SAMSUNG
System Air Conditioner

ERV

When the revolutionary digital technology provides nature's coolness

Imagination *lives*

SAMSUNG

ERV(Energy Recovery Ventilator) System

Perfect ventilation system with charming technology, providing fresh air while saving energy all year long.

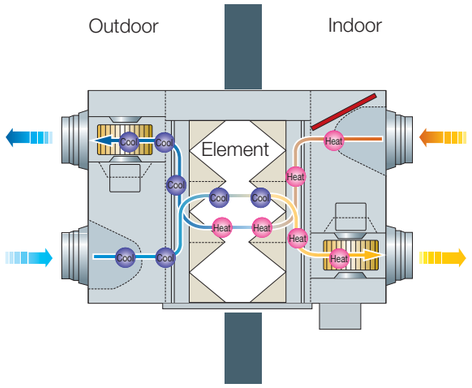
How it Works

Winter

It reduces the costs of heating ventilated air by transferring heat from the warm inside air being exhausted to the fresh (but cold) supply air.

Summer

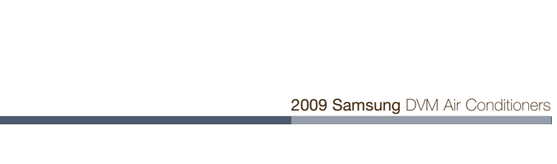
The inside air cools the warmer supply air to reduce ventilation cooling costs.

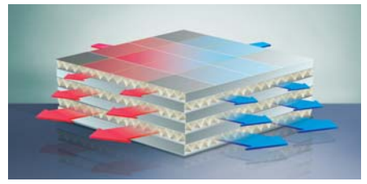


Key Technology

New Diamond Type

- Optimized Airflow Design
- High Efficiency Element
- Compact size





Diamond Type

Automatic Refresh System (CO_2 Sensor) : Optional

- ERV is automatically operated to give fresh air into room by sensing CO_2 Level.

High Efficiency Motor (BLDC)

- Constant air volume by BLDC motor.

Intelligent Operating System (-15°C) Without Heater

ERV Plus

1 Specifications

ERV Plus

1) Technical specifications

*Refer to following capacities when using the product with outdoor unit: AM050FNKDEH : 3.6kW , AM100FNKDEH : 7.1 kW

Model					AM050FNKDEH✳✳✳	AM100FNKDEH✳✳✳
Power Supply				Ø, #, V, Hz	1, 2, 220~240, 50	1, 2, 220~240, 50
Performance	Temp. Exchange Efficiency	Cooling	Turbo	-	70	70
			high	-	70	70
			low	-	74	74
		Heating	Turbo	-	75	75
			high	-	75	75
			low	-	79	79
	Effective Enthalpy Exchange Efficiency	Cooling	Turbo	-	60	62
			high	-	60	62
			low	-	66	68
		Heating	Turbo	-	73	75
			high	-	73	75
			low	-	79	81
	Outside Air Processing Capacity		Cooling *1) (DX Coil/Element)	-	5.1(3.6/1.5)	10.5(7.1/3.4)
			Heating *2) (DX Coil/Element)	-	6.5(4.0/2.5)	13.2(8.0/5.2)
Fan	Airflow rate		Turbo/High/Low(UL)	CMH	500/500/360	1000/1000/690
				l/s	138.9/138.9/100	277.8/277.8/191.7
	External Static pressure		Turbo/High/Low	mmAq	16.3/10.2/8.7	15.3/9.2/7.6
				Pa	160/100/85	150/90/75
	Motor		Type	-	BLDC	BLDC
			Output	W	70	297
			Number of unit	EA	2	2
Power	Power Input		Turbo	W	220	510
			high		140	350
			low		90	235
	Current Input		Turbo	A	1.70	3.70
			high		1.00	2.40
			low		0.60	1.60
Option Code				-	015617152380	0156171C2373
Piping Connections	Liquid Pipe			Ø, mm	6.35	6.35
				Ø, inch	1/4	1/4
	Gas Pipe			Ø, mm	12.7	12.7
				Ø, inch	1/2	1/2
	Drain Pipe			Ø, mm	VP25 (OD32, ID25)	VP25 (OD32, ID25)
				Ø, inch	VP25 (OD 1-1/4", ID 1")	VP25 (OD 1-1/4", ID 1")
	Water Supply			Ø, mm	12.7	12.7
				Ø, inch	1/2	1/2
Field Wiring	Power Source Wire			mm^2	1.5/2.5	1.5/2.5
	Transmission Cable			mm^2	0.75~1.5	0.75~1.5
Refrigerant	Type			-	R410A	R410A
	Control Method			-	EEV	EEV
Sound Pressure	Sound Level*4)		Turbo / High / Low	dBA	36 / 32 / 28	36 / 33 / 31
Dimensions	Net Weight			kg	61.0	90.0
	Shipping Weight			kg	75.2	107.5
	Net Dimensions (W×H×D)			mm	1,553 x 270 x 1,000	1,763 x 340 x 1,135
	Shipping Dimensions (W×H×D)			mm	1,847 x 349 x 1,300	2,027 x 428 x 1,424
	Supply/Return/Exhaust/Outside Duct Flange (Ø)			mm	200	250
Accessory	Air Filter			-	High Efficiency Filter(PP)	High Efficiency Filter(PP)
Optional Accessory	S-Plasma ion kit			-	MSD-EAN1	MSD-EAN1
	CO_2 sensor			-	MOS-C1	MOS-C1
	Humidity Sensor			-	Option	Option
Ambient Condition	Around Unit			-	0~40°C DB, 80%RH or less	0~40°C DB, 80%RH or less
	OA *5)			-	-15~40°C DB, 80%RH or less	-15~40°C DB, 80%RH or less
	RA*5)			-	0~40°C DB, 80%RH or less	0~40°C DB, 80%RH or less

* Specifications may be subject to change without prior notice for product improvement.

*1) Nominal cooling capacities are based on;
- Indoor temperature : 27°C DB, 19°C WB - Outdoor temperature : 35°C DB, 24°C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*2) Nominal heating capacities are based on;
- Indoor temperature : 20°C DB, 15°C WB
- Outdoor temperature : 7°C DB, 6°C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Sound pressure was acquired in an anechoic room. Thus actual noise level may be different depending on the installation conditions.

*4) OA: fresh air from outdoor. RA: return air from room.

*5) These products contain R410A which is fluorinated greenhouse gas.

* Heat Exchanger type : Fin & Tube (Fin : Al, Tube : Cu)

2 Capacity table

ERV Plus

1) Cooling

TC : Total Capacity(kW), SHC : Sensible Heat Capacity(kW)

Capacity Index	Outdoor Air Temp.	Indoor temperature													
		14.0		16.0		18.0		19.0		20.0		22.0		24.0	
		TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC	TC	SHC
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
050	10	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	4.0	2.8	4.3	2.7
	12	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	4.0	2.8	4.3	2.7
	14	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	4.0	2.8	4.3	2.7
	16	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	4.0	2.8	4.3	2.7
	18	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	4.0	2.8	4.3	2.7
	20	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	4.0	2.8	4.2	2.6
	21	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	4.0	2.8	4.2	2.6
	23	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	4.0	2.8	4.2	2.6
	25	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	4.0	2.8	4.2	2.6
	27	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	4.0	2.8	4.2	2.6
	29	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	4.0	2.8	4.2	2.6
	31	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	4.0	2.8	4.2	2.6
	33	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	4.0	2.8	4.2	2.6
	35	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	3.9	2.7	4.2	2.6
	37	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	3.9	2.7	4.1	2.5
	39	2.5	2.2	2.9	2.5	3.4	2.7	3.6	2.8	3.7	2.8	3.8	2.7	4.0	2.4
	42	2.5	2.2	2.9	2.5	3.4	2.7	3.5	2.7	3.6	2.7	3.8	2.6	3.9	2.4
	44	2.5	2.2	2.9	2.5	3.3	2.6	3.4	2.6	3.5	2.7	3.6	2.5	3.8	2.3
	46	2.5	2.2	2.9	2.5	3.2	2.5	3.3	2.6	3.4	2.6	3.5	2.4	3.7	2.2
	48	2.5	2.2	2.8	2.4	3.2	2.5	3.2	2.5	3.3	2.5	3.4	2.4	3.5	2.2
100	10	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.4	5.6	8.0	5.7	8.5	5.4
	12	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.4	5.6	7.9	5.6	8.5	5.4
	14	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.4	5.6	7.9	5.6	8.5	5.4
	16	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.4	5.6	7.9	5.6	8.4	5.3
	18	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.4	5.6	7.9	5.6	8.4	5.3
	20	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.4	5.6	7.9	5.6	8.4	5.3
	21	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.4	5.6	7.9	5.6	8.4	5.3
	23	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.4	5.6	7.9	5.6	8.4	5.3
	25	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.4	5.6	7.9	5.6	8.4	5.3
	27	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.4	5.6	7.9	5.6	8.4	5.3
	29	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.4	5.6	7.9	5.6	8.4	5.3
	31	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.4	5.6	7.9	5.6	8.4	5.3
	33	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.4	5.6	7.9	5.6	8.4	5.3
	35	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.3	5.5	7.8	5.5	8.2	5.2
	37	4.9	4.3	5.8	5.0	6.7	5.2	7.1	5.4	7.3	5.5	7.7	5.4	8.1	5.1
	39	4.9	4.3	5.8	5.0	6.7	5.2	7.0	5.3	7.2	5.4	7.6	5.3	7.9	5.0
	42	4.9	4.3	5.8	5.0	6.6	5.1	6.9	5.3	7.1	5.4	7.4	5.2	7.7	4.8
	44	4.9	4.3	5.8	5.0	6.4	5.0	6.7	5.1	6.9	5.2	7.1	5.0	7.4	4.7
	46	4.9	4.3	5.7	5.0	6.3	4.9	6.5	4.9	6.7	5.1	6.9	4.8	7.2	4.6
	48	4.8	4.2	5.7	4.9	6.2	4.8	6.3	4.8	6.6	5.0	6.7	4.7	7.0	4.4

2) Heating

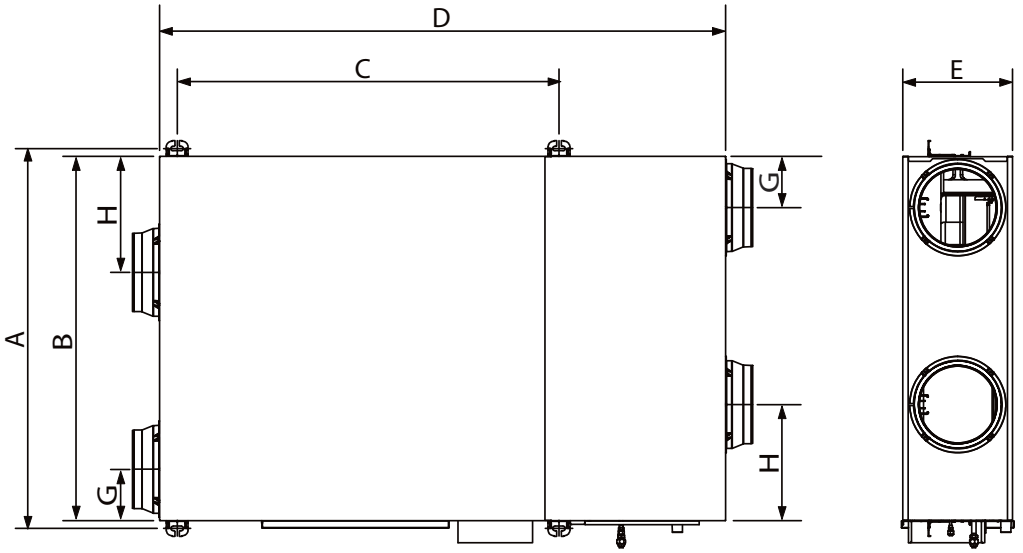
TC : Total Capacity(kW)

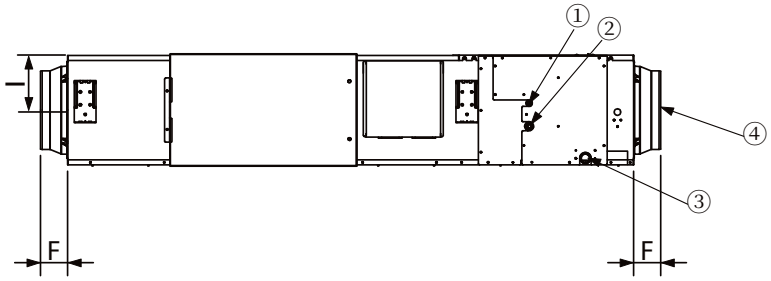
Capacity Index	Outdoor Air Temp. (℃)		Indoor temperature				
			16.0	18.0	20.0	22.0	24.0
			TC	TC	TC	TC	TC
	DB	WB	kW	kW	kW	kW	kW
050	-9.5	-10.0	2.9	2.9	2.9	2.8	2.8
	-8.5	-9.1	3.0	3.0	3.0	2.9	2.9
	-7.0	-7.6	3.1	3.1	3.0	3.0	2.9
	-5.0	-5.6	3.3	3.2	3.2	3.1	3.0
	-3.0	-3.7	3.4	3.4	3.3	3.2	3.1
	0.0	-0.7	3.6	3.6	3.5	3.4	3.2
	3.0	2.2	3.8	3.7	3.7	3.5	3.4
	5.0	4.1	3.9	3.9	3.8	3.6	3.4
	7.0	6.0	4.1	4.1	4.0	3.7	3.4
	9.0	7.9	4.2	4.1	4.0	3.7	3.4
	11.0	9.8	4.4	4.2	4.0	3.7	3.4
	13.0	11.8	4.5	4.2	4.0	3.7	3.4
	15.0	13.7	4.6	4.3	4.0	3.7	3.4
100	-9.5	-10.0	6.0	5.9	5.8	5.7	5.6
	-8.5	-9.1	6.1	6.0	5.9	5.8	5.7
	-7.0	-7.6	6.2	6.1	6.0	5.9	5.8
	-5.0	-5.6	6.5	6.5	6.4	6.2	6.0
	-3.0	-3.7	6.9	6.8	6.7	6.4	6.2
	0.0	-0.7	7.2	7.1	7.0	6.7	6.4
	3.0	2.2	7.6	7.5	7.3	7.1	6.8
	5.0	4.1	7.9	7.8	7.7	7.2	6.8
	7.0	6.0	8.2	8.1	8.0	7.4	6.8
	9.0	7.9	8.5	8.2	8.0	7.4	6.8
	11.0	9.8	8.7	8.4	8.0	7.4	6.8
	13.0	11.8	9.0	8.5	8.0	7.4	6.8
	15.0	13.7	9.2	8.6	8.0	7.4	6.8

3 Dimensional drawing

ERV Plus

Unit:mm





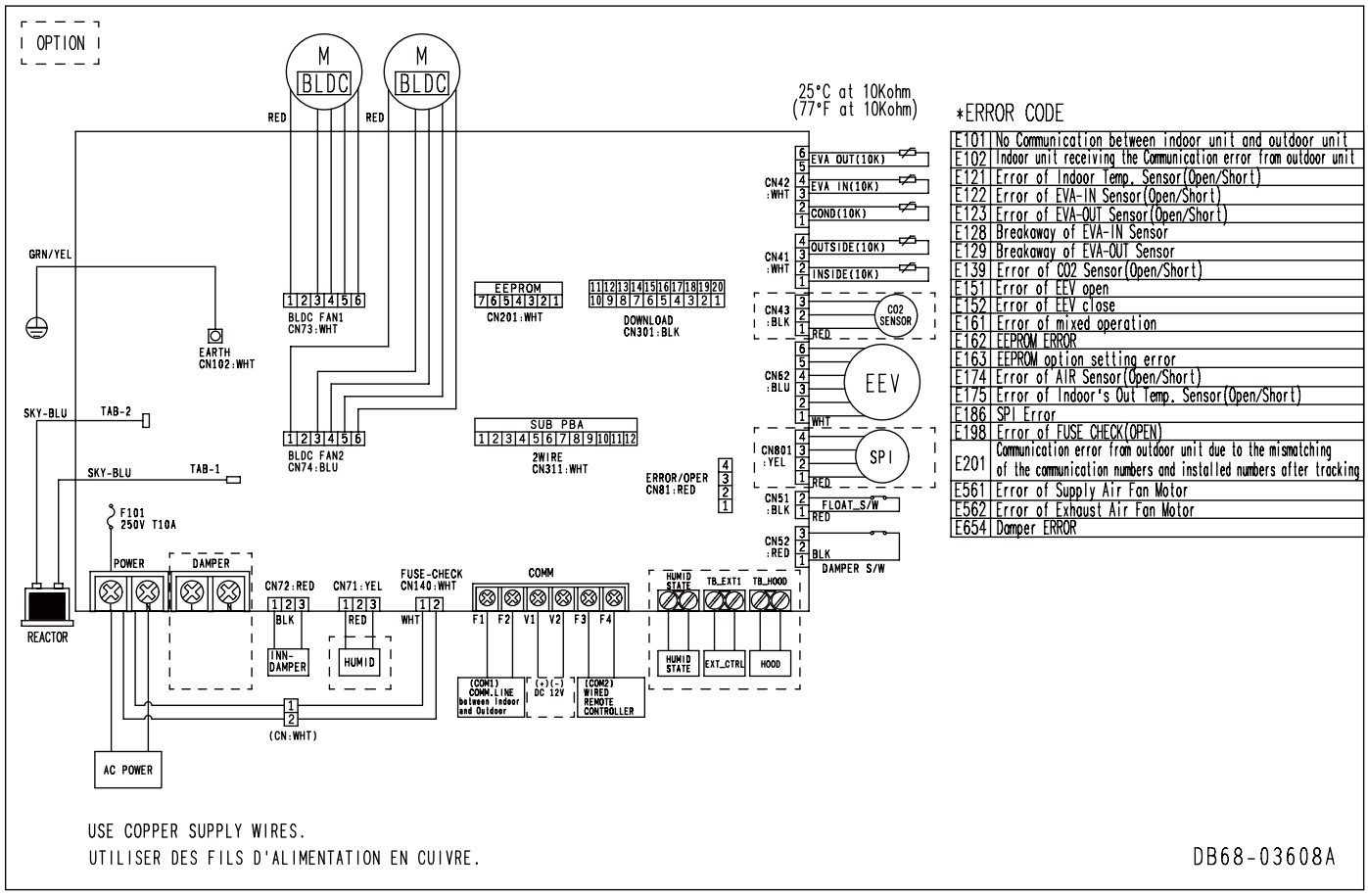
Model	A	B	C	D	E	F	G	H	I
AM050FNKDEH	1036	1000	987	1553	270	99	130	253	135
AM100FNKDEH	1183	1135	1189	1763	340	84	160	362	170

No.	Name		Description	
			500CMH	1000CMH
①	Liquid pipe connection		Ø6.35 (1/4")	
②	Gas pipe connection		Ø12.70 (1/2")	
③	Drain pipe connection		VP25 (OD32, ID25)	
④	Nominal diameter for duct	AM050FNKDEH	Ø200	
		AM100FNKDEH	Ø250	

4 Electrical Wiring Diagram

ERV Plus

AM050/100FNKDEH/EU



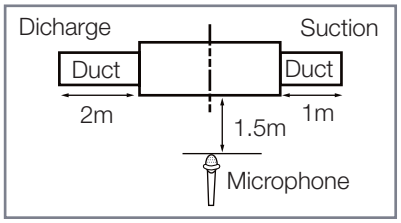
NOTE

1. This wiring diagram applies only to the indoor unit.
2. Symbols show as follow;
   BLK : black, RED : red, BLU : blue, WHT:white, YEL : yellow, BRN : brown, SKY : sky-blue, GRN : green
3. For connection wiring indoor-outdoor transmission F1-F2, indoor-wired remotecontroller transmission F3-F4.
4. ⏚: Protective earth(screw), □□□□ : Connector, n : The wire quantity

5 Sound pressure level

ERV Plus

1) Operation sound level



Unit : dB(A)

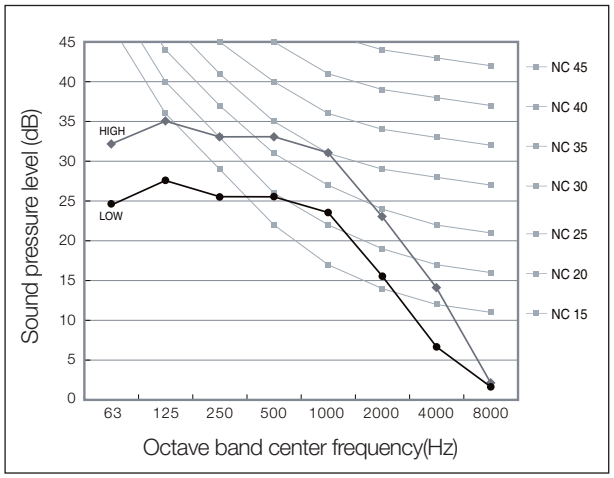
Model	Turbo	High	Low
AM050FNKDEH✶✶✶	36	32	28
AM100FNKDEH✶✶✶	36	33	31

Note

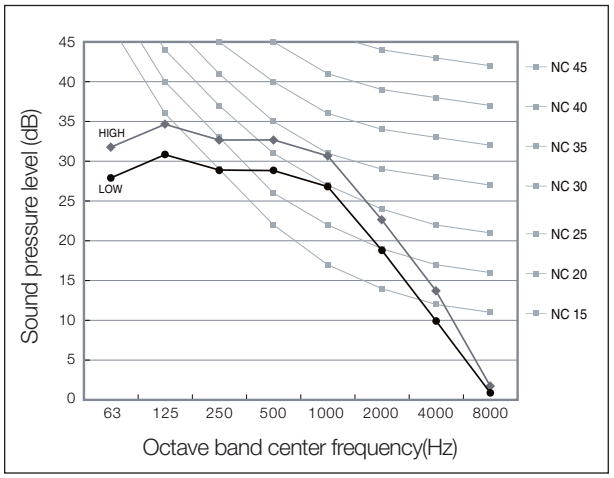
Specifications may be subject to change without prior notice.
Sound pressure level is obtained in an anechoic room.
Sound pressure level is a relative value, depending on the distance and acoustic environment.
Sound pressure level may differ depending on operation condition.
dBA = A-weighted sound pressure level
Reference acoustic pressure 0 dB= 20 uPa

2) NC curves

(1) AM050FNKDEH ***



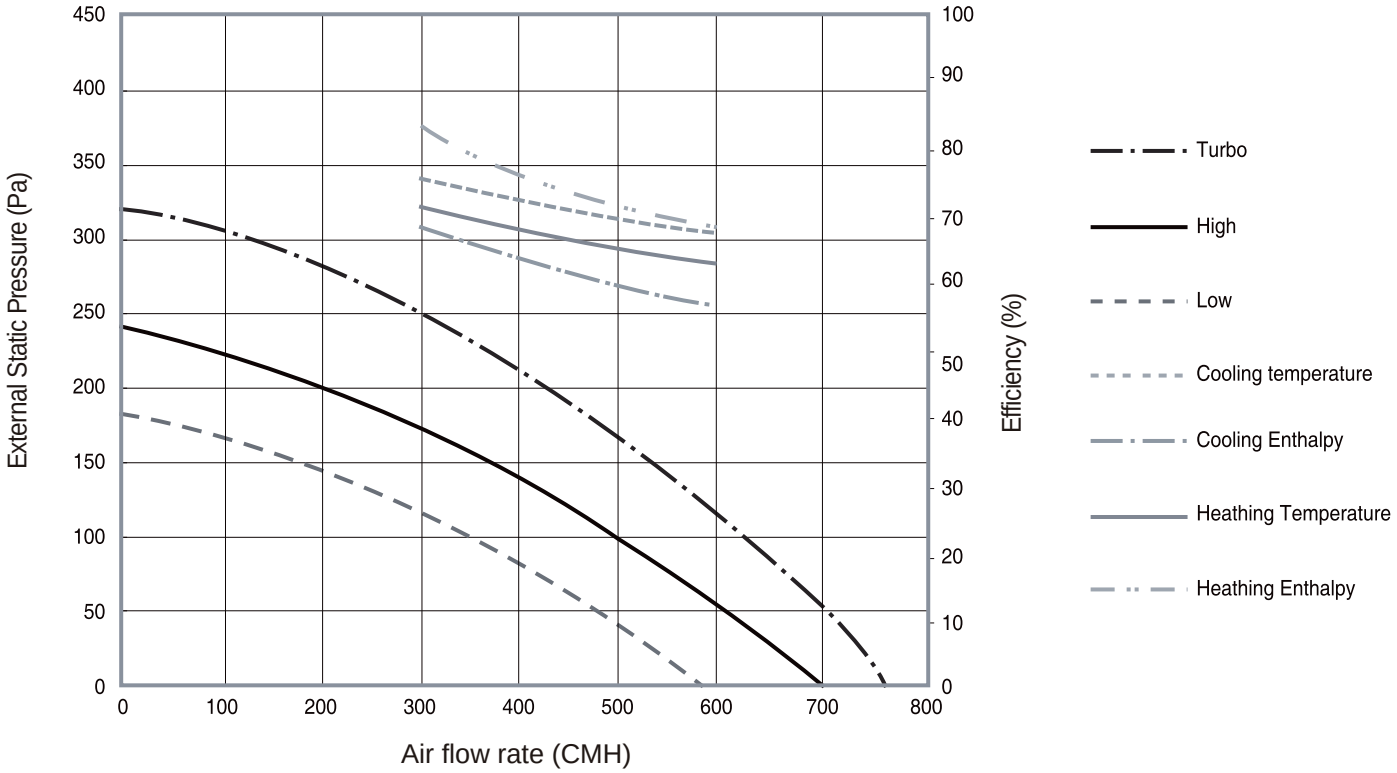
(2) AM100FNKDEH ***



6 Fan Characteristics

ERV Plus

1) AM050FNKDEH/EU



2) AM100FNKDEH/EU