VESTA HR CROSS FLOW HEAT RECOVERY VENTILATION





aera.com.tr (հ)







AERA has been founded in 2016 by national and international partners to be an important player in HVAC industry with its young but experienced spirit, innovative product design, sustainable quality control and assurance system and advanced logistics. AERA aims to present products and solutions to meet the increasing demand on energy efficiency and human comfort.

AERA is located in Izmir with its production facilities and R&D center of excellence and in Istanbul with its Sales Office. The efficiency and the effectiveness of the manufacturing is ensured with modern production and IT systems. All production processes are monitored with intensive quality control processes in accordance with the national and international regulations and norms to ensure the quality of the end product and overall efficiency.

MAIN PRODUCT GROUPS

- Modular Air Handling Units
- Compact Air Handling Units
- Heat Recovery Ventilators
- Ventilation Units with Heat Pump
- Water Terminal Units (Fan Coils)
- Chillers









VESTA HR units are designed to meet todays increasing energy efficient demand using heat recovery and low electrical energy consumption. Units are built using high technology modern components optimised for market needs and running conditions.

High efficiency and low internal pressure drop heat recovery exchangers, ErP 2015 compliant plug fans, green building (LEED, BREEAM) compliant filters, durable and compact casing forms the main components of VESTA HR units. Standard control component SENSO controls not only ventilation, but also all other optional accessories such as heater/cooler.

VESTA HR units will;

- Supply fresh air from outside.
- Extract stale inside air.
- Recover energy by heat transfer between extract and supply air.
- Increase quality of the intake air by filtration.
- Make sure the user can control the unit with all variable needs with standard control equipment.









































TECHNICAL SPECIFICATION TABLE



MODEL	VESTA HR							
	07	12	15	20	30	40	50	60
MAXIMUM AIR FLOW (m³/h)	850	1350	1430	2320	3400	4300	5120	5800
MAXIMUM POWER CONSUMPTION (kW)	270	438	556	646	1080	1120	1300	1840
MAXIMUM CURRENT (A)	1,20	1,80	2,40	2,90	4,60	4,80	5,40	3,80
SUPPLY VOLTAGE	230 V / 50 Hz / 1 ~ 380 V / 50 Hz / 3 ~							
FILTER CLASS (EXHAUST/FRESH AIR)	G4/G4	G4/G4	G4/G4	G4/G4	G4/G4	G4/G4	G4/G4	G4/G4
WEIGHT (kg)	60	75	88	110	140	170	190	205
SOUND PRESSURE (dB)	57	59	61	60	55	53	58	52

Sound values are measured for a ducted unit at 250Hz and 1,5m away from the unit.

The filter class is specified according to EN779: 2012 standard. Air Volumes are indicated according to 0 Pa static pressure loss.

DIMENSIONS

		DIMENSIONS							
MODEL		L	D	Н	L2	D2	AxB		
		mm							
VESTA HR	7	1296	723	330	1331	625	200x200		
	12	1458	824	390	1494	726	250x250		
	15	1458	824	439	1494	726	250x250		
	20	1820	1086	509	1856	988	300x300		
	30	1970	1186	559	2006	1088	350x350		
	40	2182	1238	630	2182	1140	400x400		
	50	2282	1238	660	2318	1140	450x475		
	60	2282	1338	699	2318	1240	450x540		







CASING

VESTA HR units are produced using polyester painted sheet metal with high corrosion resistance. Inside the unit, Aluminum and Zinc coated AZ 150 quality Aluzinc sheet metal is used. The casing is patented with its low pressure drop and high stability.

All components that require service, have their own service doors. This way the unit does not have to be disconnected from ducting system for servicing. Units are serviceable from left and right by design. This prevents problematic installations where service doors and electrical panel removals might cause.

FAN

VESTA HR units are designed with high energy efficient, low sound pressure and low power consumption plug fans. All of our fans are compliant with ECO-DESIGN criteria by Eruopean Union Energy Comitee and ErP 2015. All of the fans are suitable for variable speed control. Fans up to VESTA HR 5000 are controlled with built-in SENSO control. They have 3 fixed speeds or stepless control with the help of an air quality sensor.

Vesta HR units use single phase AC motors up to HR50 and 3 phase AC motors up to HR60. Required electrical protection is taken with electronic components against high temperature or locked rotor.







HEAT RECOVERY EXCHANGER

VESTA HR Units have high corrosion resistant heat recovery exchangers made from Aluminum plates. Plates are designed with advanced engineering methods to improve heat recovery efficiency and reduce pressure drops. EUROVENT certification ensures the continuity of top of its class efficiency.

Heat recovery exchangers used in VESTA HR units have between 22% and 35% more heat transfer surface over other exchangers in the market. Air velocity is between 11% and 29% lower than market standards. This results in higher heat exchange efficiency and lower pressure drops.

FILTER

Air is cleaned with standard G4 type filters before it reaches any component in VESTA HR units. Low pressure drop filters have a rate of 98% when it comes to partical catching efficieny. Long lasting filters are easily cleaned with pressured air and after completing their lifecycle, they can be replaced easily. Optionally, F7 (MERV 13) filters can be used for if green building directives. High efficiency filters are produced especially for extending the surface area and reducing pressure drops. Filters fill up because of the particles they hold and this results in reduced air flow. In order to avoid dirty filters to affect air balance in the building, the unit has a filter cleaning alarm based on working hours.



Heating Coils

Water heater coils used in VESTA HR units can be installed in the unit. Coils are designed for standard capacities and they heat the air to the required supply air temperature.

Duct type cooling coils have drain pans, and an insulated casing to prevent condensation. Both heating and cooling coils can be separately controlled from Senso Plus control system.

WATER HEATER MODEL	CAPACITY	WATER REGIME
POWH 300 AZ	1,2 kW	
POWH 500 AZ	2,0 kW	
POWH 700 AZ	2,8 kW	00/0000
POWH 1400 AZ	5,6 kW	80/6010
POWH 2200 AZ	8,8 kW	
POWH 3200 AZ	12,8 kW	



*Cooling coils are shipped with an integrated frost protection temperature sensor and a 2 way valve.

Duct Type Silencer

Sound Absorbers are designed considering VDI 6022 and DIN 1946 hygiene criteria. They are produced using A1 fire class stonewool according to EN 13501, in a sheet metal casing. A sleeve is used to prevent the rockwool particles into air flow. Rectangular shaped silencers can be installed to the units duct connection spigots.

SILENCER MODEL	SOUND ATTENUATION (250 Hz)	LENGTH
SA 300 AZ		
SA 500 AZ	6 dBA	
SA 700 AZ		L-600 mm
SA 1400 AZ		L=000 Mim
SA 2200 AZ	5 dBA	
SA 3200 AZ		



Silencers are produced using 30 mm rock wool insulation perfore sheet on the inside, aluzinc sheet metal on the outside.

Electrical Heater

Electrical preheaters are designed for cold/extra cold climates to prevent condensing air from freezing. The preheaters are designed to fit inside the unit, 2 safety thermostats are supplied as standard with all units for extended safety.

ELECTRICAL HEATER MODEL	CAPACITY	CONTROL STEPS	VOLTAGE SUPPLY
PREH 300 AZ	1 kW		
PREH 500 AZ	1,6 KW	1 Otan Control	230 V, 50Hz
PREH 700 AZ	2,3 KW	I Step Control	
PREH 1400 AZ	4,5 KW		
PREH 2200 AZ	7,1 KW	2 Stop Control	380 V, 50Hz
PREH 3200 AZ	10,4 KW	3 Step Control	



*The electric preheater is integrated into the casing of the device, and the electric after heater is manufactured as duct type.

SENSO CONTROLS



SENSO Intelligent Control, specially designed and tuned for Ceiling Type ventilation devices, controls both the standard components in the appliance and the optional components that can be installed in the duct to meet the desired blowing air conditions. All devices manufactured with Plug and Play logic and are shipped after extensive testing of control equipment and all components in the factory.

Basic functions provided by SENSO control ventilation

- Fans can be set at 3 different speeds independently
- Weekly timer schedule
- Building automation connection (ModBUS)
- Preheater Control (7 Stage Step Control)
- Final Heater Control (7 Stage Step Control or 0-10V Control)
- Heat Exchanger Frost Protection
- Heating coil freeze Protection
- Automatic BOOST Mode
- Damper Control
- VOD
- Filter Pollution Control (Pressure drop monitoring or checking running time)
- Fire Alarm

Room Control Panel (HMI)

The appliances have a room control panel so that the functions can be adjusted easily. This user-friendly interface allows flow rate, temperature setting, operating mode selection, season selection, weekly time schedule to be done easily and quickly.

Building Management System Connection

SENSO CONTROL works interactively with other ventilation and air conditioning devices and building automation systems using Modbus protocol.



Heating Capacity Control

Preheaters are used for purposes such as increasing the supply air temperature in the units preheating fresh air from the outside, and bringing the supply air to the desired temperature after the dehumidification process. An electric heater can be used as a preheater with SENSO control and energy saving is achieved by gradually driving according to a set temperature. All of the safety and working equipment required by the electric heater is supplied with the SENSO control.

After heaters are used for purposes such as increasing the supply air temperature in the devices and bringing air to the desired temperature after the dehumidifying process. Hot water coils can be used and can be driven with 2 way valves. With SENSO control, there is a frost protection mechanism that prevents the temperature of the feed water from reaching freezing conditions in extreme cold climates.

Flow Control

Fan speed can be adjusted according to 3 different speed levels from the room control panel for supply air and extract air. It is also capable of automatic BOOST with the help of an additional sensor, so that it can meet the instant fresh air increase needs (decreasing indoor air quality, increasing relative humidity etc.). In addition, in applications where stepless control is required, fresh air need is calculated according to the conditions in the indoor environment with the help of an additional sensor, and ventilation can be done as much as required by the automatic flow rate option. In this way, the load of indoor air conditioning devices can be reduced and the total energy consumption of the building can be reduced considerably.

Weekly Timer

The units have a programmable weekly schedule and the unit automatically switches on and off at the desired time according to the program set.

Alarms

When the operation and performance of the devices are monitored by the SENSO control, the inputs from the ventilation system are also carried to the device and the operation is regulated accordingly. Fan overheating warning, electric heater high temperature warning, fire alarm, filter pollution control, device status information and so on. With the alarms the system provides the highest performance and continuous operation.











AERA IKLIMLENDIRME TEKNOLOJILERI SAN. VE TIC. AŞ SALES OFFICE • Varyap Meridian, Grand Tower A Blok No:89 Ataşehir, İSTANBUL - TR TEL +90 216 504 76 86 FAX +90 216 504 76 90 FACTORY • 3. Cadde No:13 Pancar OSB, Torbalı, İzmir - TR TEL +90 232 799 0 111 FAX +90 232 799 01 14 R&D CENTER • 3. Cadde No:13 Pancar OSB, Torbalı, İzmir - TR

aera.com.tr

