

-THE HEAT TRANSFER EXPERTS-



ENERGY RECOVERY VENTILATOR,  
For Building & residence

**ERV**System

P R O D U C T   G U I D E



JUNGSANG has got the First CE Certification Related to ERV in Korea since the Act on the obligatory ERV installation in 2006.

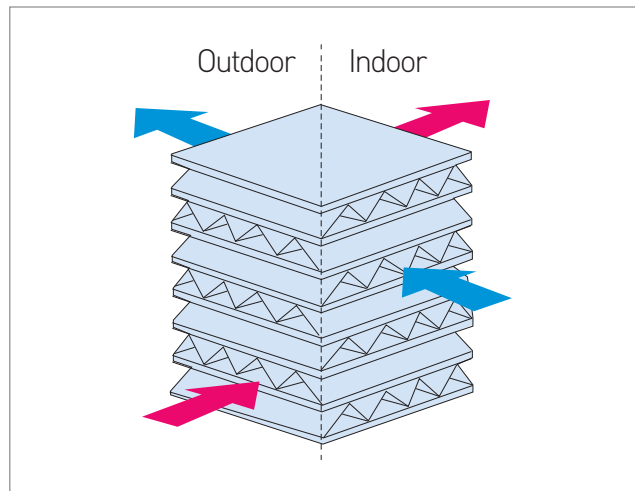
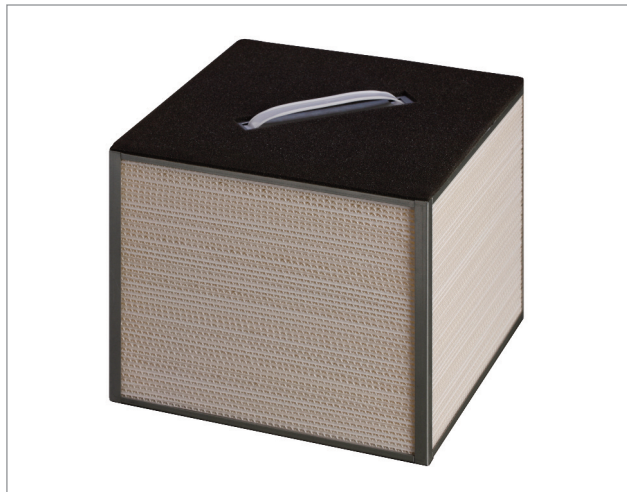
We got the certification on June 15th, 2017.



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## HOW IT WORKS

We spend most of our time indoors. It is therefore very important to have good Indoor air quality with an ERV system. The stale extract air flows through a duct and transfers its heat to the plates above and below. It cools down and exits as exhaust air. Unused fresh air streams in through separate ducts on the other side of the plates. It takes up the heat and is available as warm supply air. Saving energy by using energy recovery is not only cost-effective and environmentally friendly but also healthy fresh air is provided constantly without having to keep opening the windows. This applies to all buildings, not just for residence. Stale air with humidity, toxins and smells are extracted from the kitchen, bathroom and toilets via design valves to the heat exchanger in the ventilation unit. The outside air, which takes up the heat energy of the extract air with a efficiency of up to 70% winter and 45%, summer, flows through this and is hermetically separated at the same time. The air then flows through supply air duct system into the living rooms and bedrooms and creates a healthy and comfortable climate around the clock. Transfer elements ensure air circulation within the property. The exhaust air is released outside by passing through wall outlet.



Efficient heat recovery ventilation is key, allowing for a good indoor air quality and saving energy. Our system, at least 70% of the heat from the exhaust air is transferred to the fresh air again by means of a heat exchanger.

An enthalpy heat exchanger for moisture recovery prevents the air getting too dry in winter.

## SELECTION GUIDE, AIR CHANGE RATE

### (1) Summarizing solutions to too low indoor air humidity :

- Decrease the air change rate.
- Consider adding sources of moisture(e.g.,more plants).
- Keep the home as free dust filter and make sure the ventilation air filtration(if any) is working properly.

Incidentally, air that is practically dust-free does feel "too dry" even if it contains very little moisture people feel very comfortable in cold air at high elevations(where there is very little dust). Since the air in a residence cannot be kept free of dust with reasonable effort,there is a practical lower limit to relative humidity(about 30%) below which most occupants consider air too dry. When that point is reached,solutions 1. and/or 2. above should be used.

-Referred to PHI-

### (2) THE OPTIMUM AIR CHANGE RATE IN RESIDENCES

Conventional design tends toward higher rates of ventilation. In the past, air change rates as high as 0.5 or even 0.8 were considered necessary to keep interior humidity in winter low enough to discourage the development of condensation, which can cause mildew and damage to building components. But this risk does not exist in a passive house.

Outside building elements are so well insulated that interior surfaces are too warm for condensation to occur even at 60% relative humidity and moisture barriers and air seals prevent moist inside air from reaching building elements that could cool it to below the dew point. Therefore, fresh air volume can be lower, particularly when occupants perceive the humidity as being too low.

"Appropriate"air change rates for residences are between 0.3 and 0.4. For passive houses,we generally recommend leaning toward the lower rate.

This keeps the indoor air quality good,while maintaining a comfortable humidity and maximizing energy savings.

-Referred to PHI-

## JSENT VENTILATION DEVICE LINE UP (Energy Recovery Ventilator)

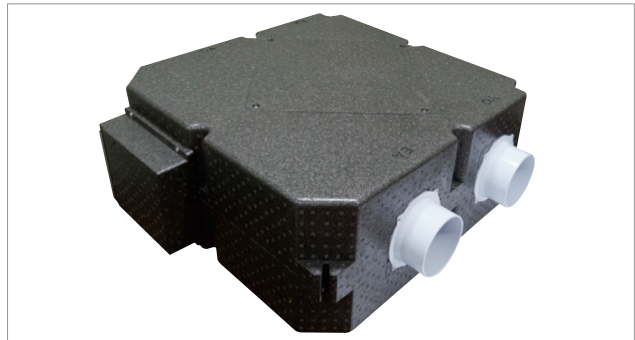
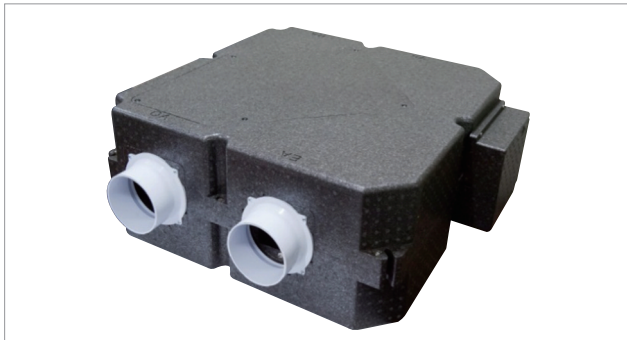
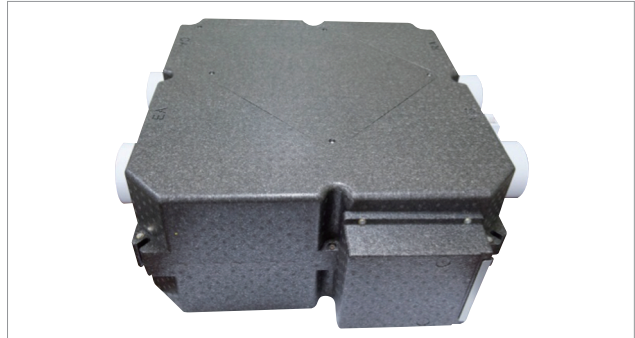
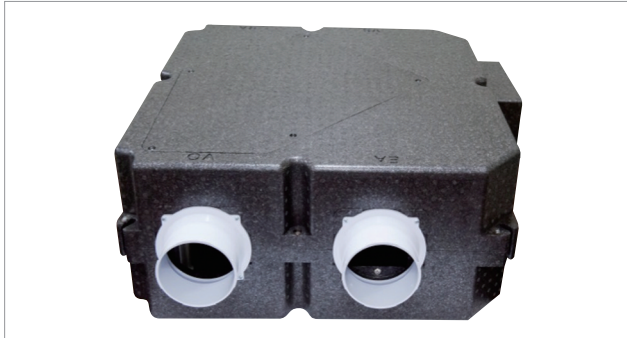
ITEM		AIR VOLUME		CASING MATERIAL	REMARK
		[CMH]	[L/S]		
JSENT	15PK	150	42	Expanded polypropylene	CE
JSENT	20PK	200	56	Expanded polypropylene	CE
JSENT	25PK	250	69	Expanded polypropylene	CE
JSENT	15PKA	150	42	ABS	Flame Retardant
JSENT	20PKA	200	56	ABS	Flame Retardant
JSENT	25PKA	250	69	ABS	Flame Retardant
JSENT	35PKGC	350	97	GI or CR	Power Coating [CR]
JSENT	50PKGC	500	139	GI or CR	Power Coating [CR]
JSENT	80PKGC	800	222	GI or CR	Power Coating [CR]
JSENT	100PKGC	1,000	278	GI or CR	Power Coating [CR]
JSENT	150PKGC	1,500	417	GI or CR	Power Coating [CR]
JSENT	200PKGC	2,000	556	GI or CR	Power Coating [CR]
JSENT	300PKGC	3,000	833	GI or CR	Power Coating [CR]

\* We Can Supply over 3,000CMH [833 L/S] by make-to-order

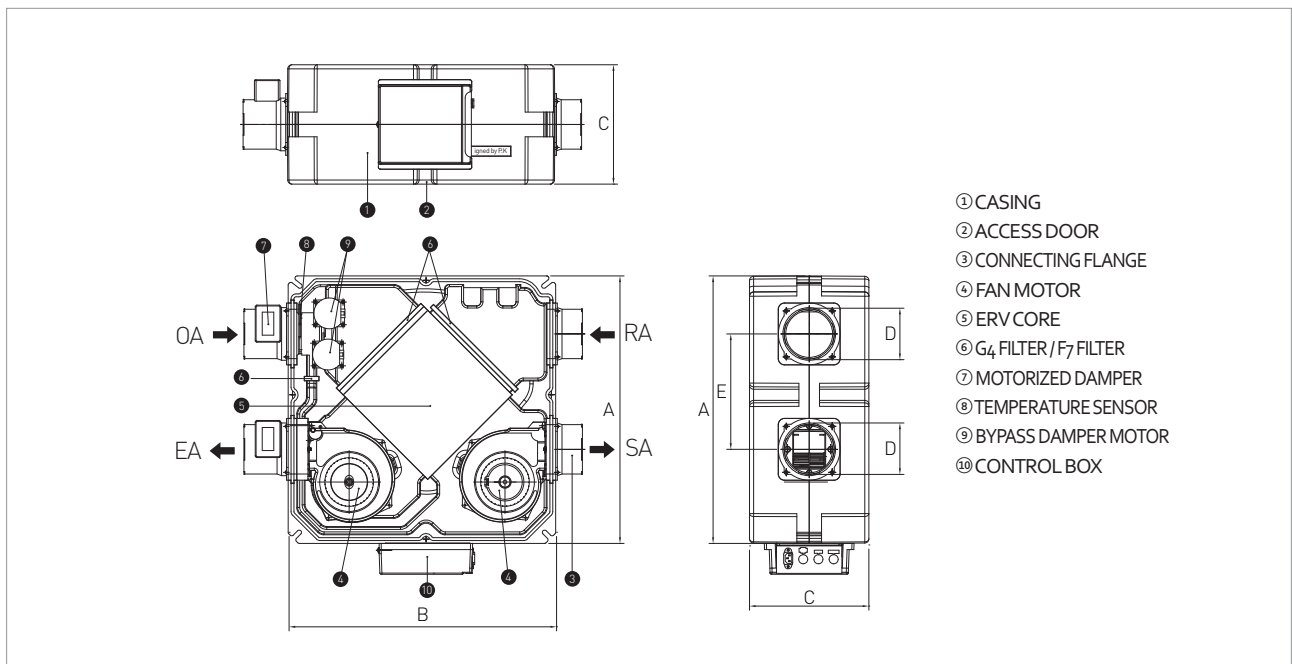
## JSENT VENTILATION DEVICE LINE UP (Fan Unit)

ITEM		AIR VOLUME		CASING MATERIAL	REMARK
		[CMH]	[L/S]		
JSENT	15PKF	150	42	GI or CR	FAN UNIT [SINGLE FAN]
JSENT	25PKF	250	69	GI or CR	FAN UNIT [SINGLE FAN]
JSENT	35PKF	350	97	GI or CR	FAN UNIT [SINGLE FAN]
JSENT	15PKFC	150	42	GI or CR	FAN UNIT [DOUBLE FAN] [Supply & Exhaust]
JSENT	25PKFC	250	69	GI or CR	FAN UNIT [DOUBLE FAN] [Supply & Exhaust]
JSENT	35PKFC	350	97	GI or CR	FAN UNIT [DOUBLE FAN] [Supply & Exhaust]

**JSENT 15PK, 20PK, 25PK**



JUNGSANG has got the First CE Certification Related to ERV in Korea since the Act on the obligatory ERV installation in 2006. We got the certification on June 15th, 2017.



**JSENT 15PK, 20PK, 25PK****JSENT 15PK Specification [CE]**

AIR VOLUME		150 [CMH]	42 [L/S]
CASING MATERIAL		Expanded Polypropylene 25T	
EFFICIENCY	TOTAL ENTHALPY	Cooling	69%
		Heating	77%
POWER CONSUMPTION		58W [Cooling]	58W [Heating]
AIR FILTER		G4 / F7	
CONNECTING FLANGE		Ø125	
POWER		1Ø*240V*50Hz / 1Ø*220V*50Hz, 60Hz	
CONTROLLER		3 Step	
OPTION		By Pass Function	
		Motorized Damper / Back Draft Damper	
WEIGHT		19Kg	
DIMENSION		650mm[W] x 650mm[L] x 290mm[H] / E(280mm)	

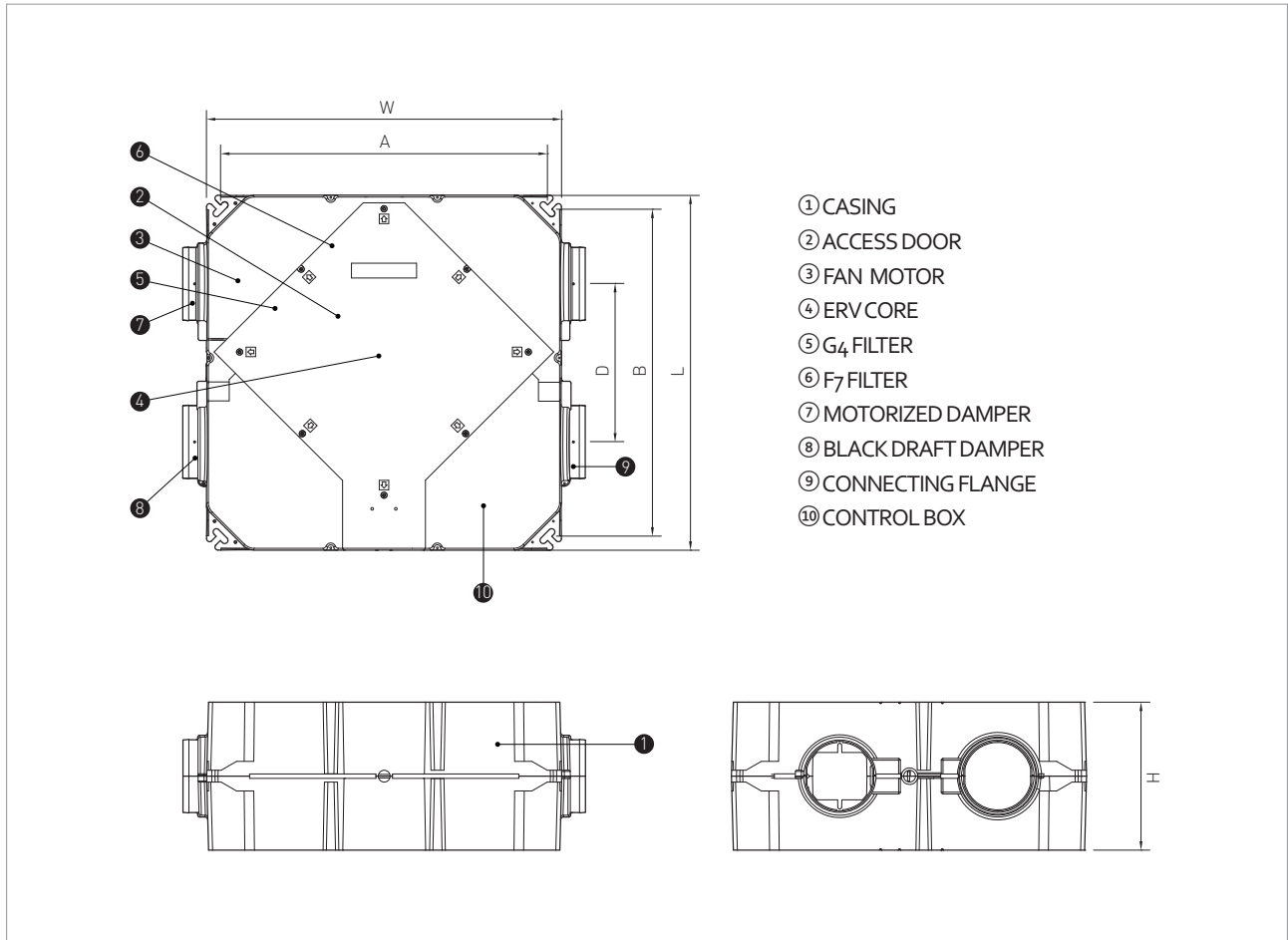
**JSENT 20PK Specification [CE]**

AIR VOLUME		200 [CMH]	56 [L/S]
CASING MATERIAL		Expanded Polypropylene 25T	
EFFICIENCY	TOTAL ENTHALPY	Cooling	66%
		Heating	76%
POWER CONSUMPTION		85W [Cooling]	88W [Heating]
AIR FILTER		G4 / F7	
CONNECTING FLANGE		Ø125	
POWER		1Ø*240V*50Hz / 1Ø*220V*50Hz, 60Hz	
CONTROLLER		3 Step	
OPTION		By Pass Function	
		Motorized Damper / Back Draft Damper	
WEIGHT		19Kg	
DIMENSION		650mm[W] x 650mm[L] x 290mm[H] / E(280mm)	

**JSENT 25PK Specification [CE]**

AIR VOLUME		250 [CMH]	69 [L/S]
CASING MATERIAL		Expanded Polypropylene 25T	
EFFICIENCY	TOTAL ENTHALPY	Cooling	66%
		Heating	76%
POWER CONSUMPTION		85W [Cooling]	88W [Heating]
AIR FILTER		G4 / F7	
CONNECTING FLANGE		Ø125	
POWER		1Ø*240V*50Hz / 1Ø*220V*50Hz, 60Hz	
CONTROLLER		3 Step	
OPTION		By Pass Function	
		Motorized Damper / Back Draft Damper	
WEIGHT		19Kg	
DIMENSION		650mm[W] x 650mm[L] x 290mm[H] / E(280mm)	

**JSENT 15PKA, 20PKA, 25PKA**





**JSENT 15PKA, 20PKA, 25PKA**

## JSENT 15PAK Specification

AIR VOLUME		150 [CMH]	42 [L/S]
CASING MATERIAL		ABS, Flame Retardant	
EFFICIENCY	TOTAL ENTHALPY	Cooling	60%
		Heating	73%
POWER CONSUMPTION		65 [W]	
AIR FILTER		G4 / F7	
CONNECTING FLANGE		Ø125	
POWER		1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
DIMENSION		529mm[W]*493mm[L]*220mm[H] / A(440mm), B(475mm), D(220mm)	

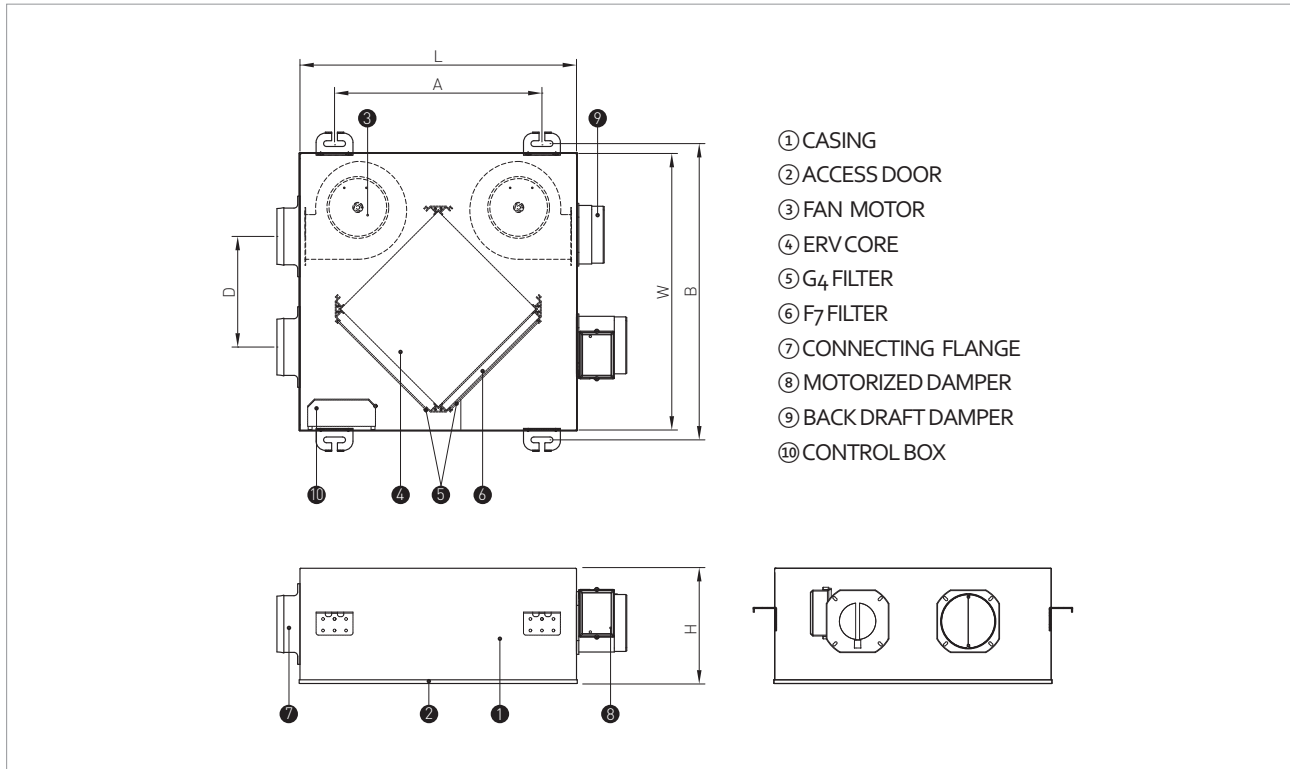
## JSENT 20PAK Specification

AIR VOLUME		200 [CMH]	56 [L/S]
CASING MATERIAL		ABS, Flame Retardant	
EFFICIENCY	TOTAL ENTHALPY	Cooling	57%
		Heating	70%
POWER CONSUMPTION		90 [W]	
AIR FILTER		G4 / F7	
CONNECTING FLANGE		Ø125	
POWER		1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
DIMENSION		529mm[W]*493mm[L]*220mm[H] / A(440mm), B(475mm), D(220mm)	

## JSENT 25PAK Specification

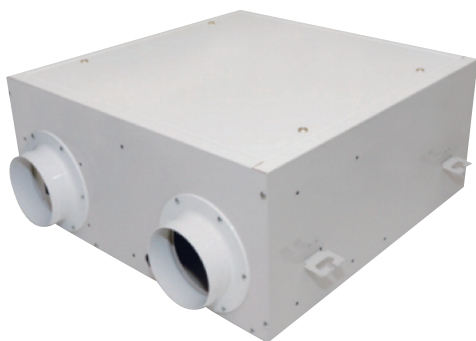
AIR VOLUME		250 [CMH]	69 [L/S]
CASING MATERIAL		ABS, Flame Retardant	
EFFICIENCY	TOTAL ENTHALPY	Cooling	65%
		Heating	76%
POWER CONSUMPTION		125 [W]	
AIR FILTER		G4 / F7	
CONNECTING FLANGE		Ø125	
POWER		1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
DIMENSION		620mm[W]*680mm[L]*250mm[H] / A(582mm), B(552mm), D(255mm)	

## JSENT 35PKGC

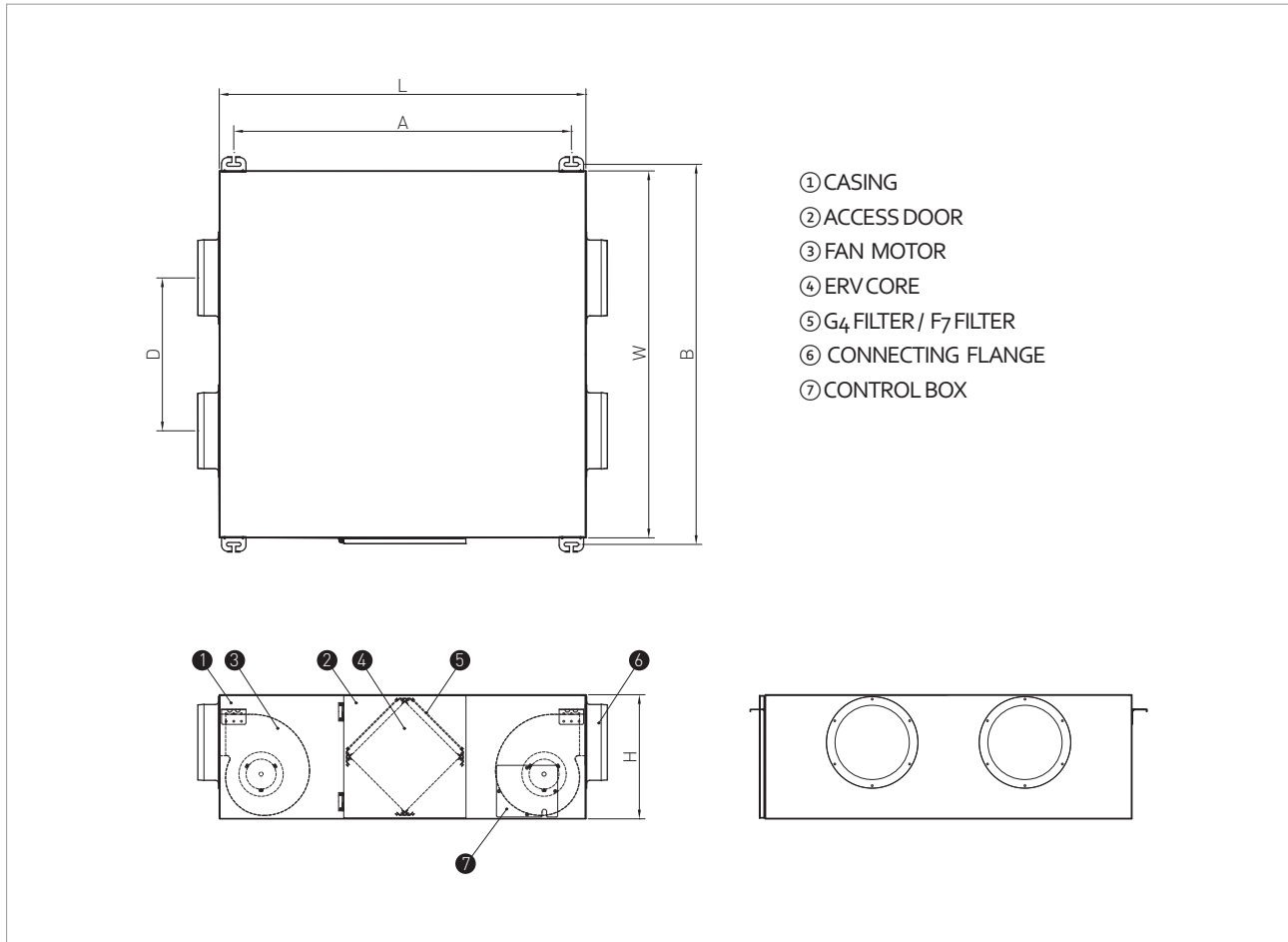


### JSENT 35PKGC Specification

AIR VOLUME		350 [CMH]	97 [L/S]
CASING MATERIAL		CR or GI	
EFFICIENCY	TOTAL ENTHALPY	Cooling	50%
		Heating	78%
POWER CONSUMPTION		180 [W]	
AIR FILTER		G4 / F7	
CONNECTING FLANGE		Ø150	
POWER		1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
DIMENSION		700mm[L]*700mm[W]*230mm[H] / A(510mm), B(740mm), D(345mm)	



## JSENT 50PKGC, 80PKGC, 100PKGC



**JSENT 50PKGC, 80PKGC, 100PKGC**

## JSENT 50PKGC Specification

AIR VOLUME		500 [CMH]	139 [L/S]
CASING MATERIAL		CR or GI	
EFFICIENCY	TOTAL ENTHALPY	Cooling	47%
		Heating	70%
POWER CONSUMPTION		240 [W]	
AIR FILTER		G4 / F7	
CONNECTING FLANGE		Ø200	
POWER		1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
DIMENSION		700mm[L]*742mm[W]*400mm[H] / A(627mm), B(784mm), D(391mm)	

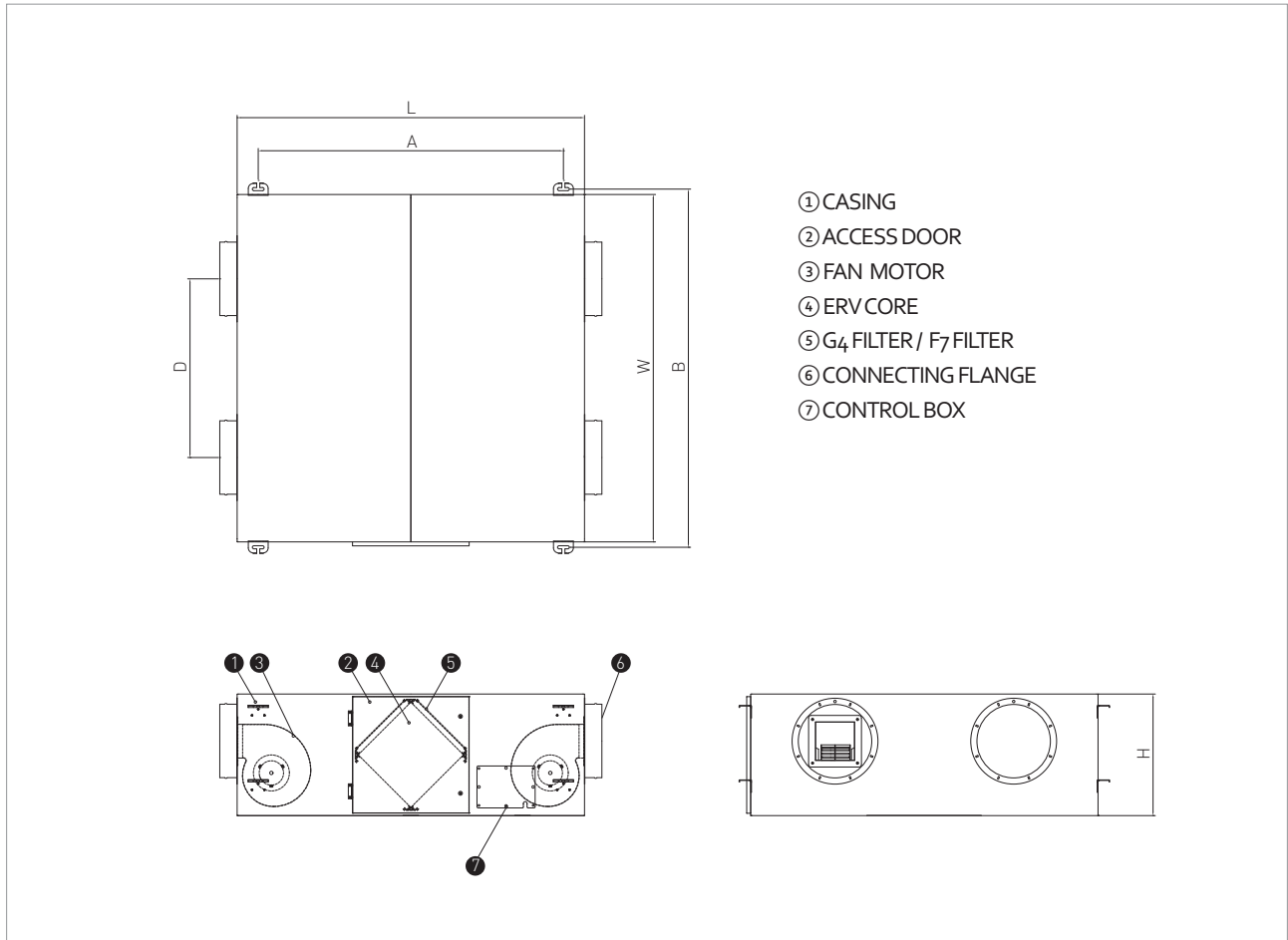
## JSENT 80PKGC Specification

AIR VOLUME		800 [CMH]	222 [L/S]
CASING MATERIAL		CR or GI	
EFFICIENCY	TOTAL ENTHALPY	Cooling	48%
		Heating	72%
POWER CONSUMPTION		420 [W]	
AIR FILTER		G4 / F7	
CONNECTING FLANGE		Ø250	
POWER		1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
DIMENSION		1,200mm[L]*1,200mm[W]*400mm[H] / A(1,078mm), B(1,242mm), D(512mm)	

## JSENT 100PKGC Specification

AIR VOLUME		1,000 [CMH]	278 [L/S]
CASING MATERIAL		CR or GI	
EFFICIENCY	TOTAL ENTHALPY	Cooling	45%
		Heating	70%
POWER CONSUMPTION		500 [W]	
AIR FILTER		G4 / F7	
CONNECTING FLANGE		Ø250	
POWER		1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
DIMENSION		1,200mm[L]*1,200mm[W]*400mm[H] / A(1,078mm), B(1,242mm), D(512mm)	

**JSENT 150PKGC, 200PKGC, 300PKGC**



**JSENT 150PKG, 200PKG, 300PKG**

## JSENT 150PKG Specification

AIR VOLUME	1,500 [CMH]	417 [L/S]
CASING MATERIAL	CR or GI	
POWER CONSUMPTION	1,050 [W]	
AIR FILTER	G4 / F7	
CONNECTING FLANGE	Ø300	
POWER	1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
DIMENSION	1,300mm[L]*1,200mm[W]*490mm[H] / A(1,100mm), B(1,344mm), D(620mm)	

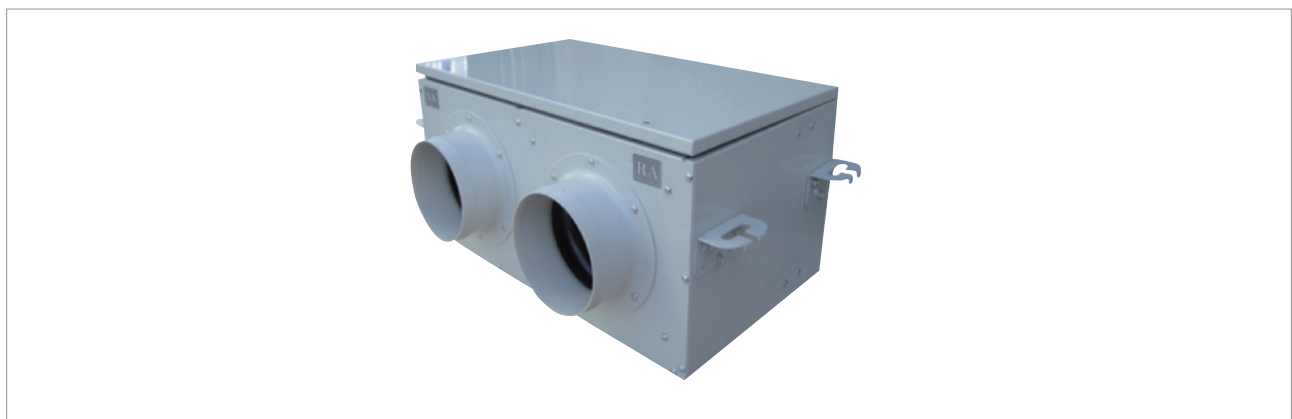
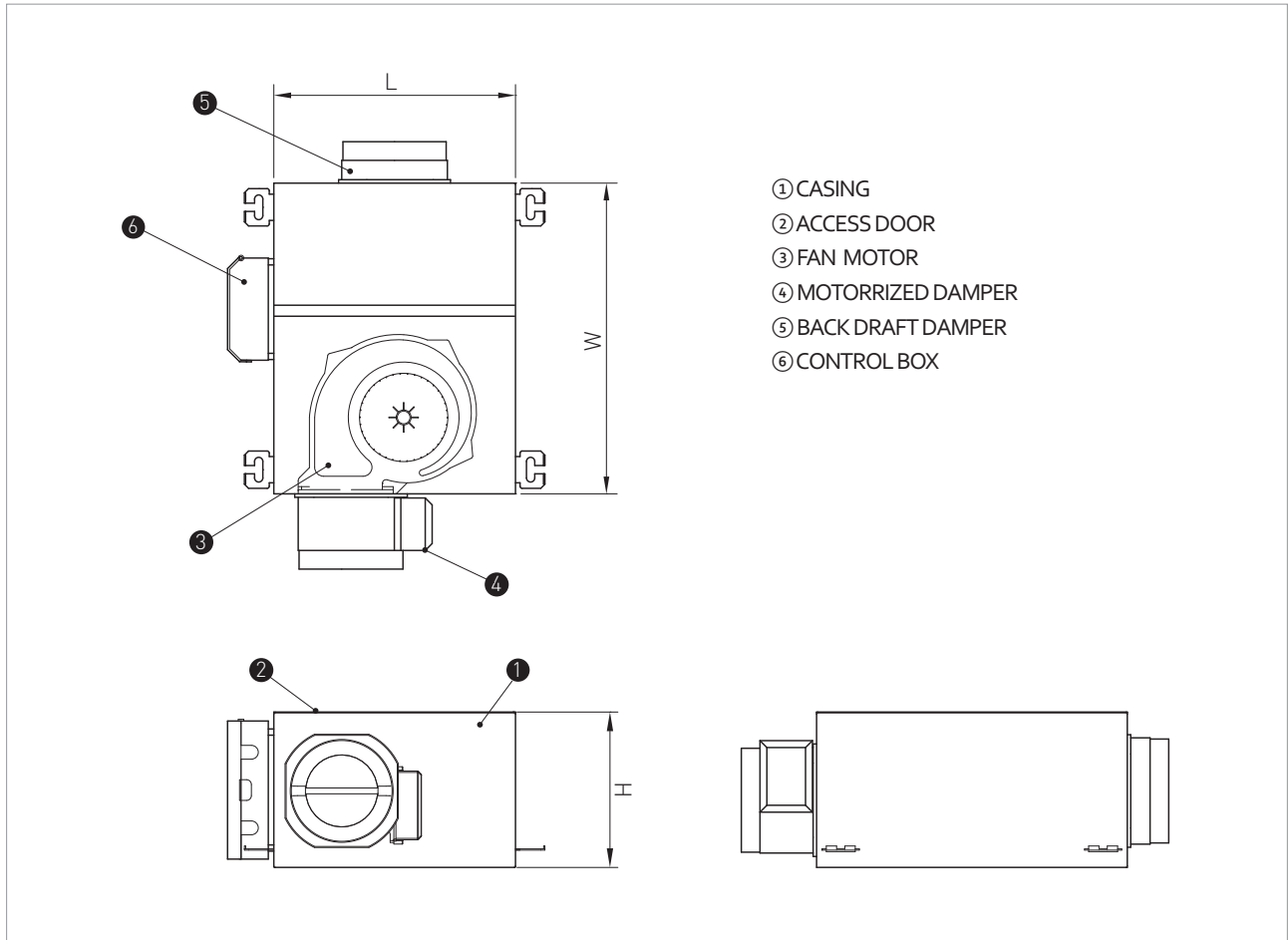
## JSENT 200PKG Specification

AIR VOLUME	2,000 [CMH]	556 [L/S]
CASING MATERIAL	CR or GI	
POWER CONSUMPTION	1,150 [W]	
AIR FILTER	G4 / F7	
CONNECTING FLANGE	Ø300	
POWER	1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
DIMENSION	1,400mm[L]*1,400mm[W]*490mm[H] / A(1,230mm), B(1,444mm), D(720mm)	

## JSENT 300PKG Specification

AIR VOLUME	3,000 [CMH]	833 [L/S]
CASING MATERIAL	CR or GI	
POWER CONSUMPTION	1,600 [W]	
AIR FILTER	G4 / F7	
CONNECTING FLANGE	Ø350	
POWER	1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
DIMENSION	1,400mm[L]*1,400mm[W]*490mm[H] / A(1,400mm), B(1,544mm), D(740mm)	

**JSENT 15PKF , 25PKF , 35PKF (NON - ERV CORE) (SINGLE FAN)**



**JSENT 15PKF , 25PKF , 35PKF (NON - ERV CORE) (SINGLE FAN)**

## JSENT 15PKF Specification

AIR VOLUME	150 [CMH]	42 [L/S]
CASING MATERIAL	CR or GI	
POWER CONSUMPTION	50 [W]	
AIR FILTER	G4 / F7	
CONNECTING FLANGE	Ø125	
POWER	1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
DIMENSION	330mm[W]*265mm[L]*205mm[H]	

## JSENT 25PKF Specification

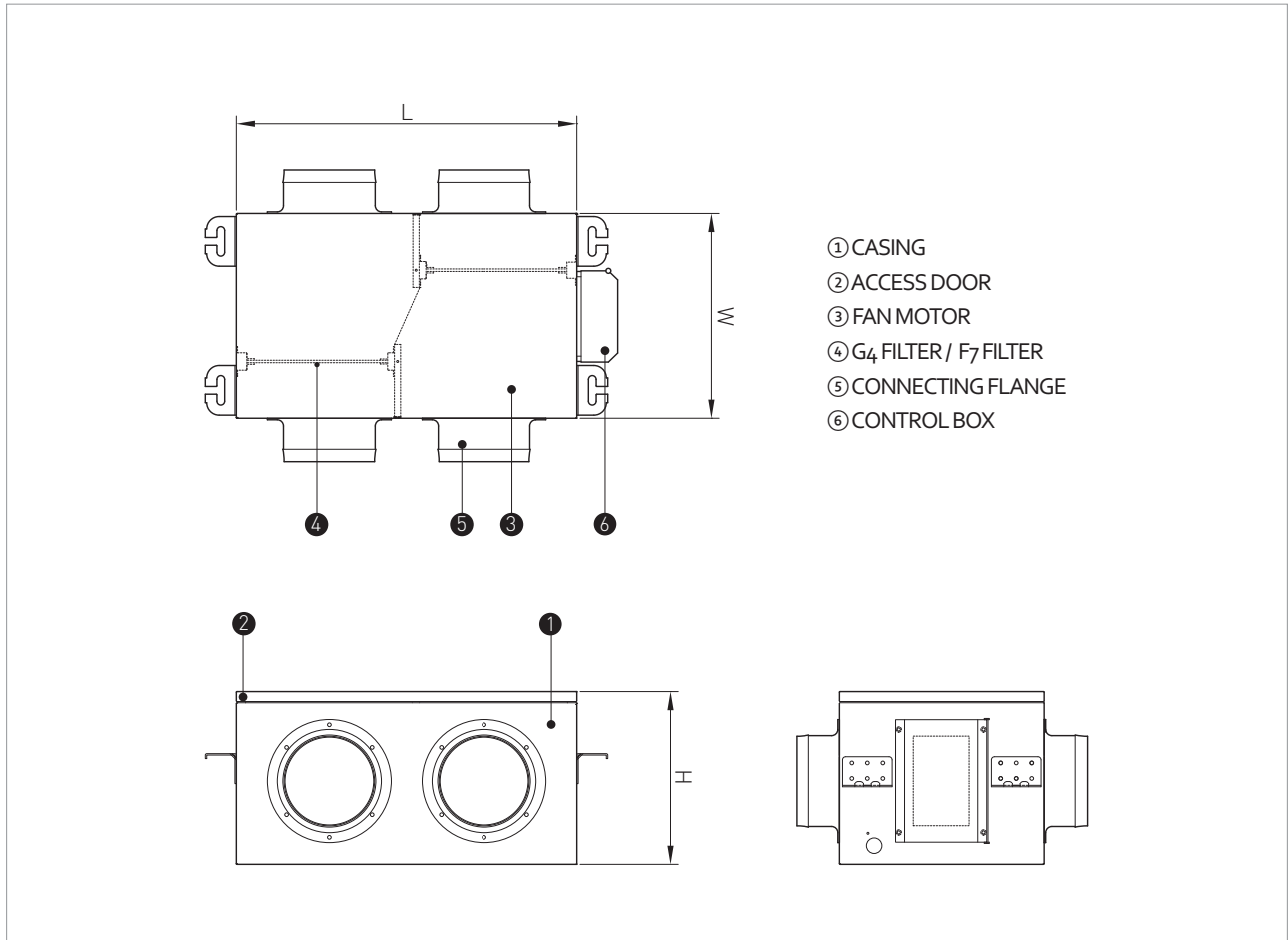
AIR VOLUME	250 [CMH]	69 [L/S]
CASING MATERIAL	CR or GI	
POWER CONSUMPTION	60 [W]	
AIR FILTER	G4 / F7	
CONNECTING FLANGE	Ø150	
POWER	1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
DIMENSION	420mm[W]*300mm[L]*225mm[H]	

## JSENT 35PKF Specification

AIR VOLUME	350 [CMH]	97 [L/S]
CASING MATERIAL	CR or GI	
POWER CONSUMPTION	85 [W]	
AIR FILTER	G4 / F7	
CONNECTING FLANGE	Ø150	
POWER	1Ø240V*50Hz / 1Ø*220v*50Hz, 60Hz	
DIMENSION	450mm[W]*350mm[L]*300mm[H]	



**JSENT 15PKFC, 25PKFC, 35PKFC (NON - ERV CORE) (DOUBLE FAN)**



**JSENT 15PKFC, 25PKFC, 35PKFC (NON - ERV CORE) (DOUBLE FAN)**

## JSENT 15PKFC Specification

<b>AIR VOLUME</b>	150 [CMH]	42 [L/S]
<b>CASING MATERIAL</b>	CR or GI	
<b>POWER CONSUMPTION</b>	90 [W]	
<b>AIR FILTER</b>	G4 / F7	
<b>CONNECTING FLANGE</b>	Ø125	
<b>POWER</b>	1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
<b>DIMENSION</b>	265mm[W]*330mm[L]*205mm[H]	



## JSENT 25PKFC Specification

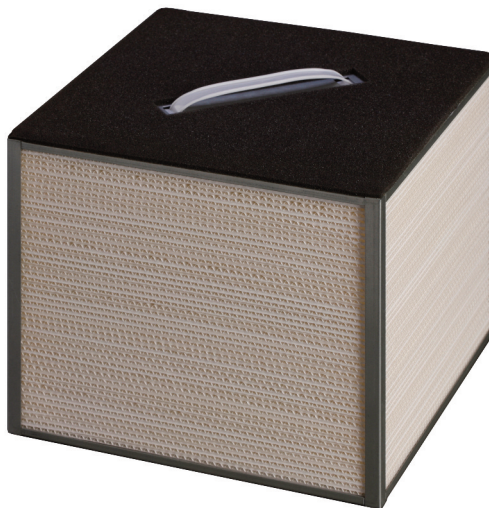
<b>AIR VOLUME</b>	250 [CMH]	69 [L/S]
<b>CASING MATERIAL</b>	CR or GI	
<b>POWER CONSUMPTION</b>	110 [W]	
<b>AIR FILTER</b>	G4 / F7	
<b>CONNECTING FLANGE</b>	Ø150	
<b>POWER</b>	1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
<b>DIMENSION</b>	300mm[W]*420mm[L]*300mm[H]	

## JSENT 35PKFC Specification

<b>AIR VOLUME</b>	350 [CMH]	97 [L/S]
<b>CASING MATERIAL</b>	CR or GI	
<b>POWER CONSUMPTION</b>	150 [W]	
<b>AIR FILTER</b>	G4 / F7	
<b>CONNECTING FLANGE</b>	Ø150	
<b>POWER</b>	1Ø*240V*50Hz / 1Ø*220v*50Hz, 60Hz	
<b>DIMENSION</b>	330mm[W]*550mm[L]*300mm[H]	

## COMPONENTS, CORE

<b>Core Material</b>	Specially-made paper to recover heat and humidity		
<b>Partition Height</b>	2.0mm[For High Efficiency] 2.6mm[For standard]		
<b>Quality test method used</b>	KS M ISO 536:2014 KS M ISO 534:2014 KS T 1305:2016 MOD KS M ISO 5636-5:2016 MOD		
<b>Performance test method used</b>	Regulation on energy high-efficiency labeling and standard [Ministry of Trade, Industry and Energy notice 2016-59]		
<b>Efficiency Standard</b>	Cooling	OVER 45%	 Ministry of Trade, Industry and Energy  <b>KOREA ENERGY AGENCY</b>
	Heating	OVER 70%	



## COMPONENTS, FILTER

Fresh air promotes well-being, healthy sleep, concentration and productivity.

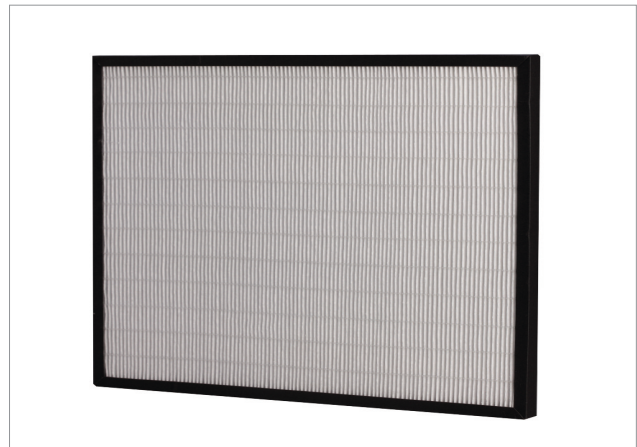
Draught-free air helps to prevent colds and is good for your health.

Thanks to G4 and F7 filters, which capture fine dust and pollen, even allergy sufferers can breathe easily.

Performance test method used		EN 779:2012	
ITEM	FILTER CLASS	Average efficiency(Em) for particles of 0.4 microns in %	
		250 Pa	450 Pa
Coarse dust	G1	$50 \leq Am < 65$	-
	G2	$65 \leq Am < 80$	-
	G3	$80 \leq Am < 90$	-
	G4	$90 \leq Am$	-
Fine dust	M5	-	$40 \leq Em < 60$
	M6	-	$60 \leq Em < 80$
	F7	-	$80 \leq Em < 90$
	F8	-	$90 \leq Em < 95$
	F9	-	$95 \leq Em$



F7 FILTER

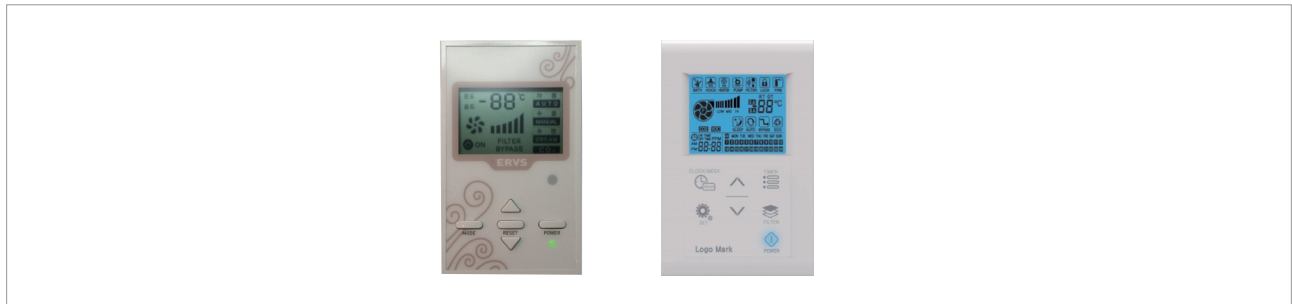


F7 FILTER



## COMPONENTS, FAN (For 250CMH, 69L/S)



## COMPONENTS, CONTROLLER



## COMPONENTS, OPTIONS

ITEM	CONTENTS	IMAGE
BY-Pass function	<ul style="list-style-type: none"> <li>• This function can also be used on cooler summer night</li> <li>• It runs automatically with temperature sensor</li> <li>• By-pass guide runs by By-pass motor</li> </ul>	
Motorized Damper	<ul style="list-style-type: none"> <li>• When the ERV is off, the air flow that enters the flange by motor-damper is blocked</li> </ul>	
Back Draft Damper	<ul style="list-style-type: none"> <li>• When the ERV is off, the air flow that enters flange by structure is blocked</li> </ul>	