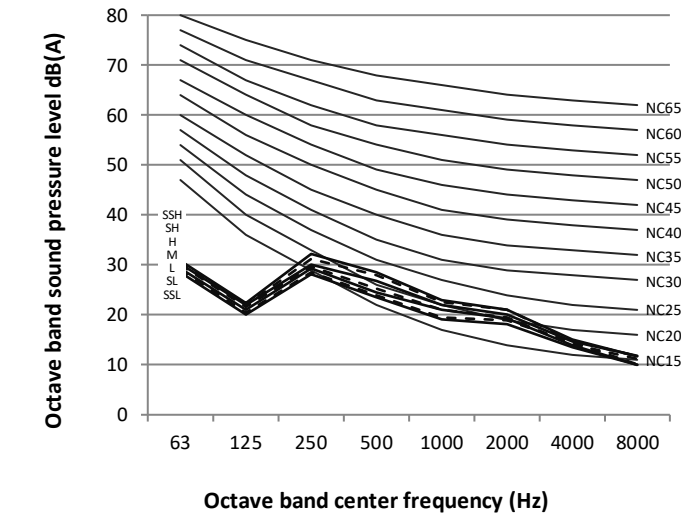


Figure 8.3: MIH 36Q1HN18 octave band levels

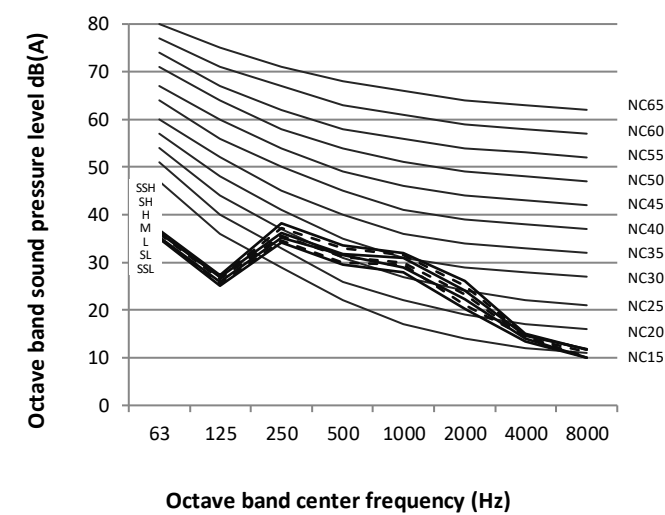


Figure 8.4: MIH36Q1HN18 octave band levels

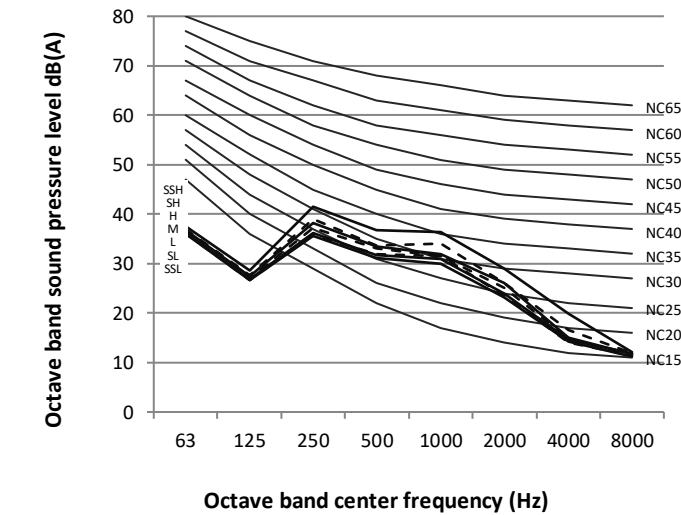


Figure 8.5: MIH45Q1HN18 octave band levels

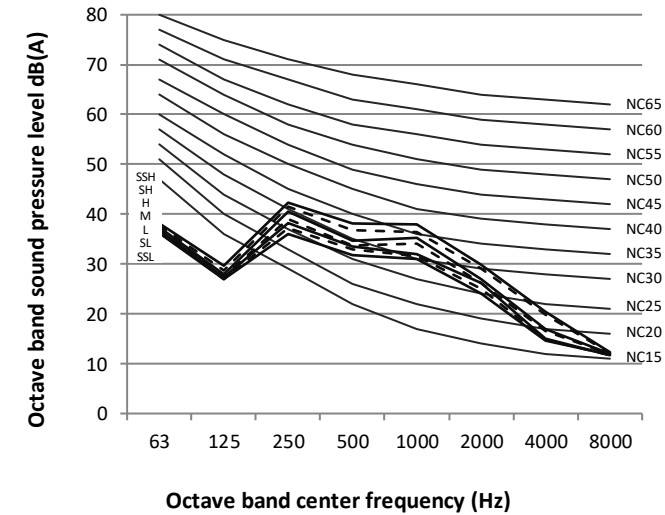


Figure 8.5: MIH56Q1HN18 octave band levels

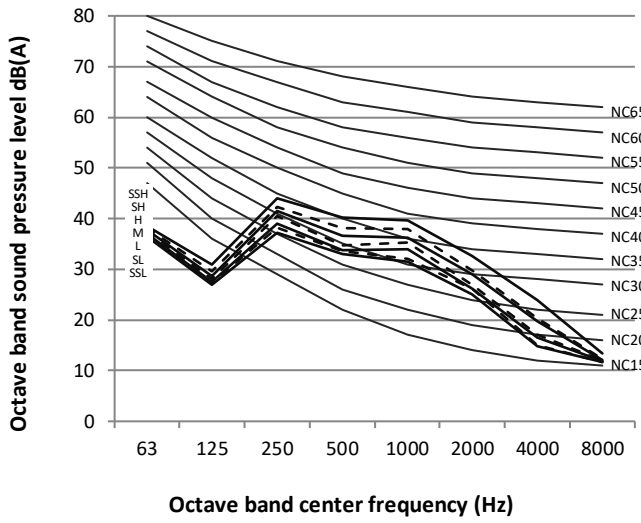
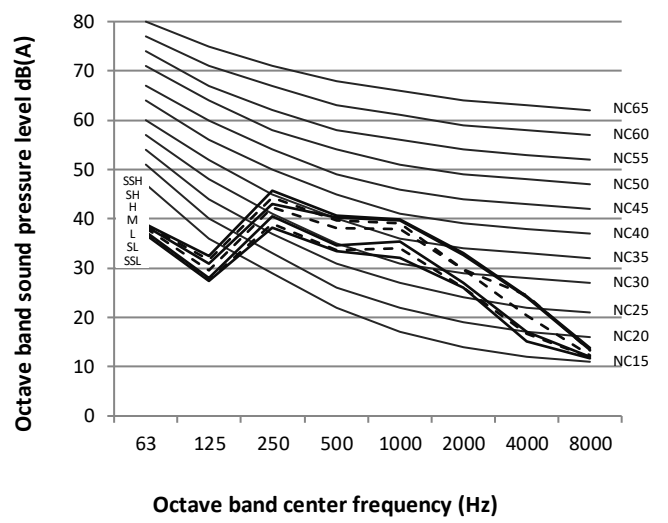


Figure 8.7: MIH71Q1HN18 octave band levels



V8 VRF Indoor Units



9 Temperature and Airflow Distributions

9.1 Simulate condition

Table 9.1: One-way Cassette simulate condition

Model name	Room size (m)	Ceiling height (m)	Flow angle (Cooling/Heating)	Placing
MIH18Q1HN18	6*6	2.7	25° /80°	Cassette
MIH22Q1HN18	6*6	2.7	25° /80°	Cassette
MIH28Q1HN18	6*6	2.7	25° /80°	Cassette
MIH36Q1HN18	6*6	2.7	25° /80°	Cassette
MIH45Q1HN18	8*8	2.7	25° /80°	Cassette
MIH56Q1HN18	8*8	2.7	25° /80°	Cassette
MIH71Q1HN18	8*8	2.7	25° /80°	Cassette

Note:

- These figures and videos are based on software simulation. They show typical temperature and airflow distributions in the conditions above. In the actual installation, they may differ from these figures and videos under the influence of air temperature conditions, ceiling height, cooling/heating load, obstacles, etc.

9.2 Airflow distributions (unit: m/s)

Figure 9.1: MIH18Q1HN18 cooling at 300S

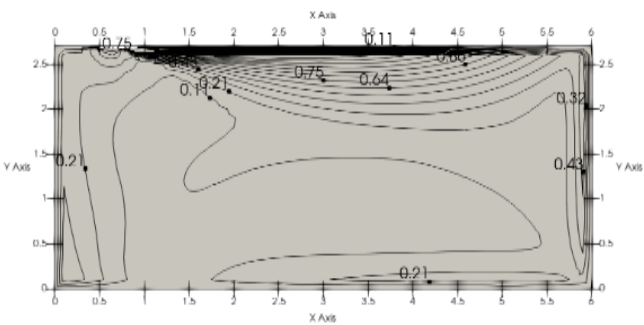


Figure 9.2: MIH18Q1HN18 heating at 300S

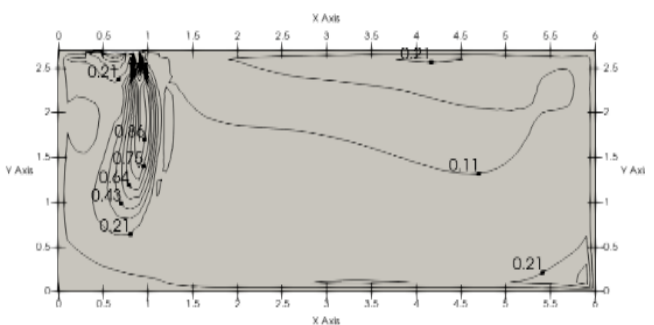


Figure 9.3: MIH22Q1HN18 cooling at 300S

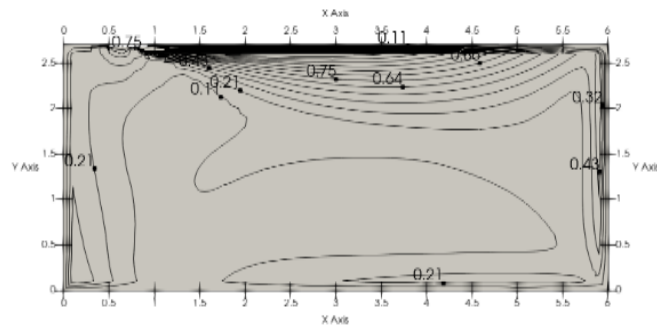


Figure 9.4: MIH22Q1HN18 heating at 300S

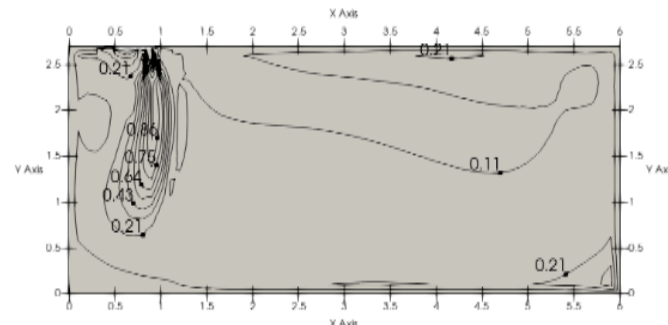


Figure 9.5: MIH28Q1HN18 cooling at 300S

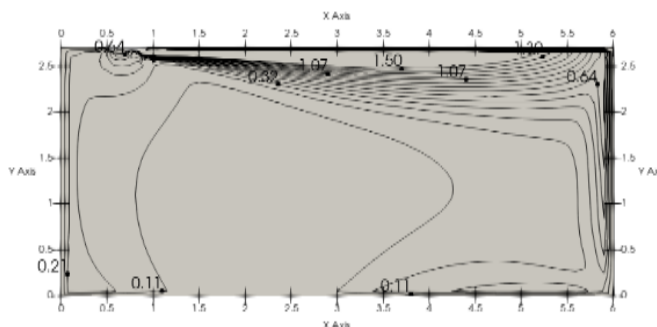


Figure 9.6: MIH28Q1HN18 heating at 300S

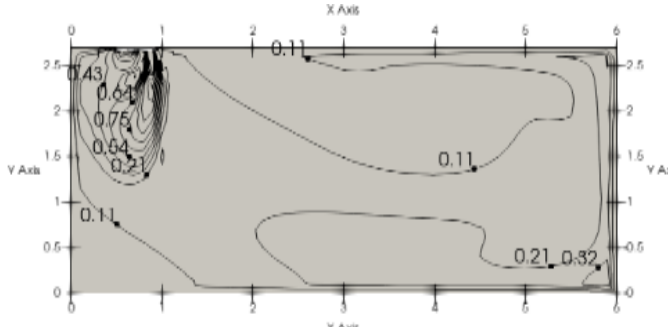


Figure 9.7: MIH36Q1HN18 cooling at 300S

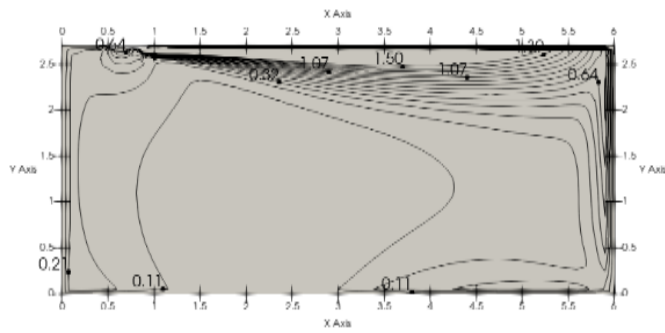


Figure 9.8: MIH36Q1HN18 heating at 300S

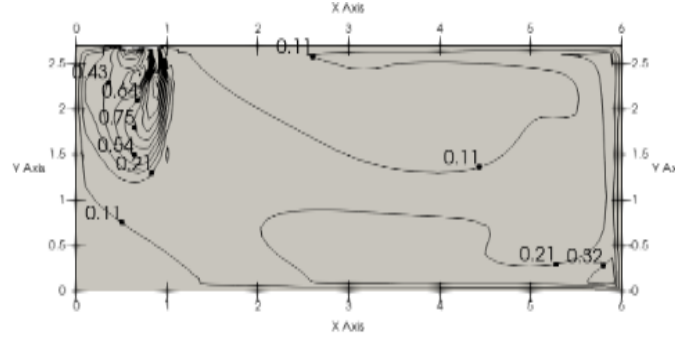


Figure 9.9: MIH45Q1HN18 cooling at 300S

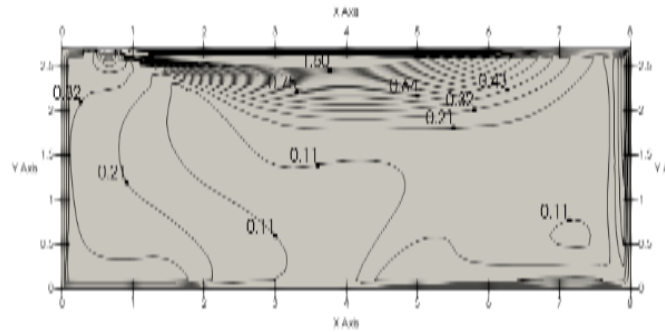


Figure 9.10: MIH45Q1HN18 heating at 300S

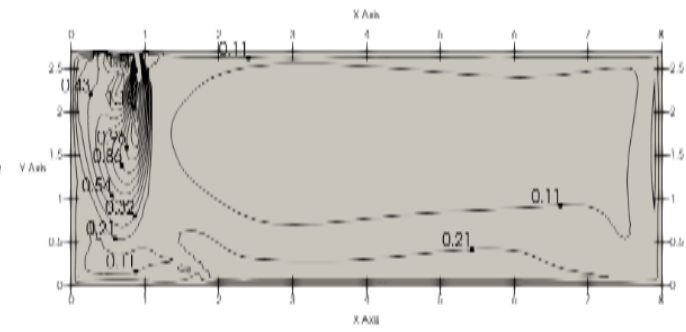


Figure 9.11: MIH56Q1HN18 cooling at 300S

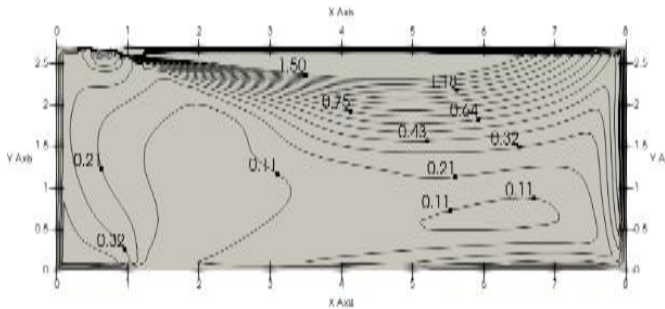


Figure 9.12: MIH56Q1HN18 heating at 300S

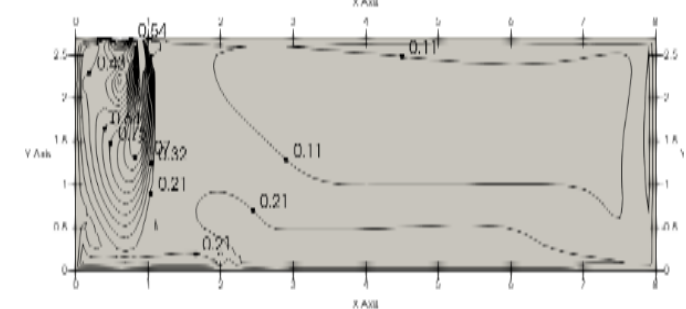


Figure 9.13: MIH71Q1HN18 cooling at 300S

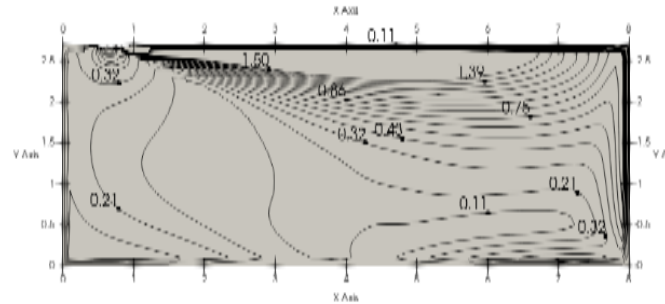
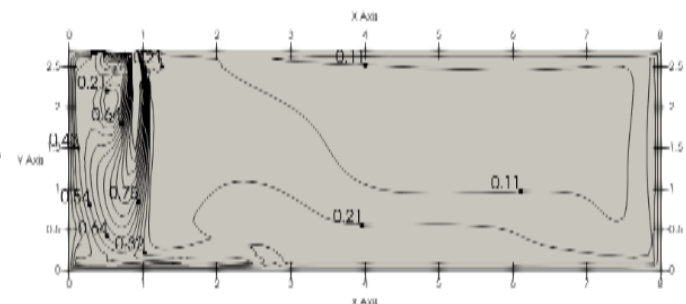


Figure 9.14: MIH71Q1HN18 heating at 300S



V8 VRF Indoor Units



9.3 Temperature distributions (unit: °C)

Figure 9.15: MIH18Q1HN18 cooling at 300S

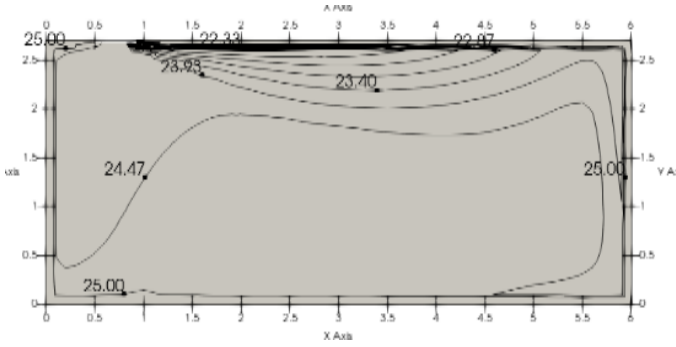


Figure 9.16: MIH18Q1HN18 heating at 300S

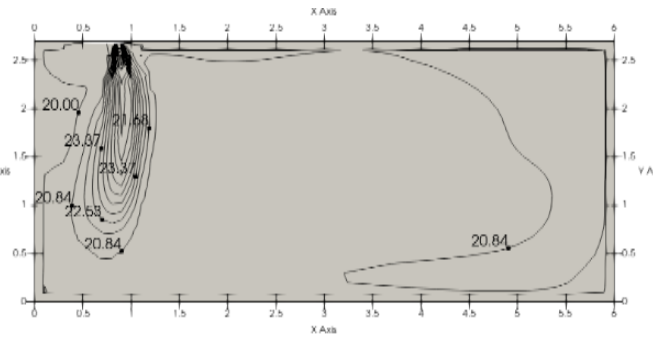


Figure 9.17: MIH22Q1HN18 cooling at 300S

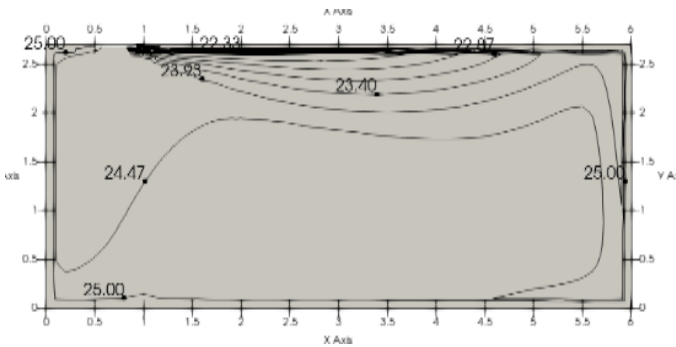


Figure 9.18: MIH22Q1HN18 heating at 300S

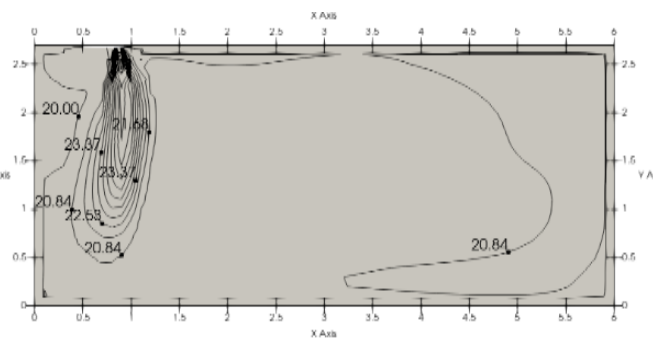


Figure 9.19: MIH28Q1HN18 cooling at 300S

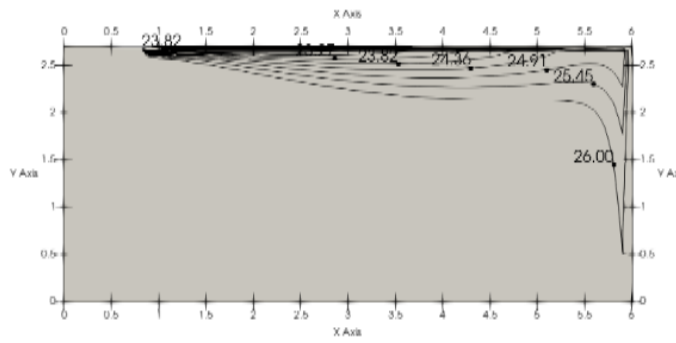


Figure 9.20: MIH28Q1HN18 heating at 300S

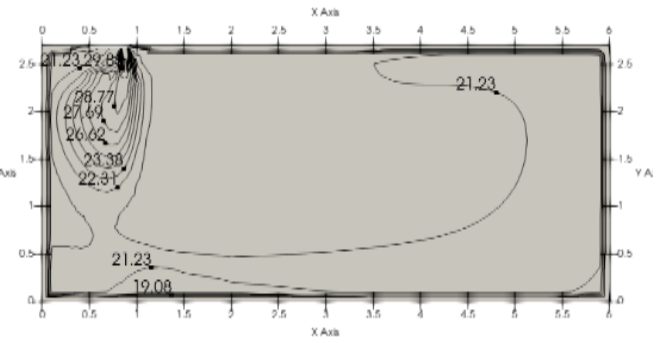


Figure 9.21: MIH36Q1HN18 cooling at 300S

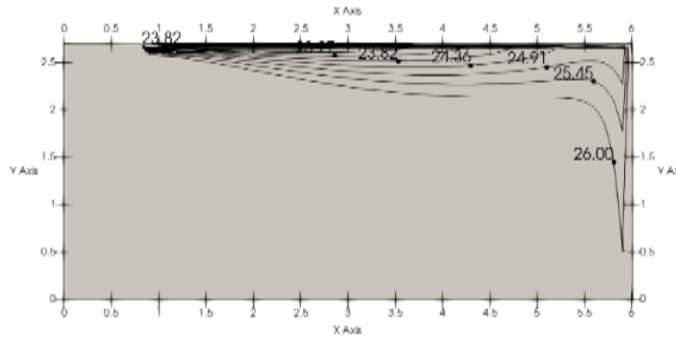


Figure 9.22: MIH36Q1HN18 heating at 300S

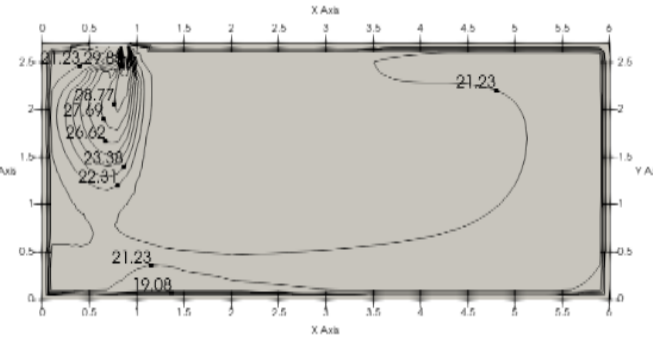


Figure 9.23: MIH45Q1HN18 cooling at 300S

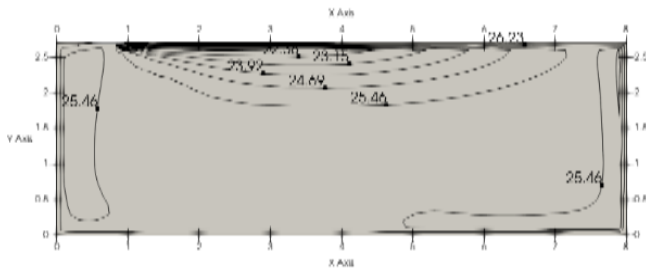


Figure 9.24: MIH45Q1HN18 heating at 300S

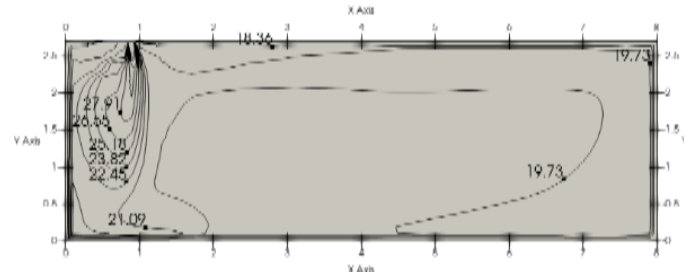


Figure 9.25: MIH56Q1HN18 cooling at 300S

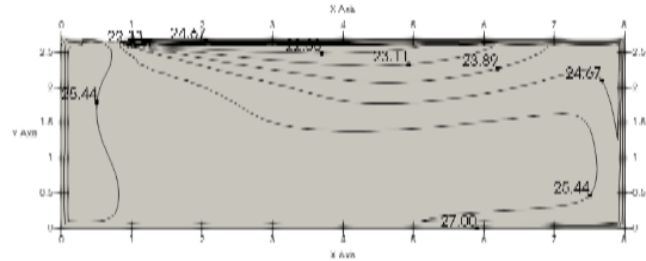


Figure 9.26: MIH56Q1HN18 heating at 300S

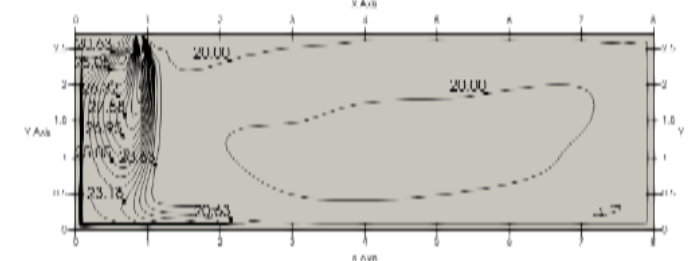


Figure 9.27: MIH71Q1HN18 cooling at 300S

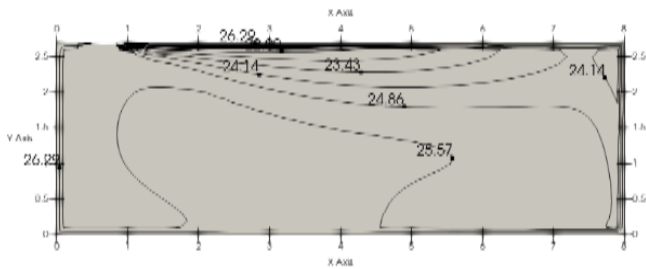
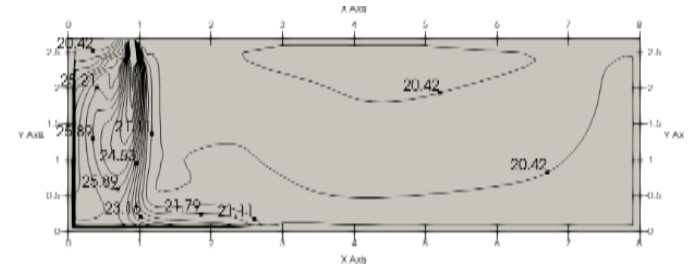


Figure 9.28: MIH71Q1HN18 heating at 300S



Midea Building Technologies Division
Midea Group

Add.: Midea Headquarters Building, 6 Midea Avenue, Shunde, Foshan, Guangdong, China

Postal code: 528311

mbt.midea.com / global.midea.com / tsp.midea.com

Note: Product specifications change from time to time as product improvements and developments are released and may vary from those in this document.

