DOĞU
İKLİMLENDİRME | HVAC SYSTEMS

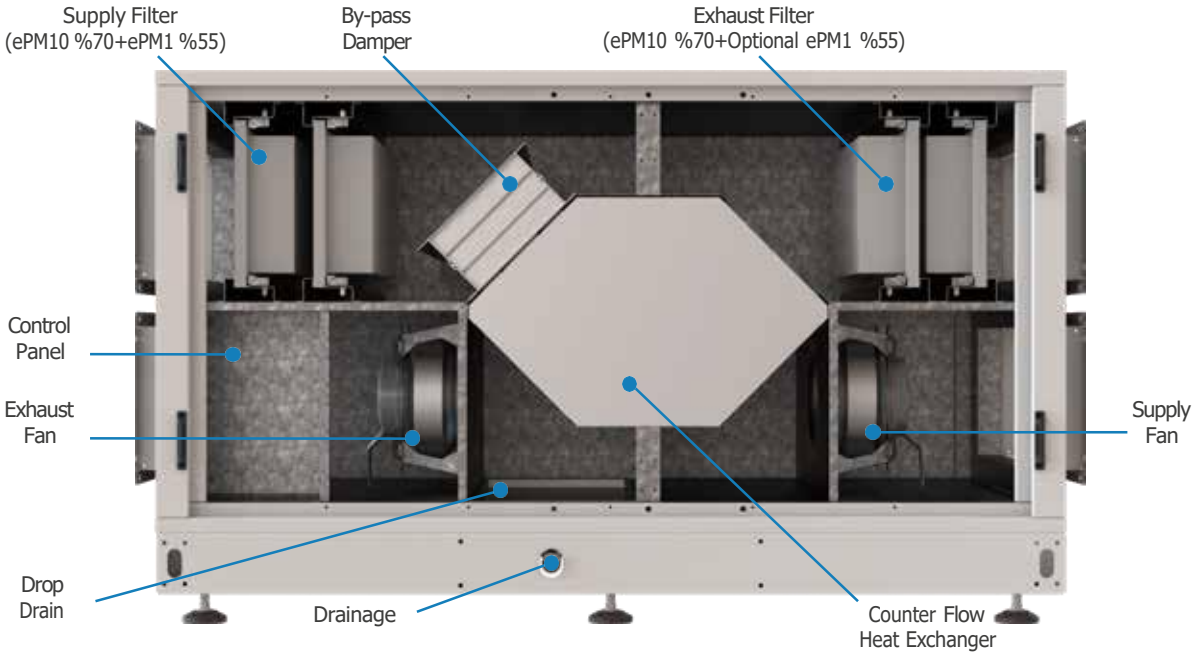
FHR

Counter Flow Heat Recovery Unit

Venues Breathe with DOGU HVAC Systems!

DOGU HVAC founded in 1999, and ever since has been manufacturing Energy-and Cost-Efficient products as Air Handling Units, Air Distribution & Management & Movement Systems [HVAC Components] and constantly enhancing to provide an integrated solution for well-being. DOGU HVAC's core business products which are subsumed under four major groups as Air Handling Units, Heat/Energy Recovery Units, Air Distribution & Management Products and Kitchen Ventilation Equipment are all produced under the compliance with EU standarts. Particularly AHU and HRU-ER units are entitled under the "FOUR SEASONS" brand name for domestic and foreign markets. DOGU HVAC's, headquarter in Izmir/Turkey, operates in a large-sized plant spread over two factories, in total area of 45.000 sqm in which 25.000 sqm indoor space that enables DOGU HVAC manufactures 140 various type of products. Additionally, DOGU HVAC has a powerful sales network with three sales offices located in Istanbul, Ankara and Antalya in Turkey as well as authorized dealers in many other countries for sales and after sales operations. DOGU HVAC has been exporting to more than 50 countries.

Thanks to our "Customer Satisfaction","Zero-Defect Policy" motto and reinforced by complete certified products, more than 250 employees. DOGU HVAC R&D center developed exclusive products, such as Double Skin Make-Up Kitchen Hood, Recirculated Laminar Airflow Unit, Single Piece Square Ceiling Diffuser and Ecology Units, for the first time have brought to the sector. DOGU HVAC R&D has the ability to make customized production which can meet the requirement of the customers by means of special software such as "ANSYS FLUENT". DOGU HVAC guaranteed its quality of management by having advantages of ISO 9001, ISO 14001, ISO 18001 certifications. Air Handling Units have EUROVENT, TUV Hygiene [in accordance with DIN1946-4, VDI 6022-1, DIN EN 13053 standarts], CE, TSEK, GOST-R certifications; Fire Dampers have EN 1366-2 and EN 13501-3 CE certifications; Smoke Control Dampers have EN 1366-10 and 12101-8 CE certifications; Kitchen Ventilation Products have TSE, CE and GOST-R quality certifications.



FHR

- High efficient EC fans with low sound level.
- Optional electrical heater or heating/cooling coil.
- 3 stage airflow speed control.
  (All stages can be set between 0-100%)
- Double skin, 50 mm insulation.
- Hygienic Condensate Drip Tray.
- Plug & Play
- Bypass damper. (Night cooling, free cooling and anti-freeze protection of the heat exchanger)

Heat Exchanger

- High efficiency aluminium counter flow heat exchanger.
- Efficiency up to %94. (calculated for balanced air flows)
- Special application for the anti-freeze protection

Filters

- Large filtering area for energy efficiency and long service period. (up to 6 months)
- ePM10 %70 filters on both supply and extract air side, also for exhaust side optional ePM1 %55 Filter available.

Fans

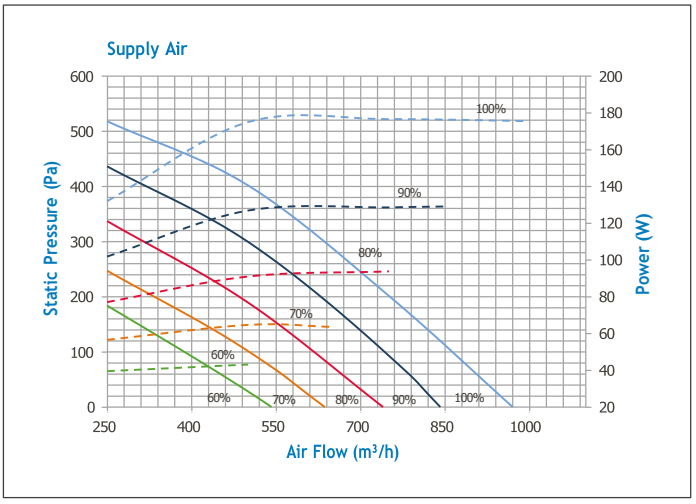
- For low power consuption and low sound level use of EC–plug fan sprefered with in FHR series units. (EBM-Papst)
- 10 years exploitation time. (40.000 hours)

	SPI	SFP	SFP Class
	(W/m³/h)	(kW/m³/s)	EN 13142
FHR-010	0,23	1,22	SFP Class 3
FHR-016	0,33	2,25	SFP Class 5
FHR-025	0,20	2,04	SFP Class 5
FHR-040	0,32	2,38	SFP Class 5
FHR-060	0,32	2,22	SFP Class 5
FHR-085	0,36	2,31	SFP Class 5
FHR-110	0,34	2,38	SFP Class 5
FHR-140	0,36	2,42	SFP Class 5
FHR-170	0,47	2,94	SFP Class 5

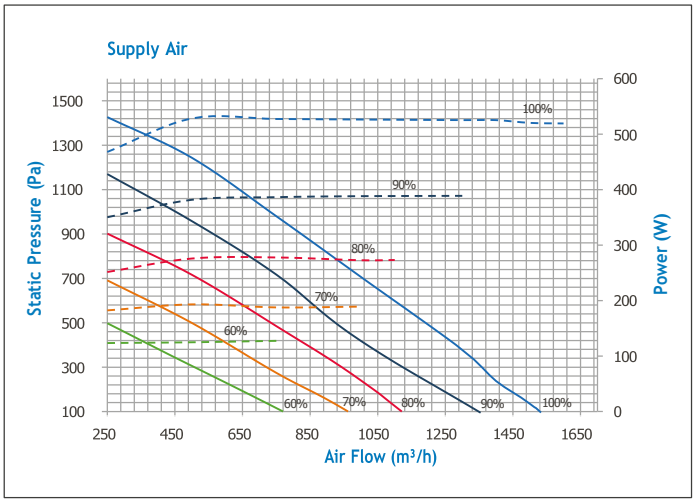
$$SPI = \frac{P_E\,(W)}{q_v\left[\frac{m^3}{h}\right]}$$ [According to EN 13142]

$$SFP = \frac{Psfm + Pefm\,(kW)}{qmax\left[\frac{m^3}{s}\right]}$$ [According to EN 13779]

FHR-10



FHR-16



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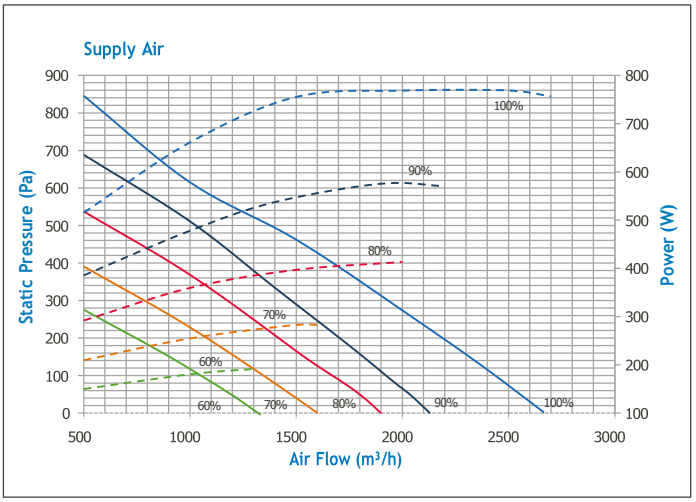

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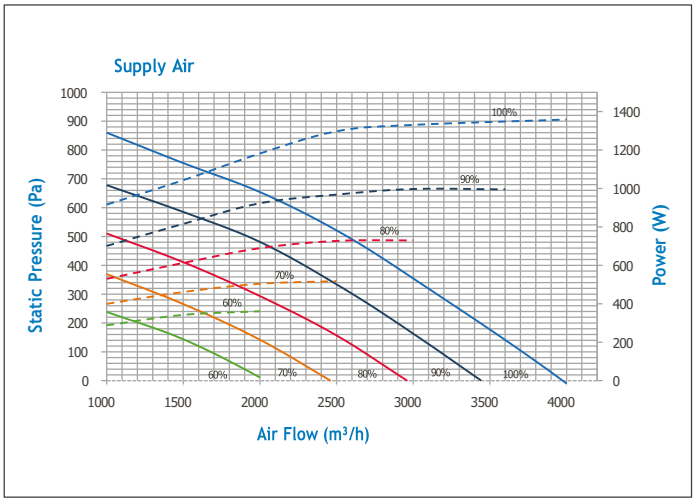

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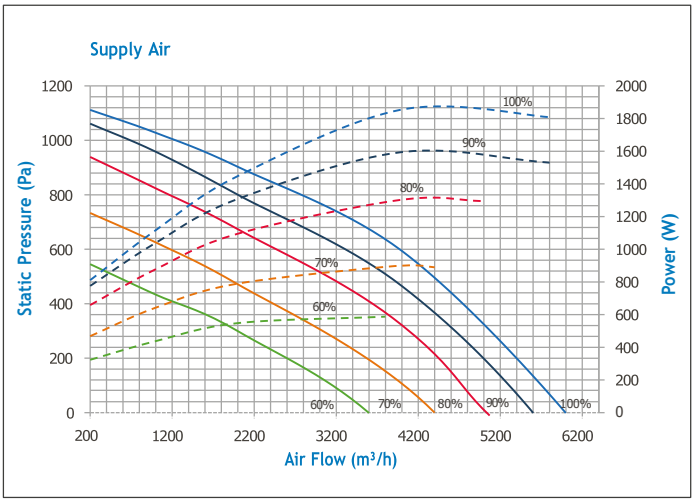

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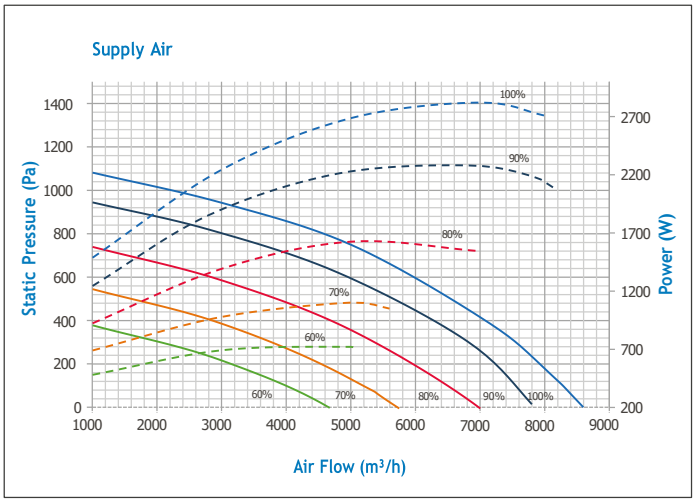

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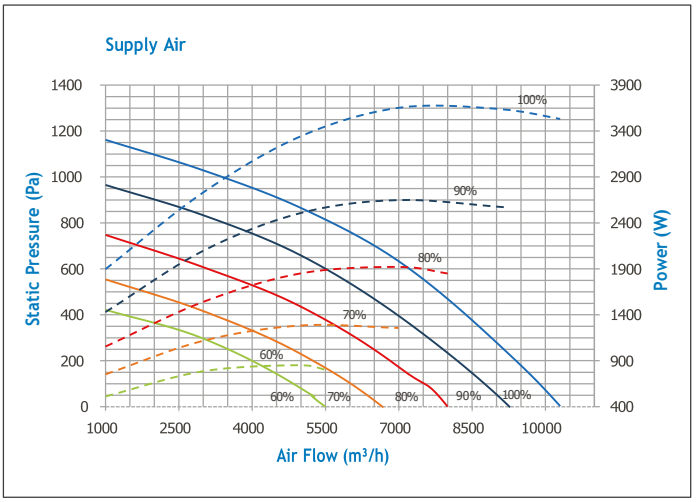

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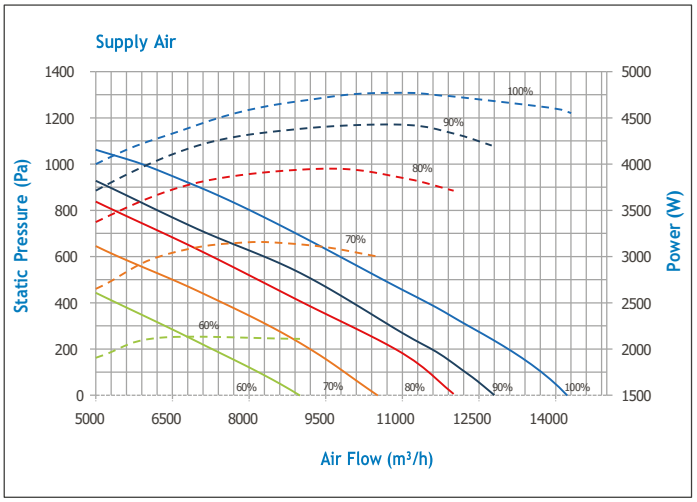

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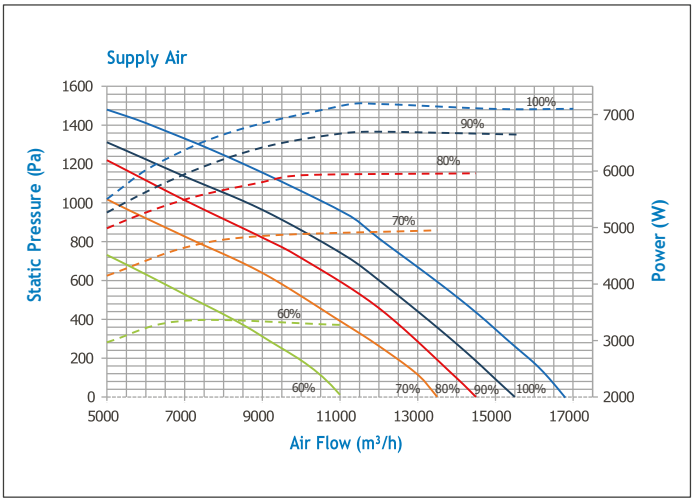

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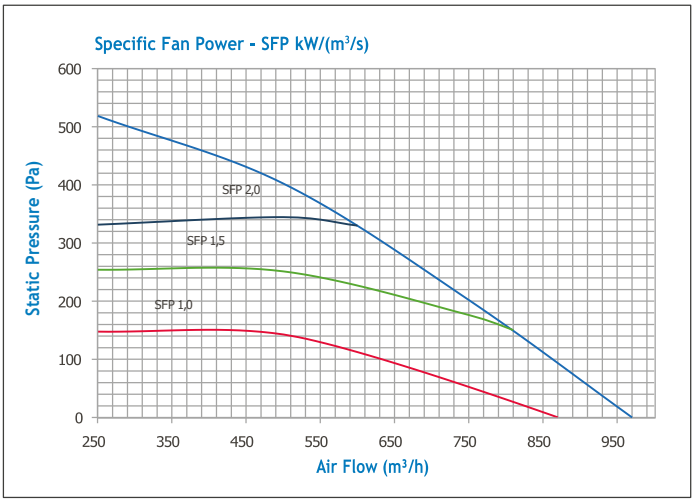

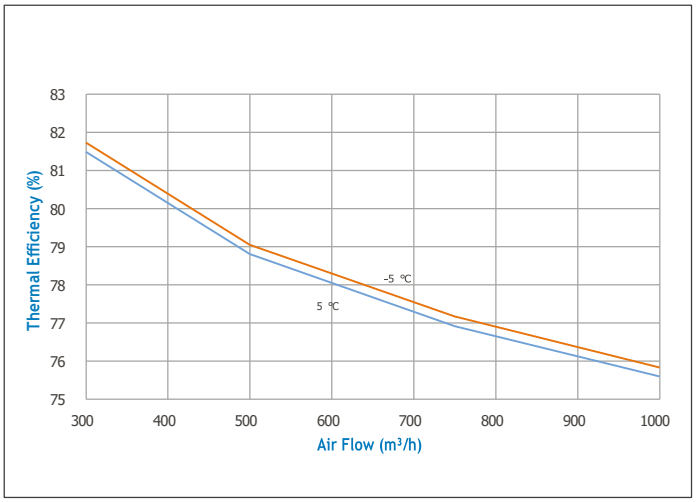

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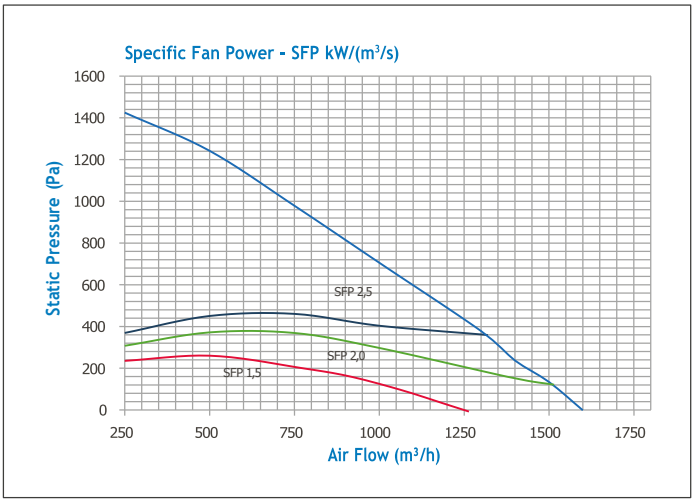

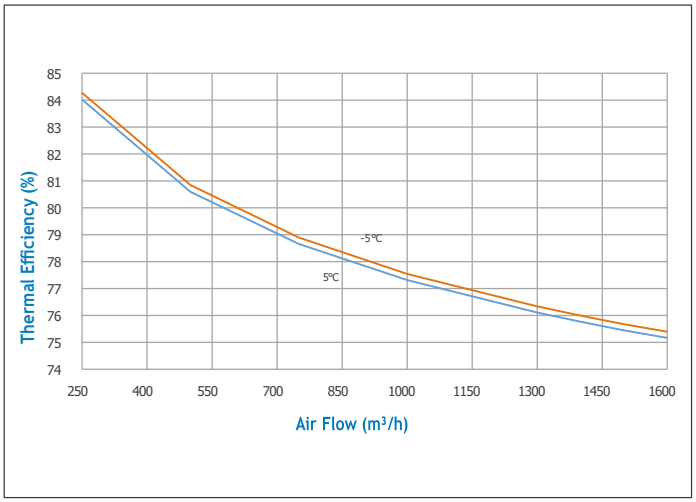

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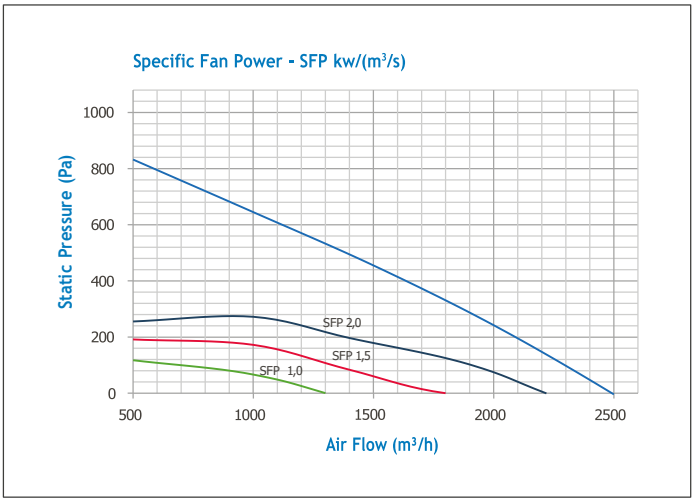

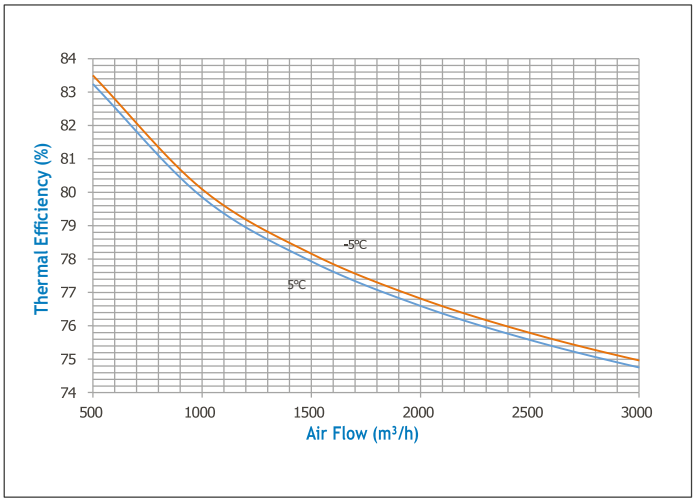

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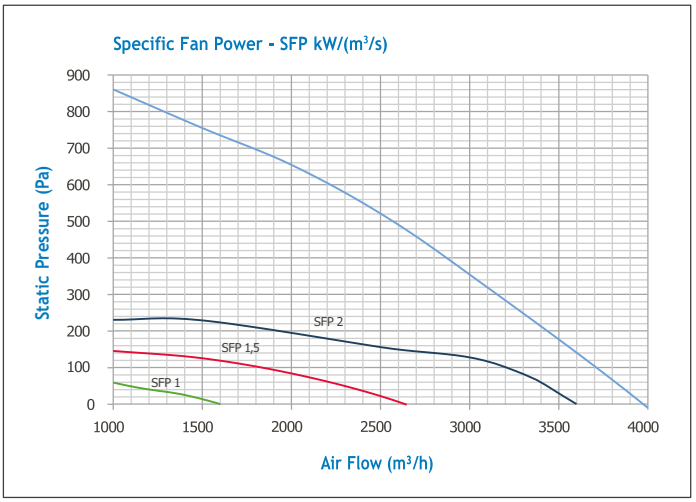

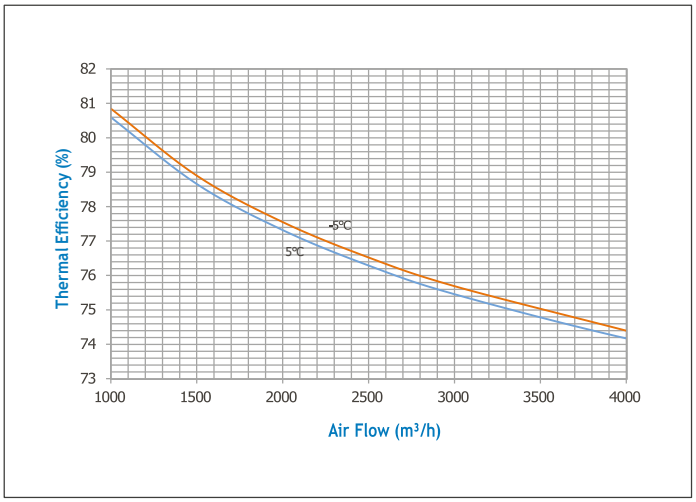

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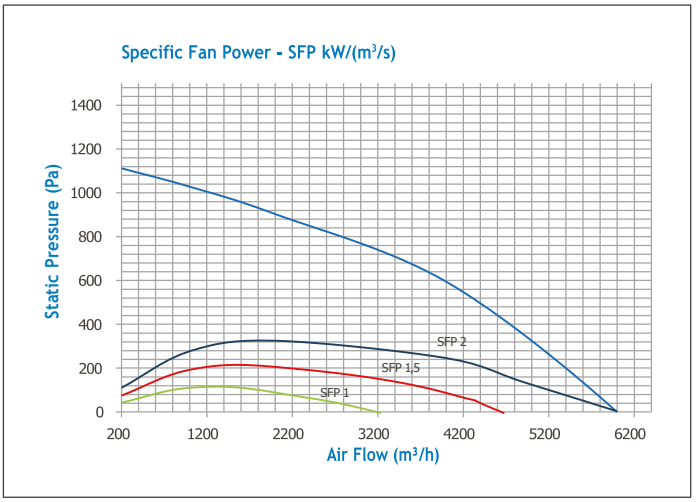

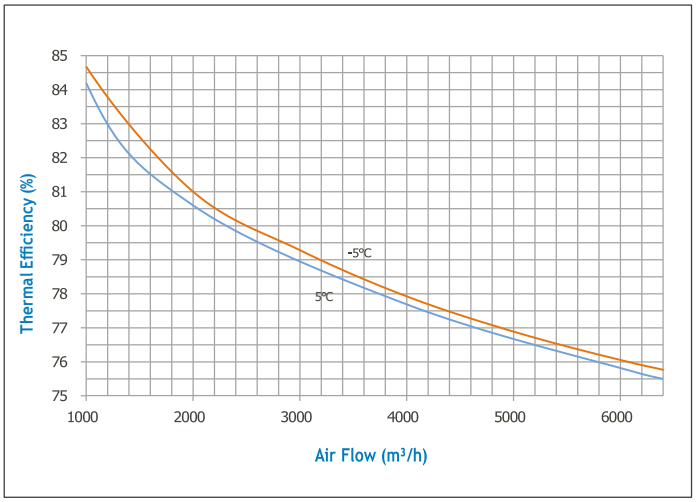

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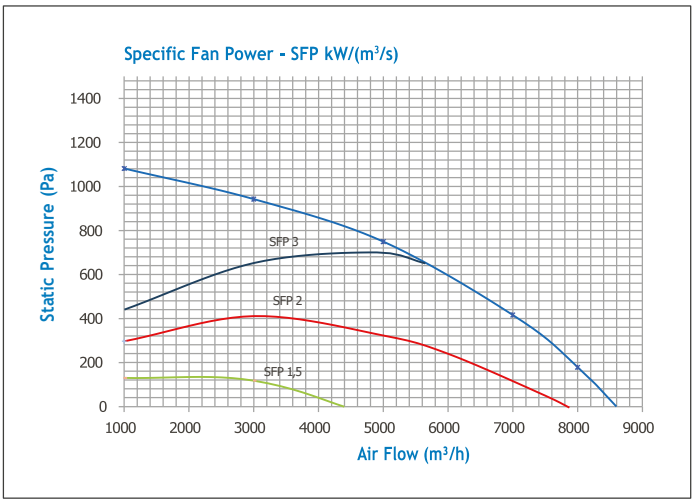

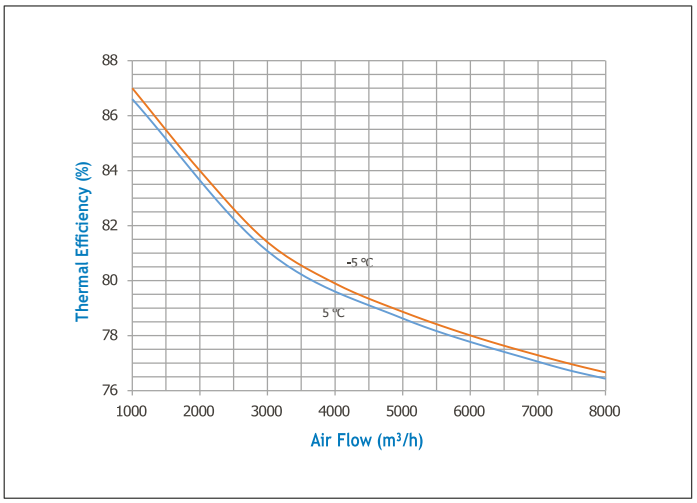

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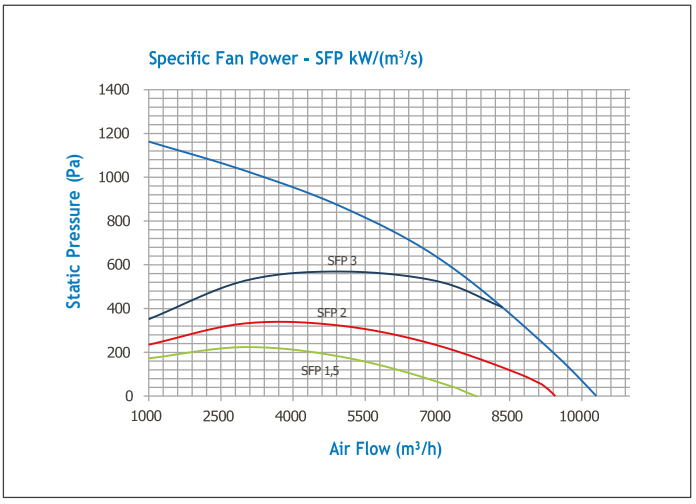

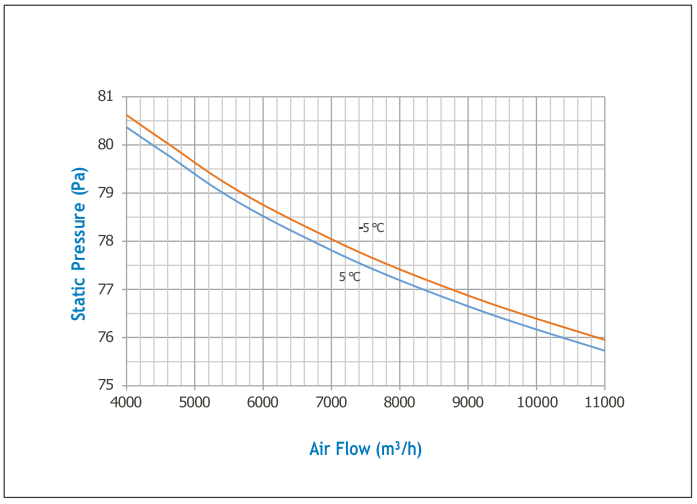

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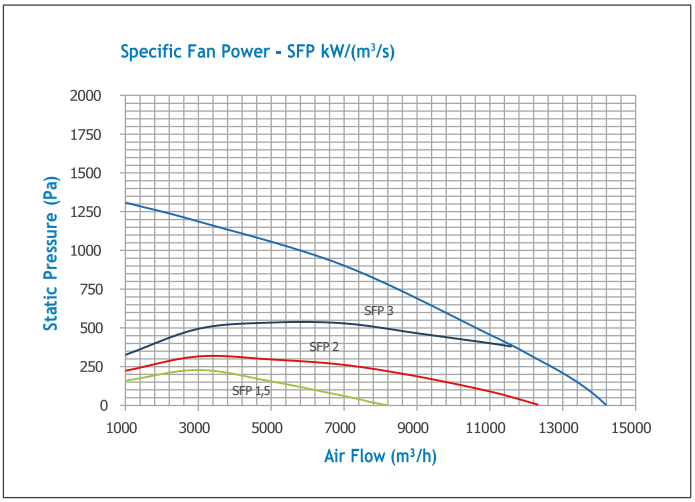

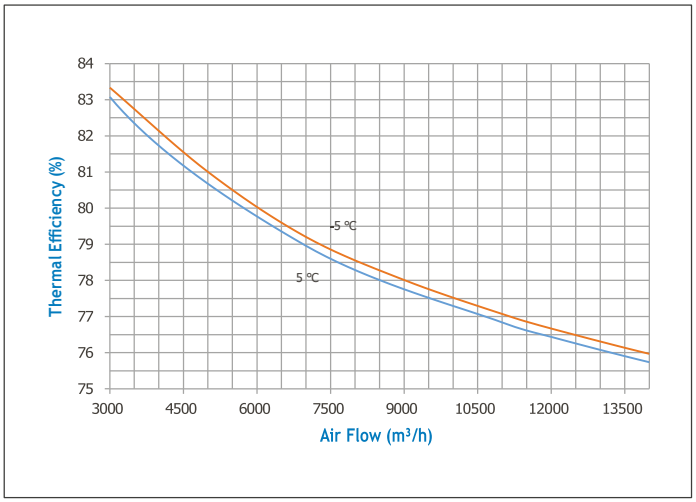

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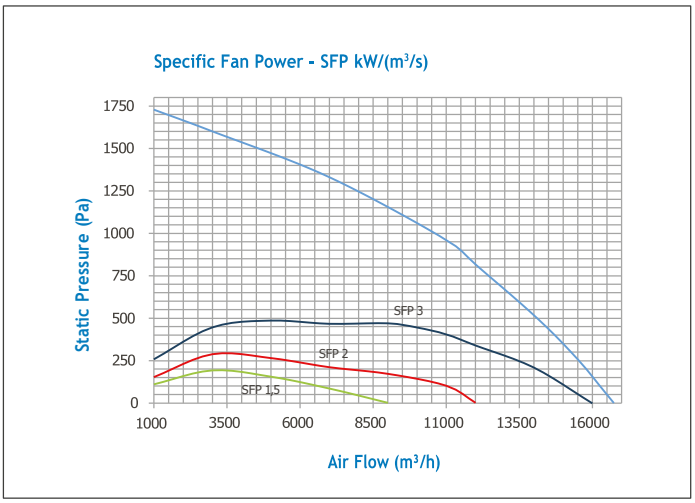
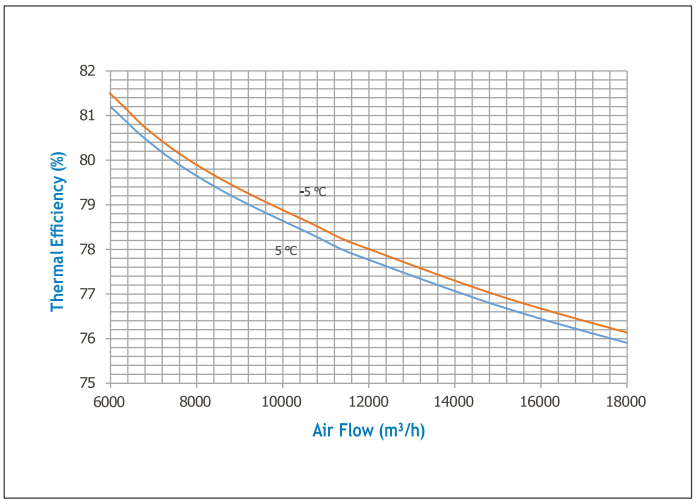
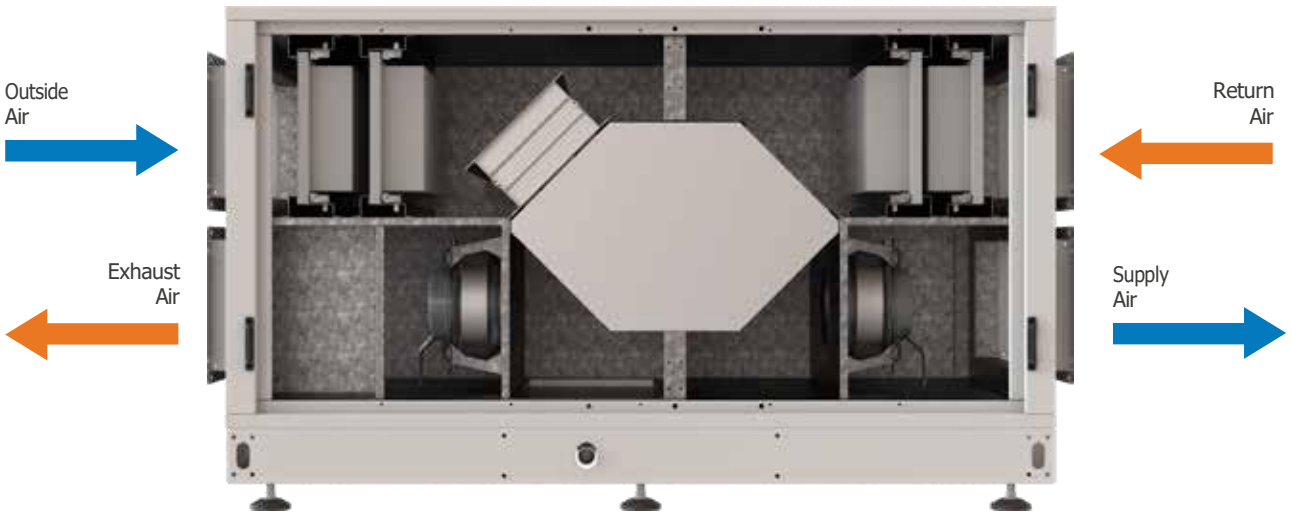


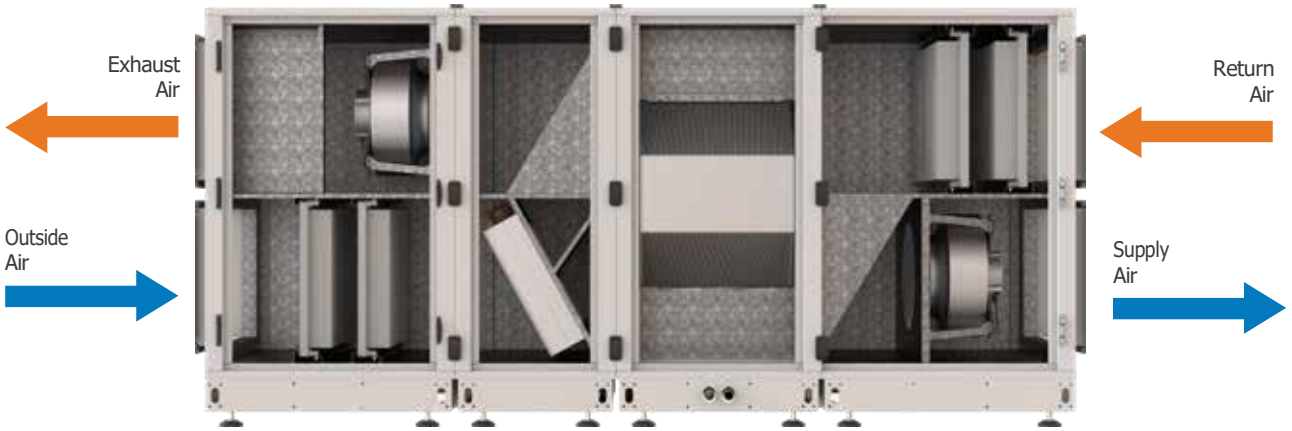


Air Flow Directions

FHR - 10/16/25



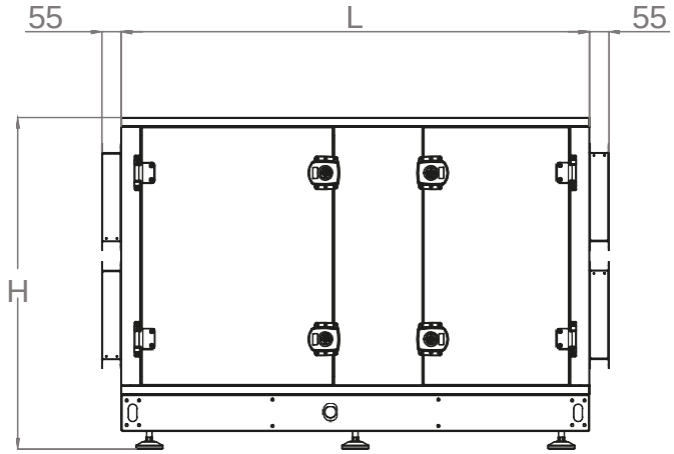
FHR - 40/60/85/110/140/170

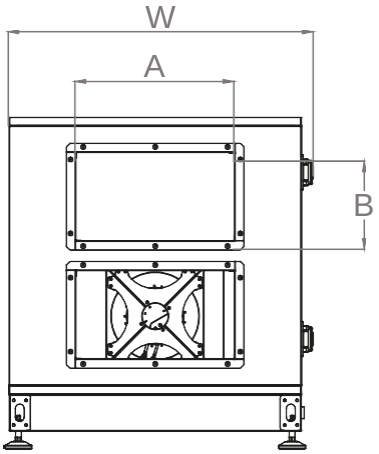


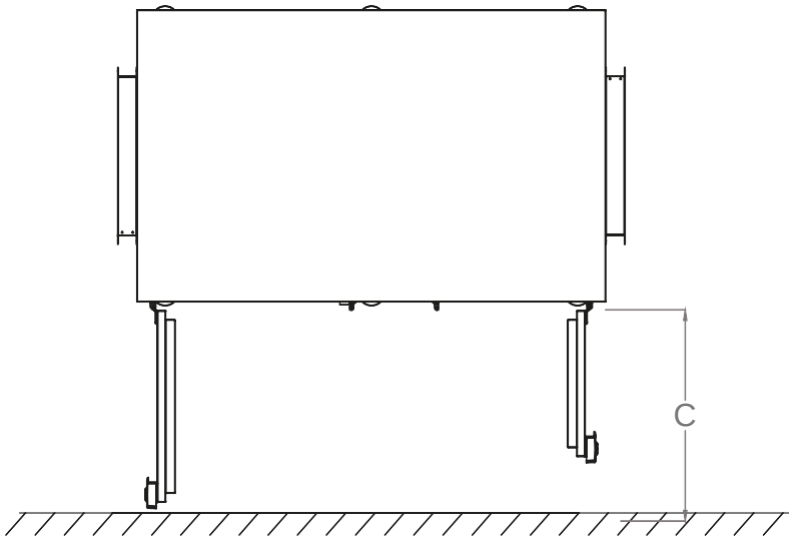
FANS		FHR-10	FHR-16	FHR-25	FHR-40	FHR-60	FHR-85	FHR-110	FHR-140	FHR-170*
SUPPLY FAN	Voltage (V)	230V~1	230V~1	230V~1	380~3	380~3	380~3	380~3	380~3	380~3
	RPM(1/min)	2510	3740	2100	2060	2180	2040	1910	1750	2680
	Power/current (W/A)	170W/1,4A	500W/2,2A	750W/3,3A	1320W/2,1A	1850W/2,9A	2730W/4,2A	3510W/5,4A	4700W/7,3A	3470W/5,3A
EXTRACT FAN	Voltage (V)	230V~1	230V~1	230V~1	380~3	380~3	380~3	380~3	380~3	380~3
	RPM(1/min)	2510	3740	2100	2060	2180	2040	1910	1750	2680
	Power/current (W/A)	170W/1,4A	500W/2,2A	750W/3,3A	1320W/2,1A	1850W/2,9A	2730W/4,2A	3510W/5,4A	4700W/7,3A	3470W/5,3A

*In FHR-170 units, two fans are used for supply and exhaust side.

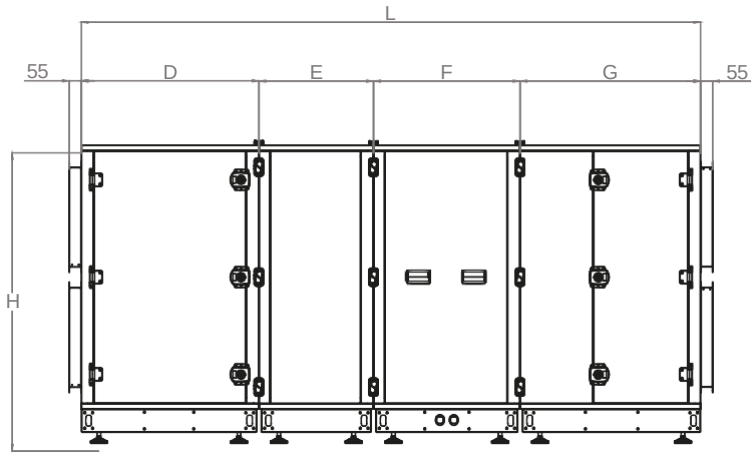
MODELS		FHR-10	FHR-16	FHR-25	FHR-40	FHR-60	FHR-85	FHR-110	FHR-140	FHR-170
Supply Filter	Class	ePM10 %70 + ePM1 %55								
Extract Filter	Class	ePM10 %70								
Insulation		50 mm								
Control System		Integrated								

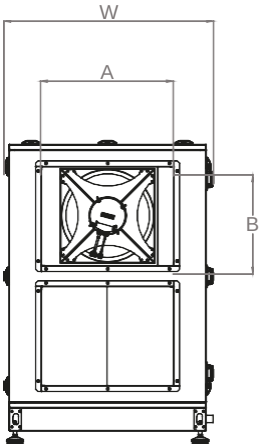


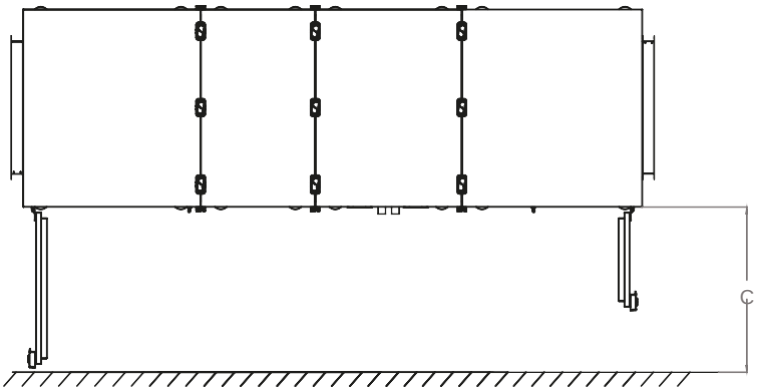




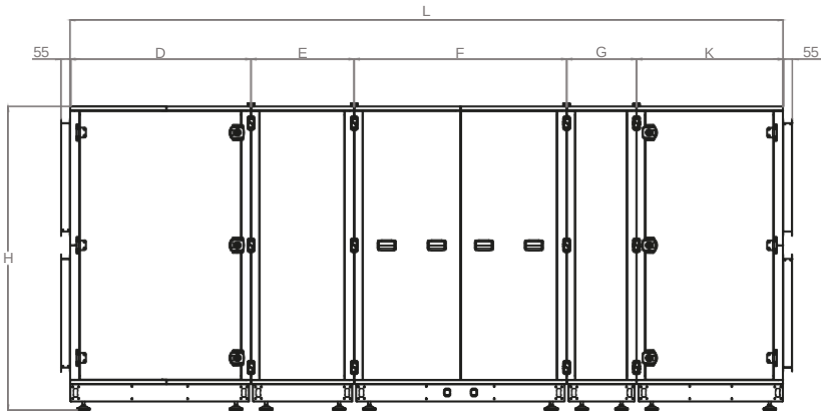
MODEL	L	W	H	A	B	C	Weight (KG)
FHR-10	1330	865	945	450	250	650	300
FHR-16	1555	865	945	550	300	750	350
FHR-25	2060	865	1225	550	350	850	500

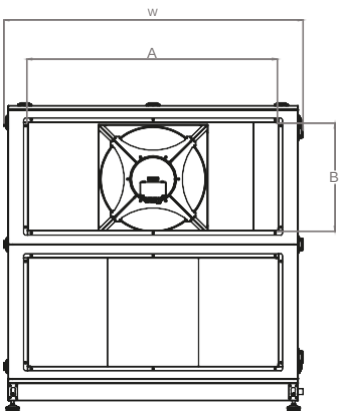


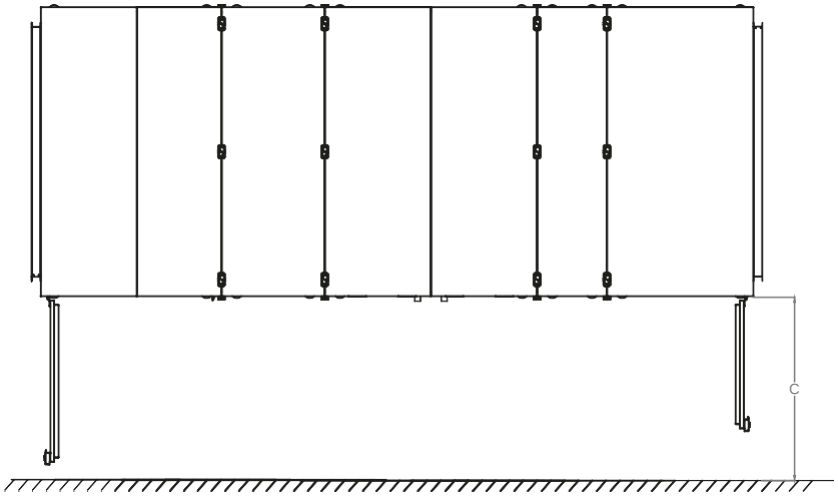




MODEL	L	W	H	A	B	C	D	E	F	G	Weight (KG)
FHR-40	2810	950	1355	600	450	750	805	518	664	818	750
FHR-60	3155	1230	1515	950	500	850	895	518	868	868	1250
FHR-85	3165	1790	1515	1200	500	1100	905	518	868	868	1950
FHR-110	3165	2075	1655	1450	600	1300	905	518	868	868	2520







MODEL	L	W	H	A	B	C	D	E	F	G	K	Weight (KG)
FHR-140	4280	1790	1825	1500	650	1100	1085	618	1275	418	878	3200
FHR-170	4885	1790	1955	1500	650	1100	885	818	1680	618	878	3950

Operation	Description	Availability
On / Off	Control panel or external start stop function is available.	Standard
Display	Digital control panel is available.	Standard
Display	Wireless controller is avaliable as option.	Optional
Fan Speed Control	3 steps fan speed control of supply and exhaust fan is available.	Standard
Fan Speed Control	Constant air flow is available with pressure sensors.	Optional
Fan Speed Control	Airflow control based on the air quality sensor is available.	Optional
Bypass Damper Function	Free cooling is available, by controlling the indoor and outdoor air conditions.	Standard
ModBus	It controls all functions of unit via PC or central control system board.	Standard
Filter Function	There are 2 alternatives to control filters: Alternative 1: It records run time of the unit and when set time expires, control panel gives an alert for filter change. Alternative 2: Filter change time can be controlled with pressure switch mechanically. By this way, control panel gives an alert when filter needs to be changed.	Standard
Boost Function	It is used in order to increase fan speed: Alternative 1: Via boast button on the control panel. Alternative 2: Via dry contact or light power input (230V) on PCB board.	Standard
Safety	It automatically stops operating in case of interfering to the unit while it is working.	Standard
Fire Alarm Function	It will be active in case of fire.	Standard
Wireless Sensors	Upon request, wireless CO2, differential pressure, temperature and humidity sensors are avaliable.	Optional
Heating Coil	Heating coil valves on the devices which include optional heating coil, are controlled by proportional valve motors with PID logic and sensitivity.	Optional
Frost Control	Optional heating coils also include frost thermostat to prevent coil freeze.	Optional

NOTES

NOTES


We make the difference with
200 different types of products.
DOGU
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CE

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