

Direct expansion indoor unit for VRF

FRESH AIR PROCESSING UNITS

CNFA-2-XMi D125-D140

TECHNICAL BULLETTIN



SIZE	D125	D140
COOLING CAPACITY kW	12,5	14,0
HEATING CAPACITY kW	10,5	12,0

General technical data

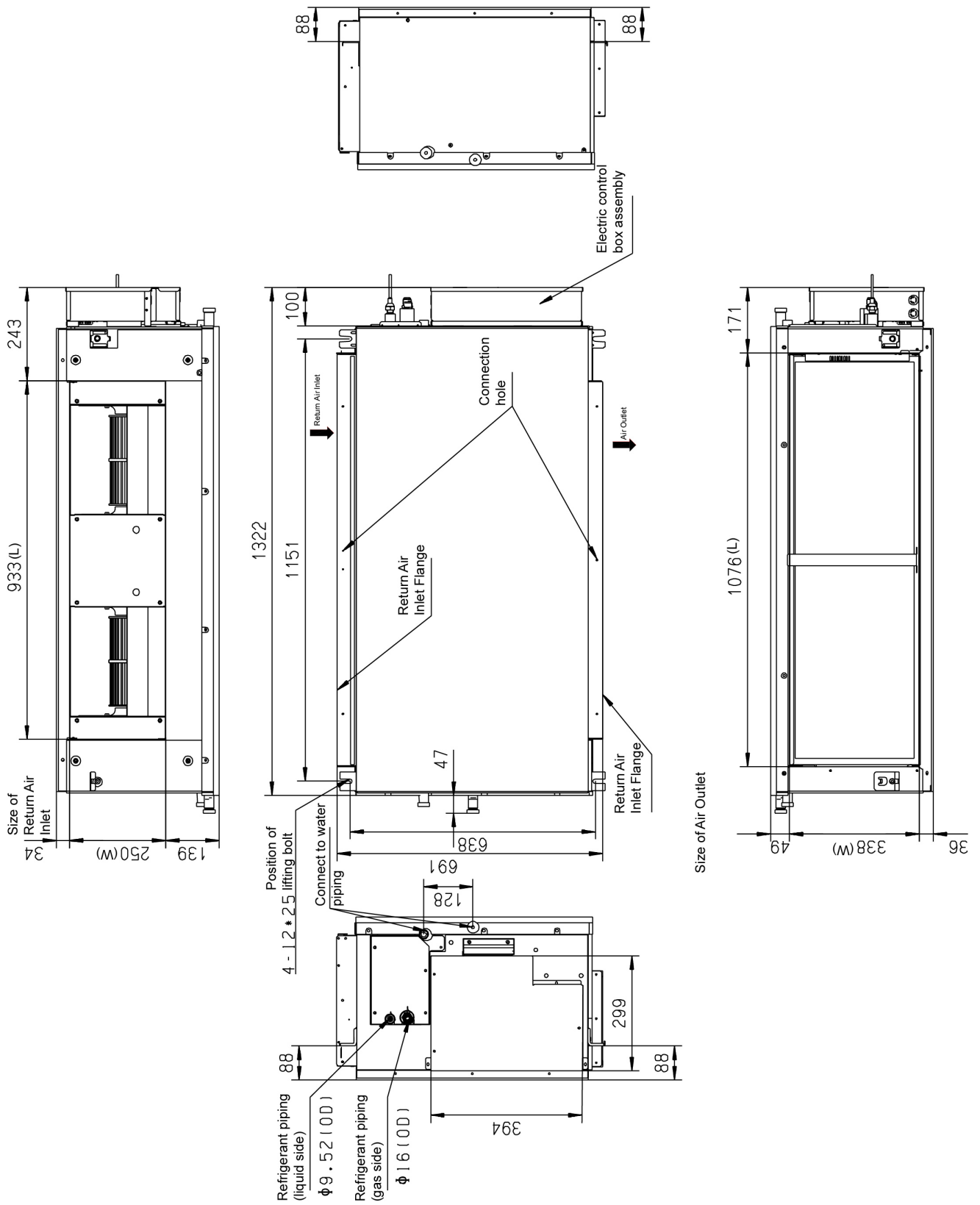
Model			CNFA-2-XMi D125	CNFA-2-XMi D140
Power supply			1-phase, 220-240V, 50Hz	
Cooling ¹	Capacity	kW	12,5	14,0
	Power input	W	480	480
Heating ²	Capacity	kW	10,5	12,0
	Power input	W	480	480
Fan motor	Model		WZDK750-38GS-W	
	Type		DC	
	Brand		Panasonic/ Welling	
	Input (H/M/L)	W	360	
Indoor coil	Number of rows		4	
	Tube pitch × row pitch	mm	25,4×22	
	Fin spacing	mm	1,6	
	Fin type		Hydrophilic aluminum	
	Tube OD and type	mm	Φ9,53 Inner groove	
	Dimensions (L×H×W)	mm	996×355,6×88	
	Number of circuits		7	
Air flow rate ³	m ³ /h		2000/1917/1833/1750/1667/1583/1500	
External static pressure ³	Pa		180 (30~200)	
Sound pressure level ⁴	dB(A)		48/47/46/45/44/43/42	
Sound power level	dB(A)		66/65/64/63/62/61/60	
Unit	Net dimensions ⁵ (W×H×D)	mm	1322×423×691	
	Packed dimensions (W×H×D)	mm	1436×450×768	
	Net/Gross weight	kg	68/76	
Refrigerant type			R410A	
Throttle	Type		Electronic expansion valve	
	Model		BD24FKS(L)	
Design pressure (H/L)	MPa		4,4/2,6	
Pipe connections	Liquid/Gas pipe	mm	Φ9,53/Φ15,9	
Drain piping		mm	OD Φ25	
Operating temperature range	°C		Heating: -5 to 16; Cooling: 20 to 43; Fan only: 16 to 20	

Notes:

1. Outdoor air temperature 33°C DB, 28°C WB; equivalent refrigerant piping length 8m with zero level difference.
2. Outdoor air temperature 0°C DB, -2.9°C WB; equivalent refrigerant piping length 8m with zero level difference.
3. Stable operation external static pressure range. (Note: setting external static pressure outside the unit's optimal static pressure range may lead to higher noise levels and lower airflow rate. For the optimal external static pressure range refer to the unit's installation manual.)
4. Sound pressure level is measured 1.4m below the unit in a semi-anechoic chamber.

Dimensions

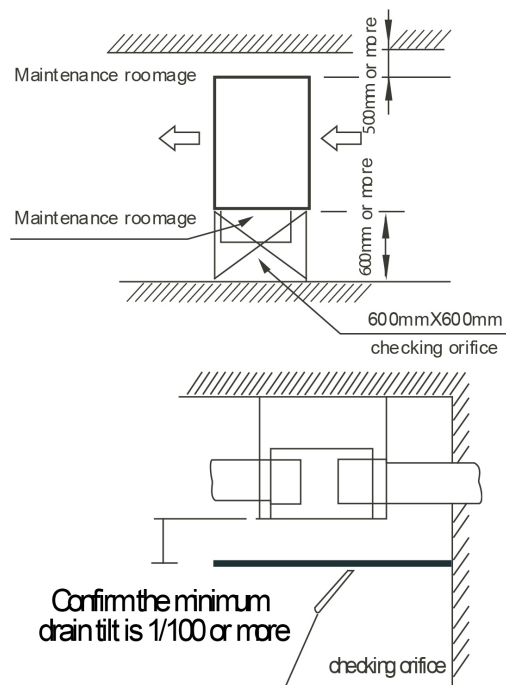
Model: CNFA-2-XMi D125 - CNFA-2-XMi D140



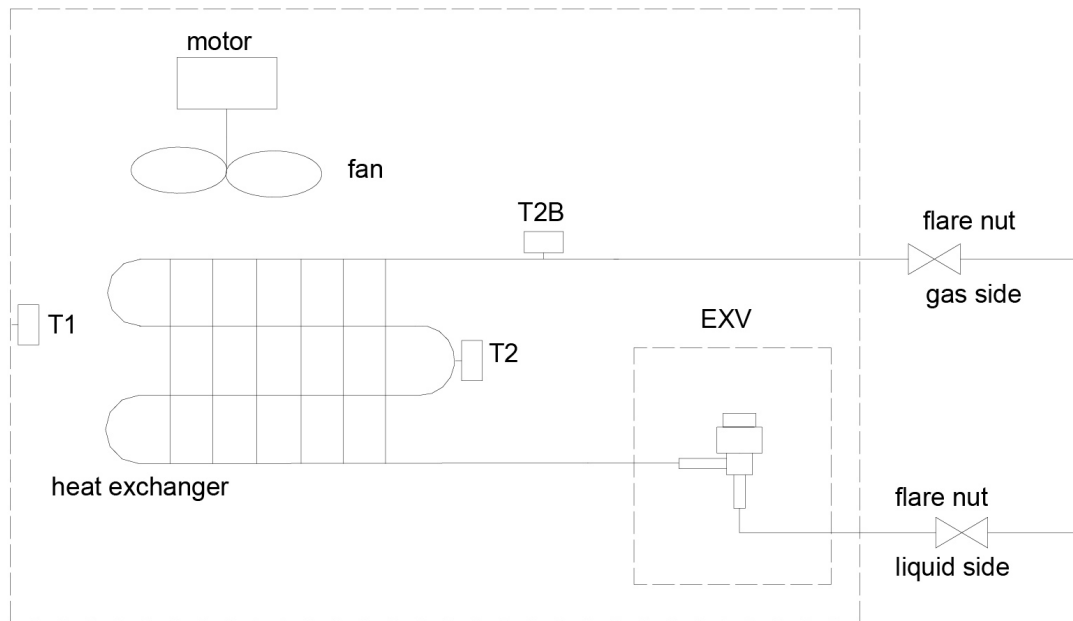
Placement Considerations

- 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.

Space Requirements



Piping Diagram



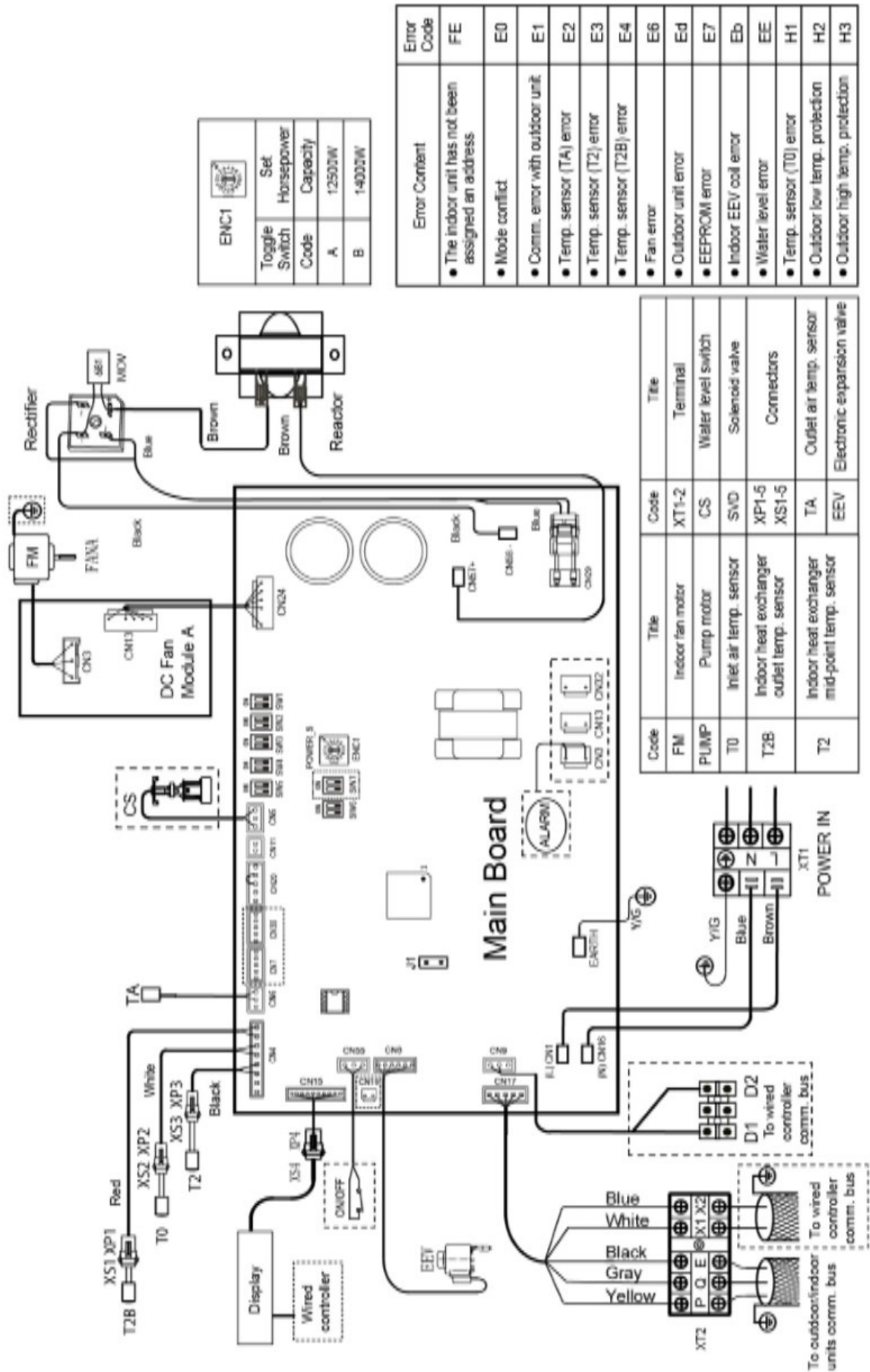
Legend

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

Wiring Diagram

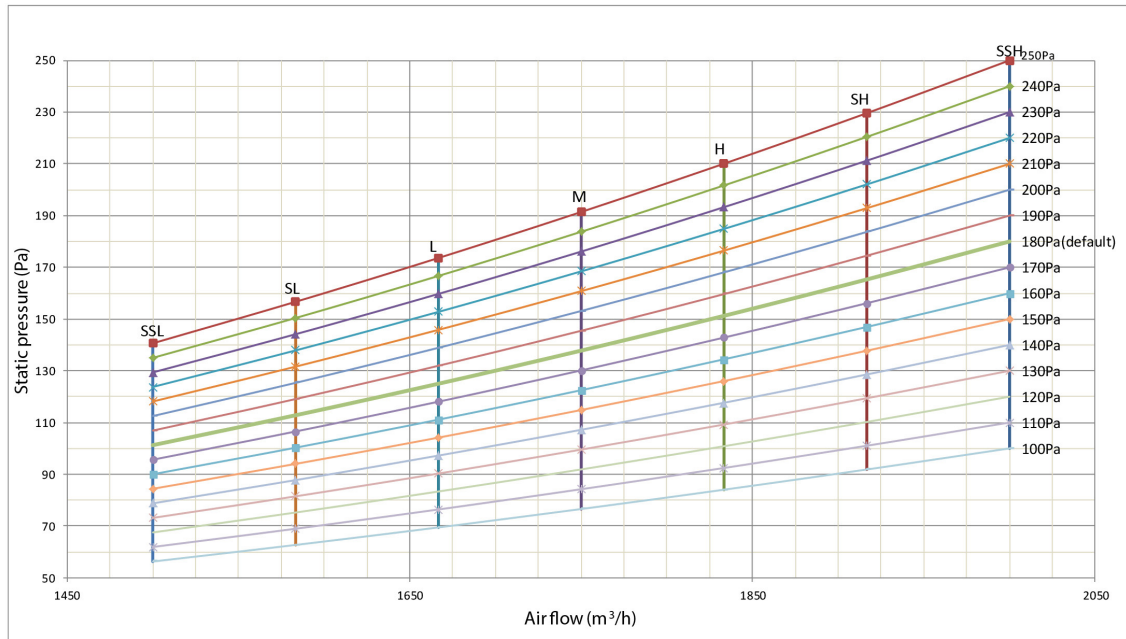
Model: CNFA-2-XMi D125 - CNFA-2-XMi D140

ON-OFF 12V DC
ALARM 220V AC



Fan performance

Model: CNFA-2-XMi D125 - CNFA-2-XMi D140



Performance in Cooling

Capacity	Outdoor air temperature (°C DB)	Outdoor air temperature (°C WB)							
		15.0	17.0	20.0	23.0	26.0	28.0	30.0	32.0
		TC	TC	TC	TC	TC	TC	TC	TC
		kW	kW	kW	kW	kW	kW	kW	kW
12.5	20.0	5,6	6,1	-	-	-	-	-	-
	22.0	6,3	6,9	7,5	-	-	-	-	-
	25.0	6,8	7,5	8,3	8,9	-	-	-	-
	27.0	-	8,0	8,8	9,5	-	-	-	-
	29.0	-	-	9,2	10,0	10,8	-	-	-
	31.0	-	-	9,6	10,5	11,3	12,0	-	-
	33.0	-	-	9,9	10,9	11,8	12,5	13,3	-
	35.0	-	-	-	11,1	12,2	13,1	13,8	14,4
	38.0	-	-	-	-	12,8	13,7	14,4	15,1
43.0	-	-	-	-	13,4	14,3	15,0	15,8	
14.0	20.0	6,3	6,8	-	-	-	-	-	-
	22.0	7,0	7,8	8,4	-	-	-	-	-
	25.0	7,6	8,4	9,2	10,0	-	-	-	-
	27.0	-	8,9	9,8	10,7	-	-	-	-
	29.0	-	-	10,3	11,2	12,1	-	-	-
	31.0	-	-	10,7	11,7	12,6	13,5	-	-
	33.0	-	-	11,1	12,2	13,2	14,0	14,8	-
	35.0	-	-	-	12,5	13,7	14,6	15,4	16,2
	38.0	-	-	-	-	14,3	15,3	16,1	16,9
43.0	-	-	-	-	15,0	16,0	16,8	17,7	

Abbreviations:
 TC = Total capacity
 SC = Sensible capacity

Notes:
 1. Shaded cells indicate rating condition.

Performance in Heating

Capacity (kW)	Outdoor air temperature (°C DB)	Outdoor air temperature (°C WB)								
		-7.0	-5.2	-2.9	0.0	2.0	4.0	6.0	10.0	14.0
		TC	TC	TC	TC	TC	TC	TC	TC	TC
		kW	kW	kW	kW	kW	kW	kW	kW	kW
12.5	-5.0	8,9	8,7	-	-	-	-	-	-	-
	0.0	-	-	10,5	-	-	-	-	-	-
	3.0	-	-	11,1	10,9	9,8	-	-	-	-
	7.0	-	-	-	-	12,1	12,0	11,8	-	-
	11.0	-	-	-	-	-	13,7	13,5	13,4	-
	15.0	-	-	-	-	-	-	15,8	15,6	15,4
14.0	-5.0	10,2	10,0	-	-	-	-	-	-	-
	0.0	-	-	12,0	-	-	-	-	-	-
	3.0	-	-	12,7	12,5	11,2	-	-	-	-
	7.0	-	-	-	-	13,8	13,7	13,5	-	-
	11.0	-	-	-	-	-	15,6	15,4	15,3	-
	15.0	-	-	-	-	-	-	18,0	17,8	17,6

Abbreviations:
TC = Total capacity

Notes:
1. Shaded cells indicate rating condition

Model name	Power supply						Indoor fan motors	
	Hz	Volts	Min. volts	Max. volts	MCA	MFA	Rated motor output (kW)	FLA
CNFA-2-XMi D125	50	220-240	198	264	3,5	15	0,31	2,8
CNFA-2-XMi D140	50	220-240	198	264	3,5	15	0,34	2,8

MCA: Max. Current Amps. (A)
MFA: Max. Fuse Amps. (A)
KW: Fan Motor Rated Output (kW)
FLA: Full Load Amps. (A)
IFM: Indoor Fan Motor

Notes:
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).

Sound Levels

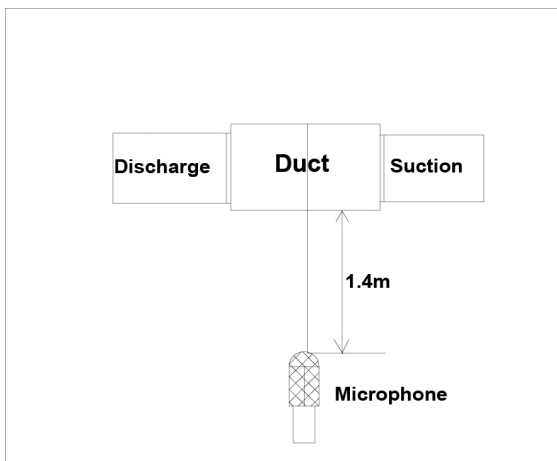
Overall

Fresh Air Processing Unit sound pressure levels¹

Model name	Sound pressure levels dB(A)						
	SSH	SH	H	M	L	SL	SSL
CNFA-2-XMi D125	48	47	46	45	44	43	42
CNFA-2-XMi D140	48	47	46	45	44	43	42

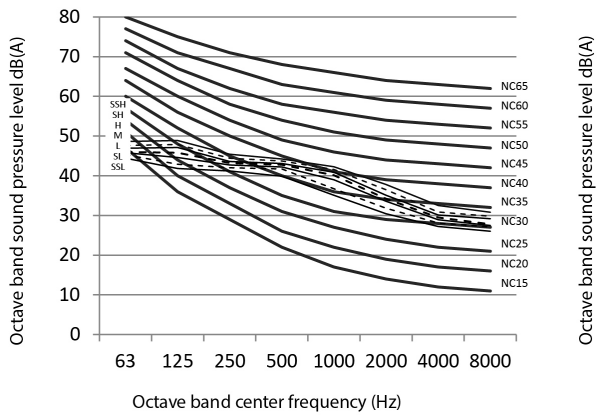
Notes:
¹Sound pressure levels are measured 1.4m below the unit in a semi-anechoic chamber. During in-situ operation, sound pressure levels may be higher as a result of ambient noise.

Fresh Air Processing Unit sound pressure level measurement



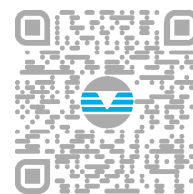
Octave Band Levels

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