

*Direct expansion
indoor unit for VRF*

Compact 4-way cassette

Q4AN-3-XY D15 - D63



TECHNICAL BULLETIN



SIZE	D15	D22	D28	D36	D45	D56	D63
COOLING CAPACITY kW	1,5	2,2	2,8	3,6	4,5	5,6	6,3
HEATING CAPACITY kW	1,8	2,4	3,2	4,0	5,0	6,3	7,1

General technical data

Model			Q4AN-3-XY D15	Q4AN-3-XY D22	Q4AN-3-XY D28	Q4AN-3-XY D36
Power supply			1-phase, 220-240V, 50Hz			
Cooling ¹	Capacity	kW	1.5	2.2	2.8	3.6
		kBtu/h	5.1	7.5	9.6	12.3
	Power input	W	14	14	16	18
Heating ²	Capacity	kW	1.8	2.4	3.2	4.0
		kBtu/h	6.1	8.2	10.9	13.7
	Power input	W	14	14	16	18
Fan motor type			DC			
Indoor coil	Number of rows		1	1	1	2
	Tube pitch × row pitch	mm	18×10,72			
	Fin spacing and type	mm	1,2 Hydrophilic aluminum			
	Tube OD and type	mm	Φ5 Inner-groove			
	Dimensions (L×H×W)	mm	436×180×436			
	Number of circuits		1	1	1	2
Air flow rate ³	m ³ /h	450/425/400/370/345/320/295			510/480/455/425/ 395/370/340	530/500/470/440/ 405/375/345
Sound pressure level ⁴	dB(A)	29/28/27/27/26/26/25			30/29/28/27/26/26/25	31/30/29/28/27/26/25.5
Sound power level ⁵	dB(A)	40/39/39/39/38/38/38			42/41/40/39/39/38/38	42/40/39/38/38/38/38
Main body	Net dimensions ⁶ (W×H×D)	mm	575×235×638			
	Packed dimensions (W×H×D)	mm	690×285×690			
	Net/Gross weight	kg	13.0/15.0			14.0/16.0
Panel	Net dimensions ⁷ (W×H×D)	mm	620×65×620			
	Packed dimensions (W×H×D)	mm	680×80×665			
	Net/Gross weight	kg	2.3/3.0			
Refrigerant type			R410A/R32			
Design pressure (H/L)		MPa	4.4/2.6			
Pipe connections	Liquid/Gas pipe	mm	Φ6.35/Φ12.7			
	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 semi- anechoic chamber.
- Sound power level is from highest level to lowest level, total 7 levels for each model.
- The dimension is only the body size, excluding the size of the installation lug, connecting copper pipe, etc. For detailed dimensions, please refer to the installation manual.
- Exposed height of the panel after being installed on the ceiling.

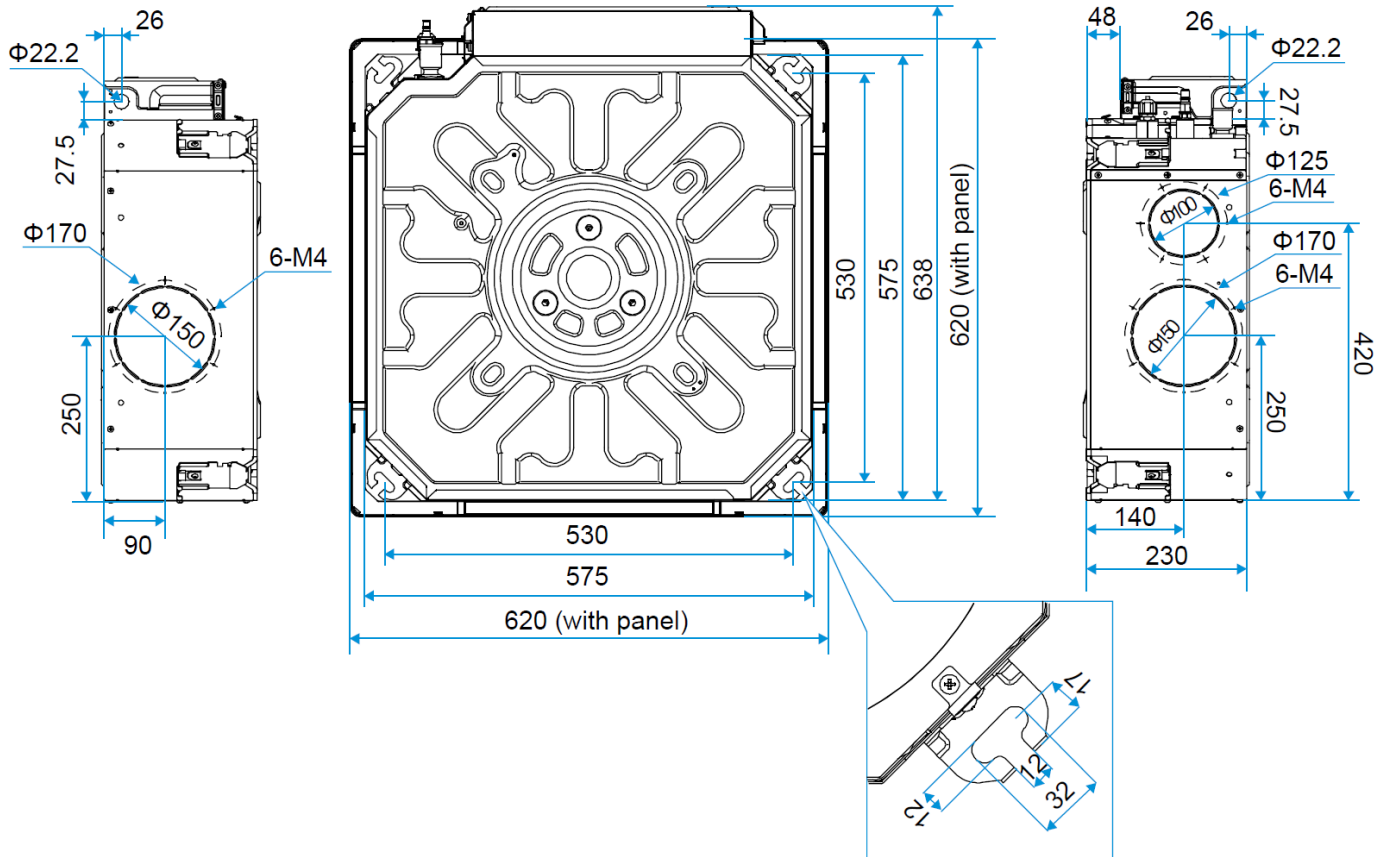
General technical data

Model			Q4AN-3-XY D45	Q4AN-3-XY D56	Q4AN-3-XY D63
Power supply			1-phase, 220-240V, 50Hz		
Cooling ¹	Capacity	kW	4.5	5.6	6.3
		kBtu/h	15.4	19.1	21.5
	Power input	W	25	35	50
Heating ²	Capacity	kW	5.0	6.3	7.1
		kBtu/h	17.1	21.5	24.2
	Power input	W	25	35	50
Fan motor type			DC		
Indoor coil	Number of rows		2	3	3
	Tube pitch × row pitch		mm 18×10,72		
	Fin spacing and type		mm 1,2 Hydrophilic aluminum		
	Tube OD and type		mm Φ5 Inner-groove		
	Dimensions (L×H×W)		mm 436×180×436		
	Number of circuits		2	3	3
Air flow rate ³		m ³ /h	640/605/570/530/ 495/460/425	810/765/720/670/ 625/580/535	905/855/805/755/ 705/655/605
Sound pressure level ⁴		dB(A)	36.5/35/33/31/29/28/26.5	39/38/37/36/35/34/32	43/42/40/38/36/35/33.5
Sound power level ⁵		dB(A)	44/44/43/42/41/41/41	48/46/45/43/42/42/41	51/50/48/46/45/44/42
Main body	Net dimensions ⁶ (W×H×D)		mm 575×235×638		
	Packed dimensions (W×H×D)		mm 690×285×690		
	Net/Gross weight		kg 14.0/16.0	kg 15.0/17.0	
Panel	Net dimensions ⁷ (W×H×D)		mm 620×65×620		
	Packed dimensions (W×H×D)		mm 680×80×665		
	Net/Gross weight		kg 2.3/3.0		
Refrigerant type			R410A/R32		
Design pressure (H/L)		MPa	4.4/2.6		
Pipe connections	Liquid/Gas pipe		mm Φ6.35/Φ12.7		mm Φ9.52/Φ15.9
	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 semi- anechoic chamber.
- Sound power level is from highest level to lowest level, total 7 levels for each model.
- The dimension is only the body size, excluding the size of the installation lug, connecting copper pipe, etc. For detailed dimensions, please refer to the installation manual.
- Exposed height of the panel after being installed on the ceiling.

Dimensions (unit: mm)



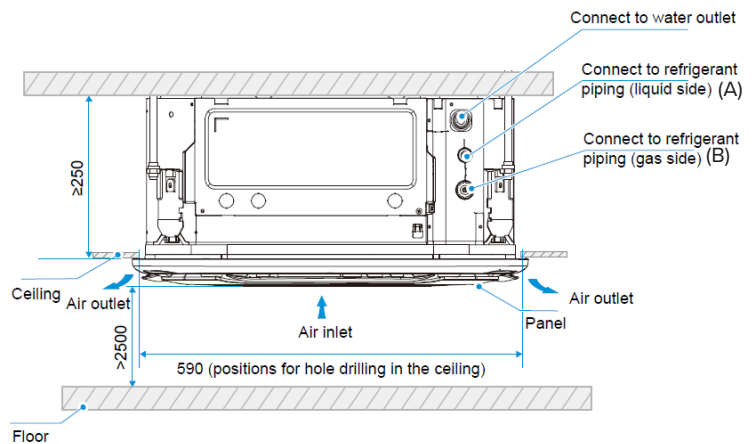
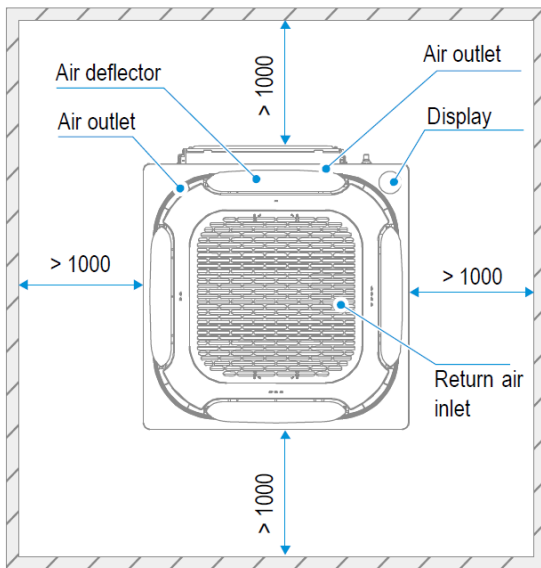
Unit placement

Placement Considerations

Unit placement should take account of the following considerations:

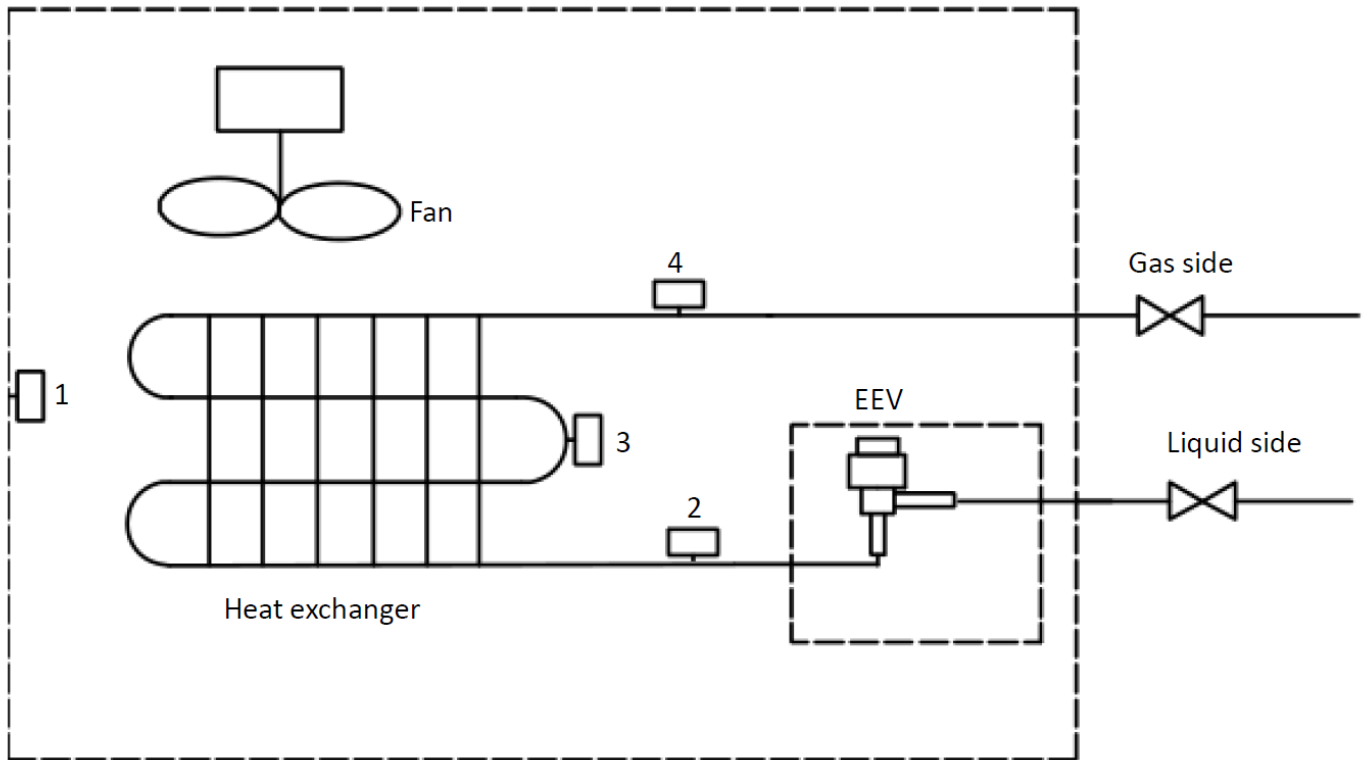
- Units should not be installed in the following locations:
 - A place filled with mineral oil, fumes or mist, like a kitchen.
 - A place where there are corrosive gases, such as acid or alkaline gases.
 - A place exposed to combustible gases and using volatile combustible gases such as diluent or gasoline.
 - A place where there is equipment emitting electromagnetic radiation.
 - A place where there is a high salt content in the air like a coast.
 - Do not use the air conditioner in an environment where an explosion may occur.
 - Places like in vehicles or cabin rooms.
 - Factories with major voltage fluctuations in the power supplies.
 - Other special environmental conditions.
- Units should be installed in positions where:
 - Ensure that the airflow in and out of the IDU is reasonably organized to form an air circulation in the room.
 - Ensure IDU maintenance space.
 - The nearer the drainage pipe and copper pipe are to the ODU, the lower the pipe cost is.
 - Prevent the air conditioner from blowing directly to the human body.
 - The closer the wiring to the power cabinet, the lower the wiring cost is.
 - Keep the air-conditioning return air away from the setting sun of the room.
 - Be careful not to interfere with the light tank, fire pipe, gas pipe and other facilities.
 - The IDU should not be lifted in the places like load-bearing beam and columns that affect the structural safety of the house.
 - The wired controller and the IDU should be in the same installation space; otherwise, the sampling point setting of the wired controller need to be changed.

Space Requirements (unit: mm)



1. The centerline of the maintenance hole should be in the same position as the centerline of the indoor unit.

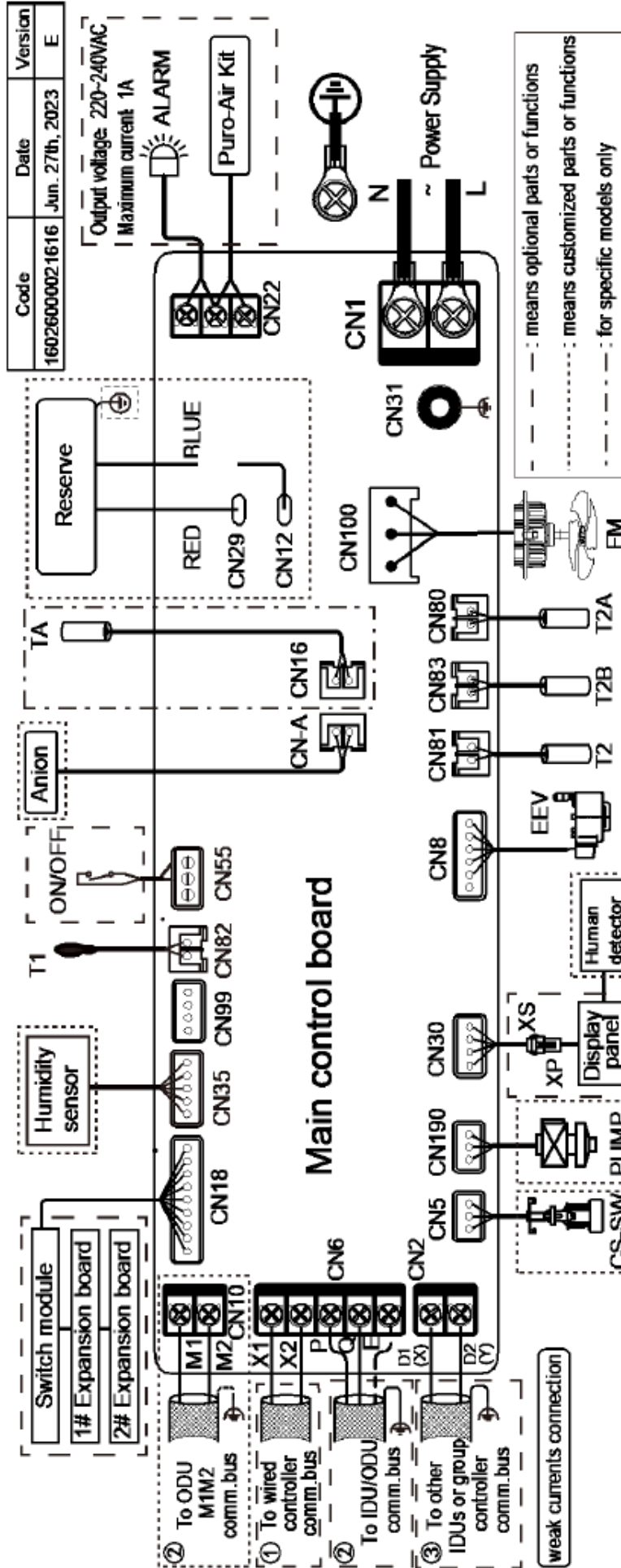
MODEL	A	B
D15÷D56	Φ6.35	Φ12.7
D63	Φ9.52	Φ15.9



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

Wiring Diagram



Code	Description	Code	Description
ALARM	Alarm Output	T2	Middle Pipe Temp. Sensor
Anion	Ionic Sterilization Module	T2A	Liquid Pipe Temp. Sensor
CS-SW	Water Level Switch	T2B	Gas Pipe Temp. Sensor
EEV	Electronic Expansion Valve	TA	Discharge Air Temp. Sensor*
FM	DC Fan Motor	ON/OFF	Remote ON/OFF Connectors
T0	Outdoor Air Temp. Sensor*	XS/XP	
T1	Inlet Air Temp. Sensor		

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

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
- 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.

Capacity Tables

Cooling Capacity Table

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
Q4AN-3-XY D15	1.4	1.3	1.5	1.4	1.5	1.3	1.5	1.3	1.6	1.3	1.6	1.2	1.6	1.1
Q4AN-3-XY D22	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
Q4AN-3-XY D28	2.5	2.3	2.7	2.4	2.8	2.4	2.8	2.3	2.9	2.3	2.9	2.2	3.0	2.1
Q4AN-3-XY D36	3.2	2.9	3.4	3.0	3.6	3.0	3.6	2.9	3.7	2.9	3.8	2.8	3.9	2.7
Q4AN-3-XY D45	4.0	3.6	4.3	3.7	4.5	3.8	4.5	3.7	4.6	3.6	4.7	3.4	4.8	3.3
Q4AN-3-XY D56	5.0	4.6	5.3	4.7	5.6	4.8	5.6	4.6	5.7	4.5	5.8	4.2	6.0	4.1
Q4AN-3-XY D63	5.6	5.2	6.0	5.3	6.3	5.4	6.3	5.2	6.4	5.1	6.5	4.7	6.8	4.6

Abbreviations:

TC: Total capacity (kW)

SC: Sensible capacity(kW)

Notes:

1.Shaded cells indicate rating condition.

Heating Capacity Table

MODEL	Indoor air temperature (°C DB)					
	16	18	20	21	22	24
	TC	TC	TC	TC	TC	TC
Q4AN-3-XY D15	1.9	1.9	1.8	1.7	1.7	1.6
Q4AN-3-XY D22	2.6	2.6	2.4	2.3	2.3	2.1
Q4AN-3-XY D28	3.4	3.4	3.2	3.1	3.0	2.8
Q4AN-3-XY D36	4.2	4.2	4.0	3.8	3.8	3.5
Q4AN-3-XY D45	5.3	5.3	5.0	4.8	4.7	4.4
Q4AN-3-XY D56	6.7	6.6	6.3	6.1	5.9	5.5
Q4AN-3-XY D63	7.5	7.5	7.1	6.9	6.7	6.2

Abbreviations:

TC: Total capacity (kW)

Notes:

1.Shaded cells indicate rating condition.

Electrical characteristics

MODEL	Power supply				Indoor fan motors			
	Hz	Volts	Min. volts	Max. volts	MCA	MFA	Rated motor output (kW)	FLA
Q4AN-3-XY D15	50	220-240	198	264	0.46	15	0.045	0.37
Q4AN-3-XY D22	50	220-240	198	264	0.46	15	0.045	0.37
Q4AN-3-XY D28	50	220-240	198	264	0.54	15	0.045	0.43
Q4AN-3-XY D36	50	220-240	198	264	0.54	15	0.045	0.43
Q4AN-3-XY D45	50	220-240	198	264	0.61	15	0.045	0.49
Q4AN-3-XY D56	50	220-240	198	264	0.65	15	0.045	0.52
Q4AN-3-XY D63	50	220-240	198	264	0.81	15	0.045	0.65

Abbreviations:

MCA: Minimum Circuit Amps MFA: Maximum Fuse Amps FLA: Full Load Amps

Voltage range: Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.

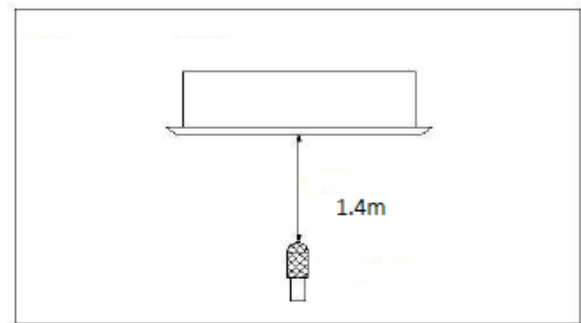
Maximum allowable voltage variation between phases is 2%.

Selection wire size based on the value of MCA.

MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth circuit breaker).

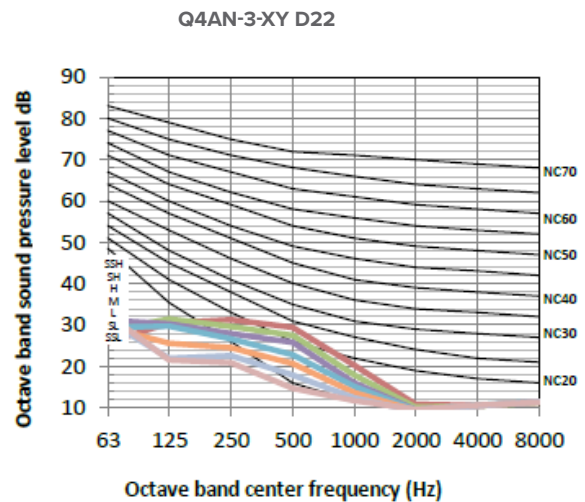
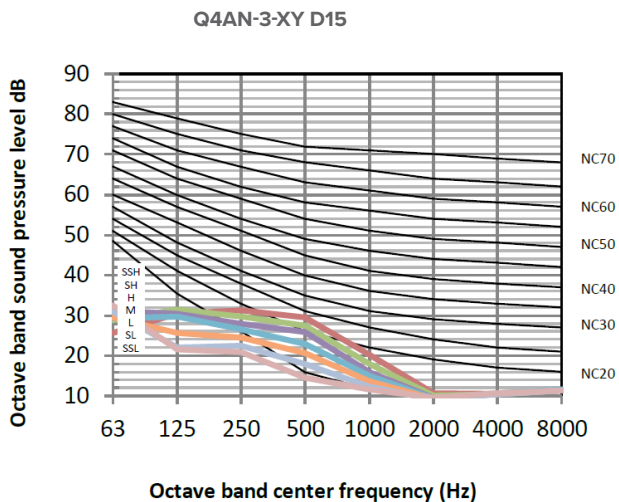
Overall

MODEL	Sound pressure levels dB						
	SSH	SH	H	M	L	SL	SSL
Q4AN-3-XY D15	29	28	27	27	26	26	25
Q4AN-3-XY D22	29	28	27	27	26	26	25
Q4AN-3-XY D28	30	29	28	27	26	26	25
Q4AN-3-XY D36	31	30	29	28	27	26	25.5
Q4AN-3-XY D45	36.5	35	33	31	29	28	26.5
Q4AN-3-XY D56	39	38	37	36	35	34	32
Q4AN-3-XY D63	43	42	40	38	36	35	33.5



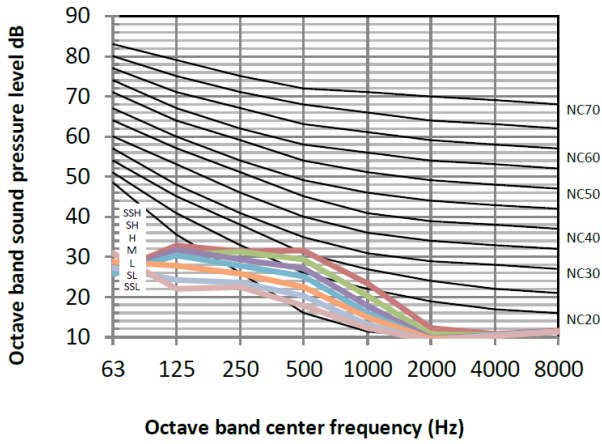
- Notes:
1. Sound pressure levels are measured 1.4m below the unit in a semi-anechoic chamber at 0 Pa static pressure. During in-situ operation, sound pressure levels may be higher as a result of ambient noise.

Octave Band Levels

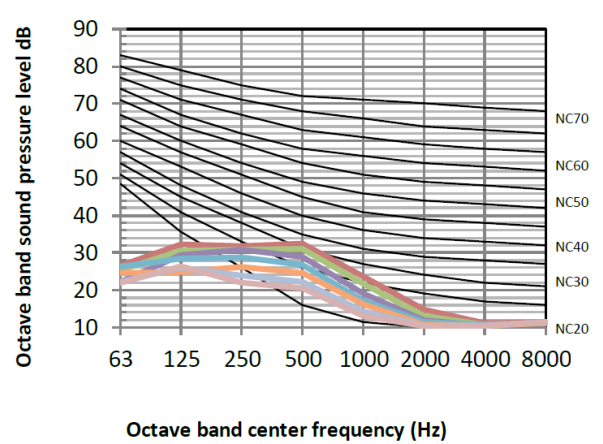


Sound Level

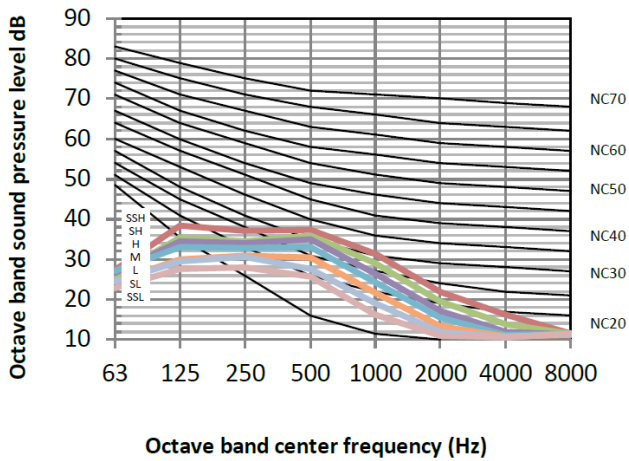
Q4AN-3-XY D28



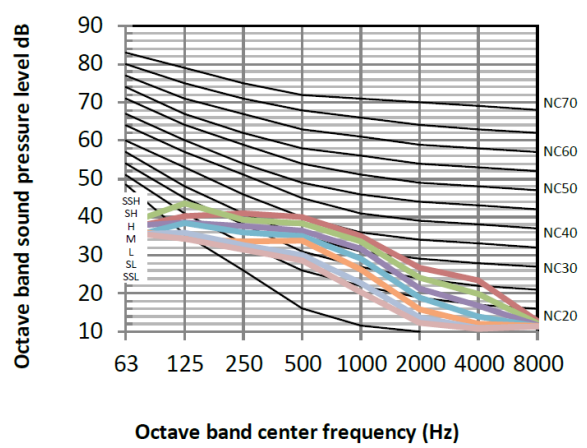
Q4AN-3-XY D36



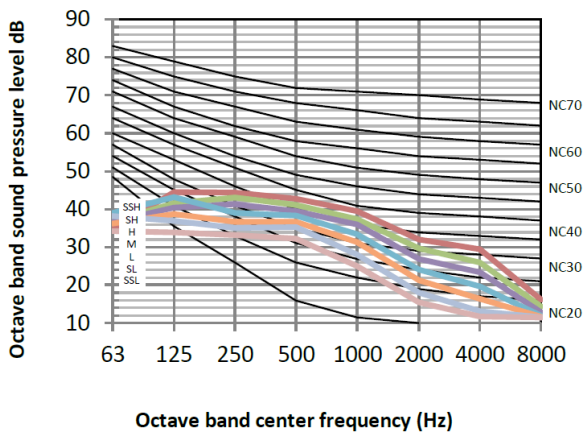
Q4AN-3-XY D45



Q4AN-3-XY D56



Q4AN-3-XY D63



Temperature and Airflow Distributions

Simulate condition

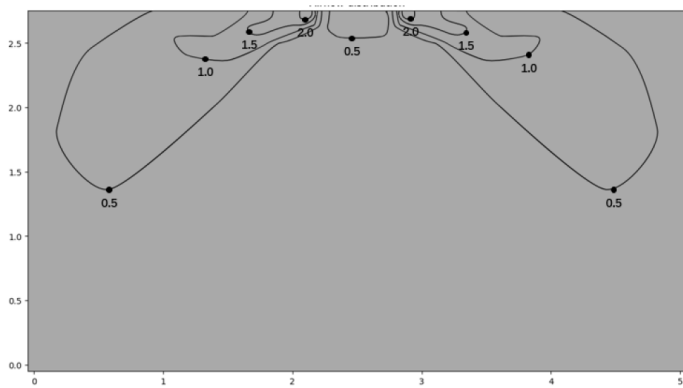
MODEL NAME	Room size (m)	Ceiling height (m)	Flow angle (Cooling/Heating)	Placing
Q4AN-3-XY D15	5*5	2.7	40°/70°	Center
Q4AN-3-XY D22	5*5	2.7	40°/70°	Center
Q4AN-3-XY D28	6*6	2.7	40°/70°	Center
Q4AN-3-XY D36	6*6	2.7	40°/70°	Center
Q4AN-3-XY D45	6*6	2.7	40°/70°	Center
Q4AN-3-XY D56	6*6	2.7	40°/70°	Center
Q4AN-3-XY D63	6*6	2.7	40°/70°	Center

Note:

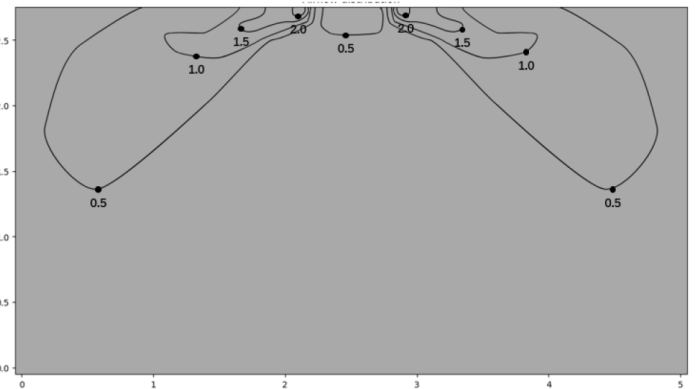
1. These figures and videos are based on software simulation. They show typical temperature and airflow distributions in the conditions above. In the actual installation, they may differ from these figures and videos under the influence of air temperature conditions, ceiling height, cooling/heating load,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

Airflow distributions - Cooling (after 300s)

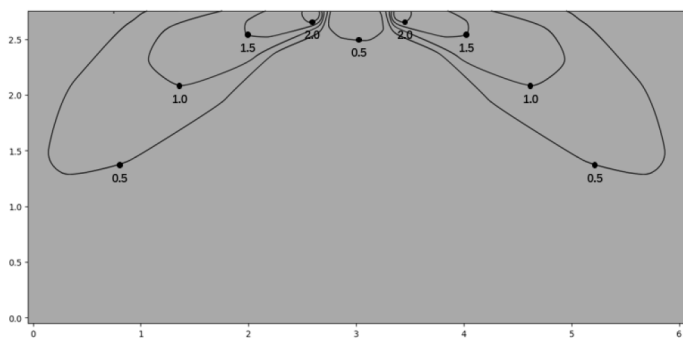
Q4AN-3-XY D15



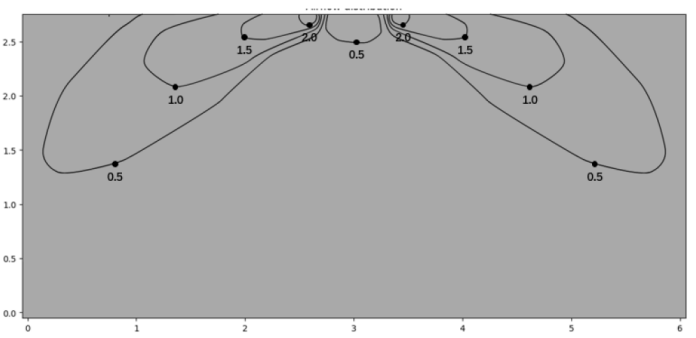
Q4AN-3-XY D22



Q4AN-3-XY D28

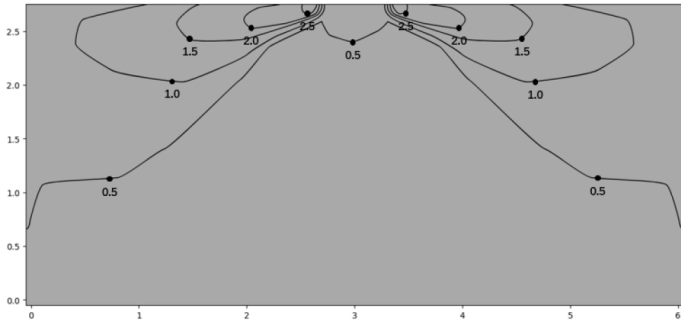


Q4AN-3-XY D36

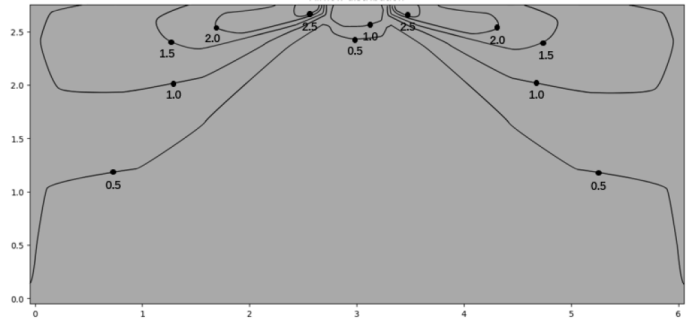


Temperature and Airflow Distributions

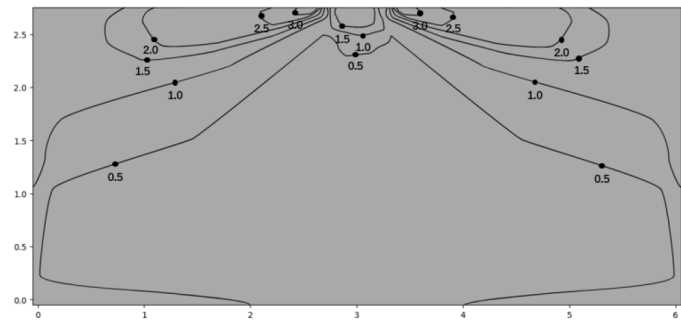
Q4AN-3-XY D45



Q4AN-3-XY D56

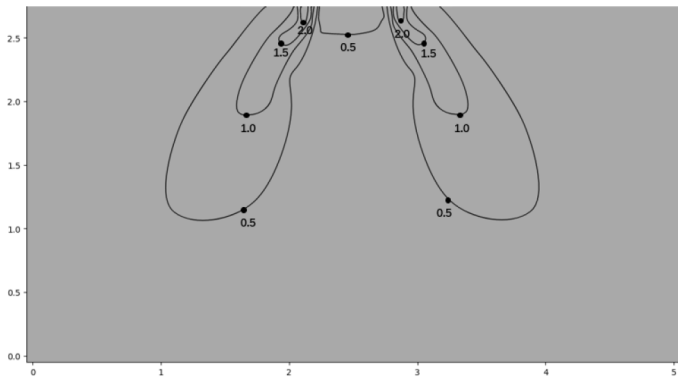


Q4AN-3-XY D63

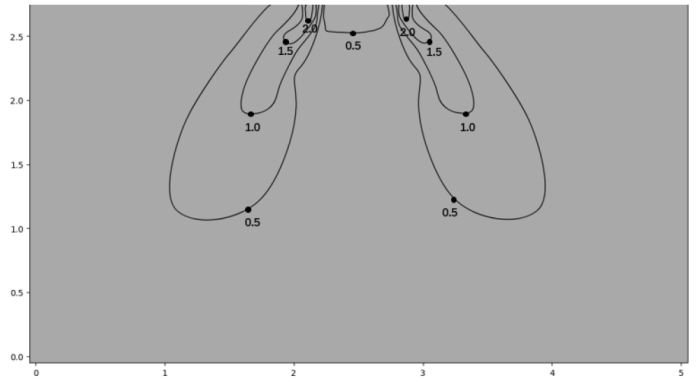


Airflow distributions - Heating (after 300s)

Q4AN-3-XY D15

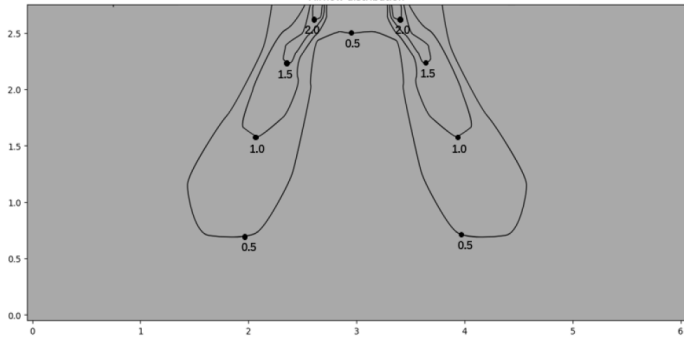


Q4AN-3-XY D22

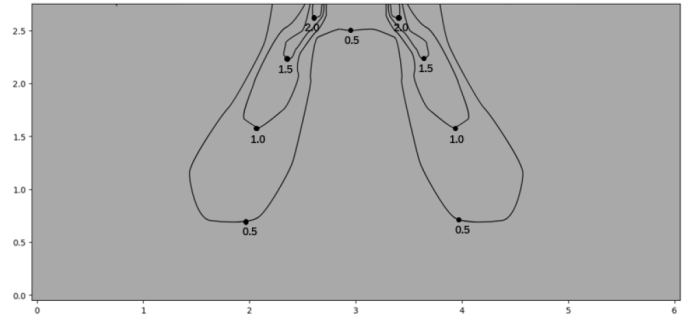


Temperature and Airflow Distributions

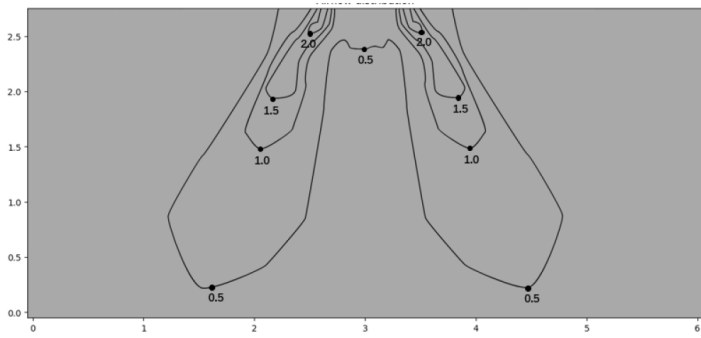
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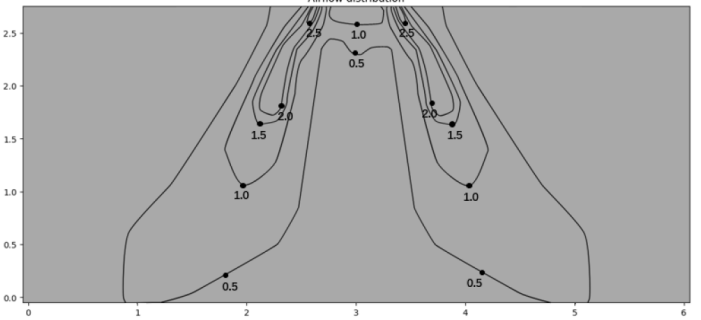
Q4AN-3-XY D36



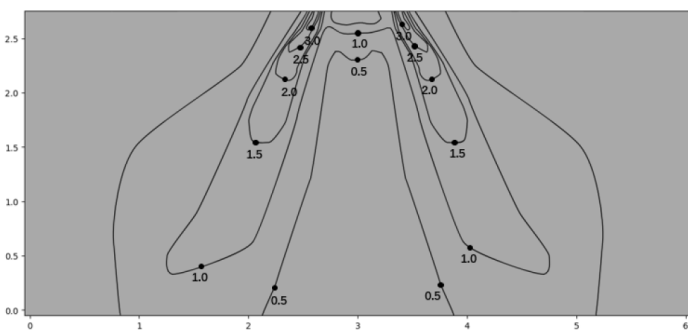
Q4AN-3-XY D45



Q4AN-3-XY D56

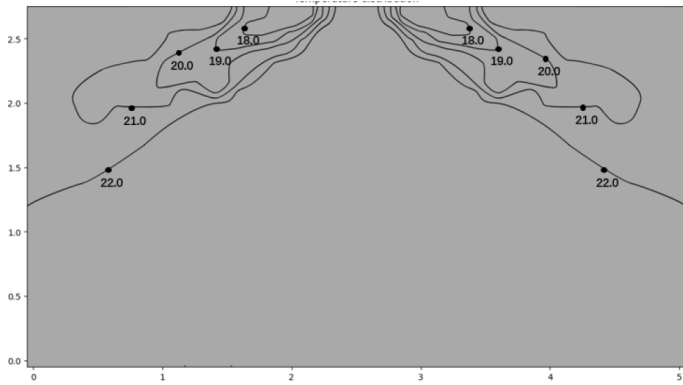


Q4AN-3-XY D63

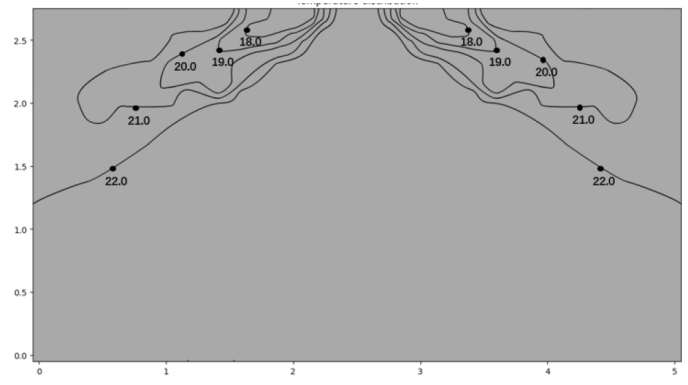


Temperature distributions - Cooling (after 300s)

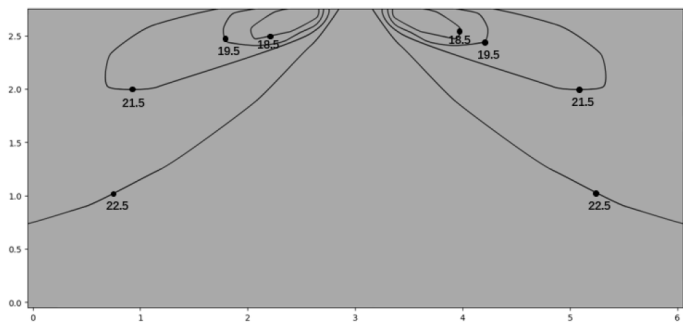
Q4AN-3-XY D15



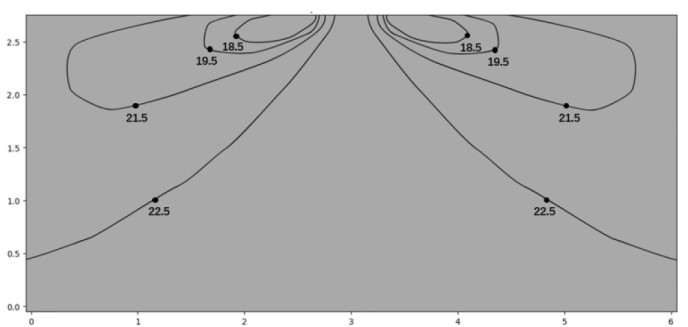
Q4AN-3-XY D22



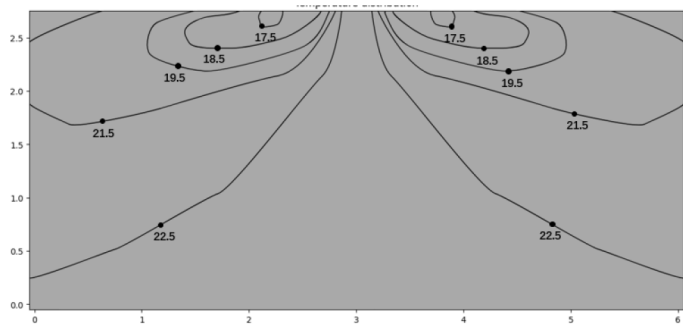
Q4AN-3-XY D28



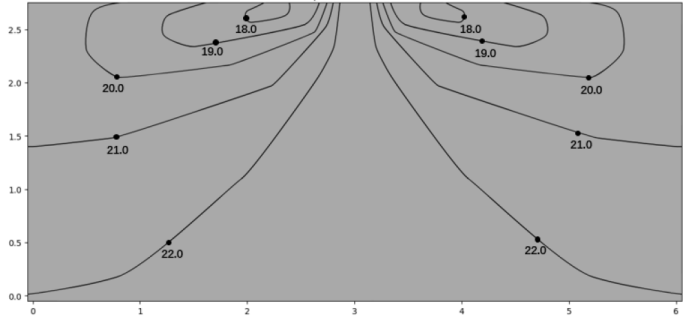
Q4AN-3-XY D36



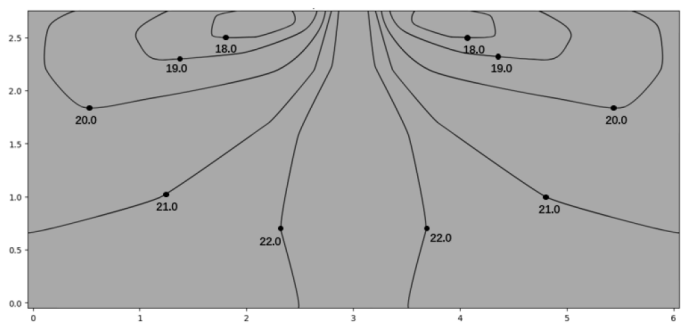
Q4AN-3-XY D45



Q4AN-3-XY D56



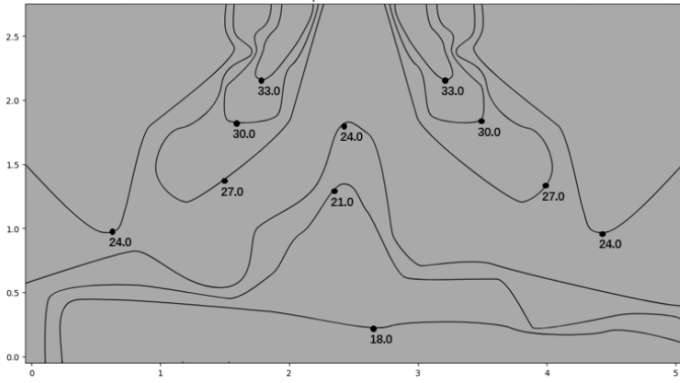
Q4AN-3-XY D63



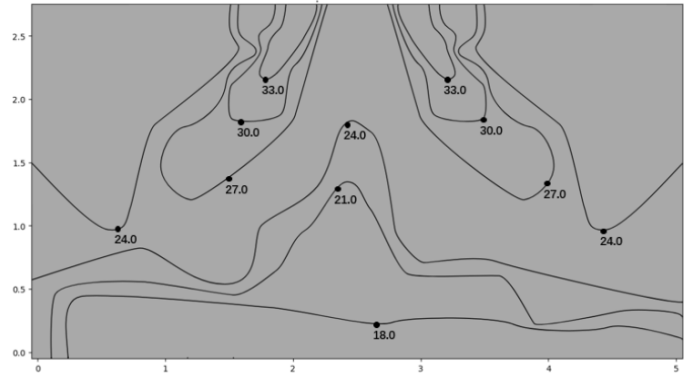
Temperature and Airflow Distributions

Temperature distributions - Heating (after 300s)

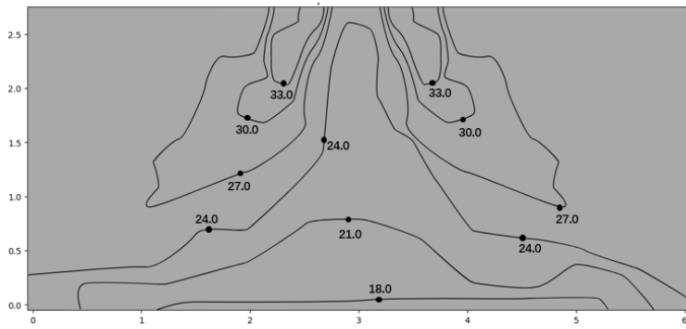
Q4AN-3-XY D15



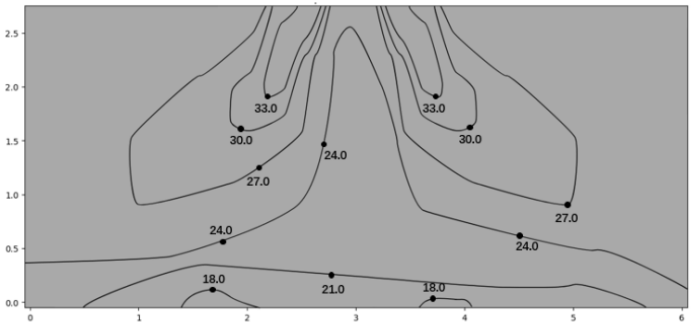
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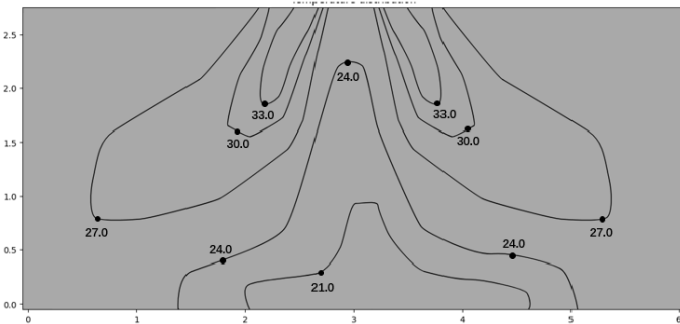
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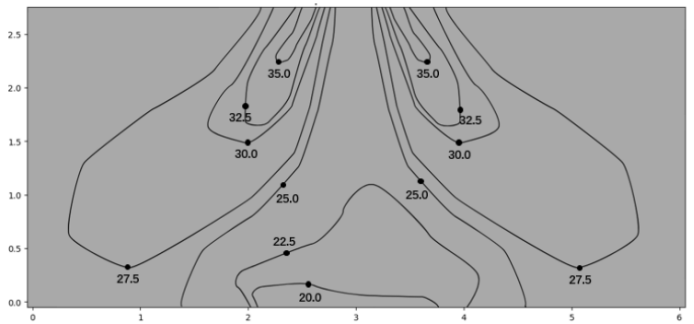
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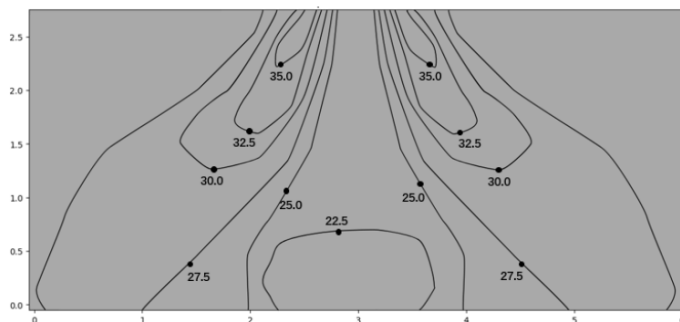
Q4AN-3-XY D45



Q4AN-3-XY D56



Q4AN-3-XY D63



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