VENSAART®

İKLİMLENDİRME | HVAC SYSTEMS

Applicable environmental solutions for different industries.

HAVALANDIRMA, ISITMA, SOĞUTMA CİHAZLARI VE EKİPMANLARI
AIR CONDITIONING HEATING COOLING AND VENTILATION EQUIPMENTS

www.vensaart.com

VENSAART®

İKLİMLENDİRME | HVAC SYSTEMS

Gatem Mühendislik Güvencesiyle

www.vensaart.com

Innovation Mode

VENSA-ART in his factory manufactures advanced and customized products with high quality precision control .

VENSA-ART®
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Our company, operating in the sector of ventilation systems, provides services for the production of ventilation devices, equipment and accessories. limited liability Company GATEM Engineering. ANKARA- Our company operates on 6000 m2 indoors and 2000 m2 outdoors in Pursakar industrial area on Esenboga road.

VENSA-ART, which is important for indoor air quality and protection quality, speeds up the ventilation system and product production.
Air handling units - Chillers - Heat recovery units - Rooftops - Cellular aspirators - Duct type aspirators - Roof type aspirators - Electric heaters Many products such as are being manufactured and are in the development stage of new products.

Performing out these productions, our main goal is to produce and present high-quality products that meet the standards. From this point of view, all domestic materials used in our products have TSE-CE-ISO certificates, and imported materials comply with EN standards.

With the principle of safe products that protect the interests of consumers, GATEM Engineering LLC continues its work.

VERSAART will work for the satisfaction of its customers on the principle of timely delivery and maintenance of high-quality ventilation devices and accessories based on its work.

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Environmental change expresses VENSA-ART's commitment to environmentally responsible management. This program is designed for a greener future, realized with the help of innovative environmental technologies and industrial experience.
VENSA-ART aims to create a green society by providing a wide range of technologies and solutions, including collaborative infrastructure research for homes, offices, businesses.
As a global company, our goal is to make a significant contribution to the goals of a low carbon, highly recyclable world.

CERTIFICATES

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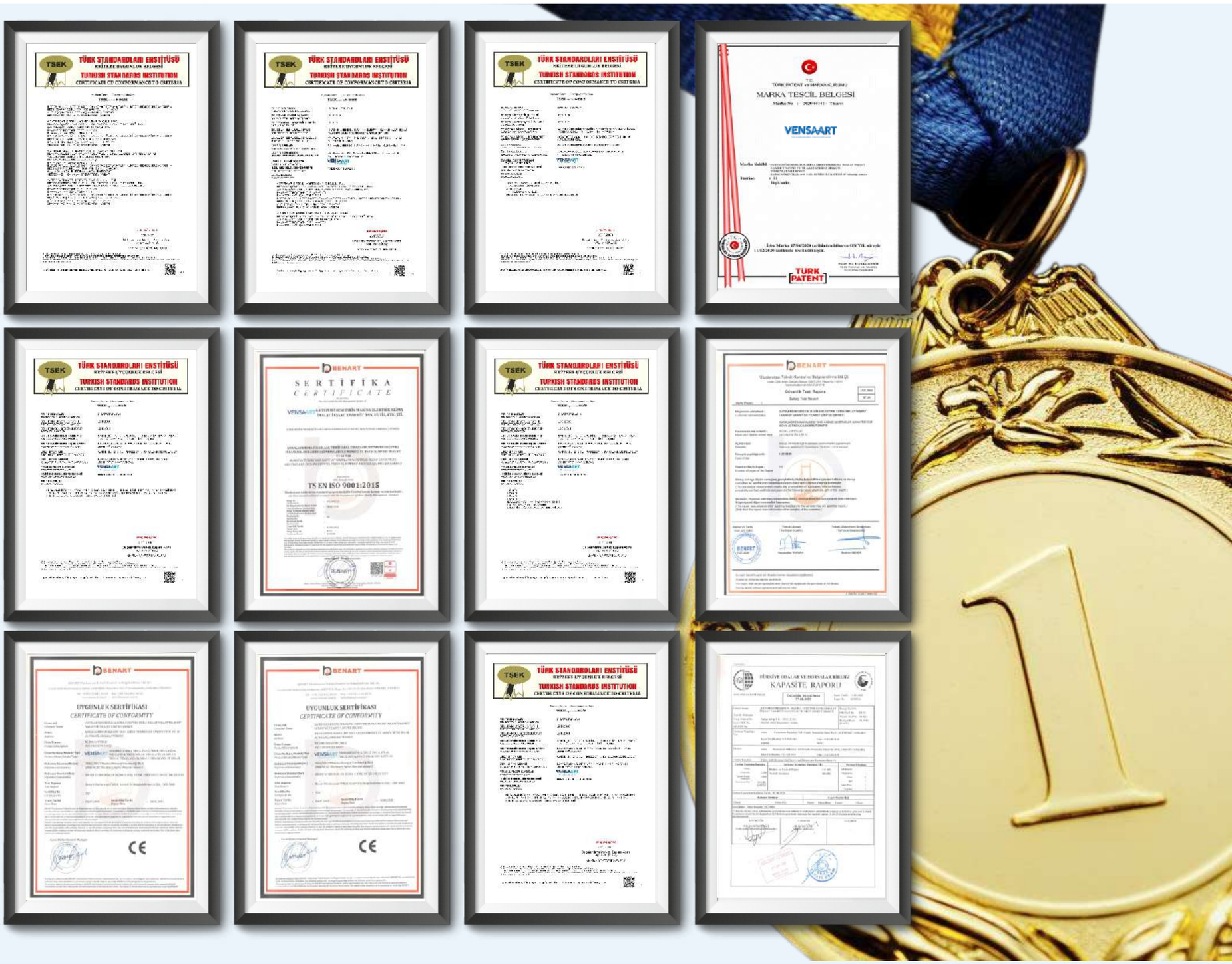
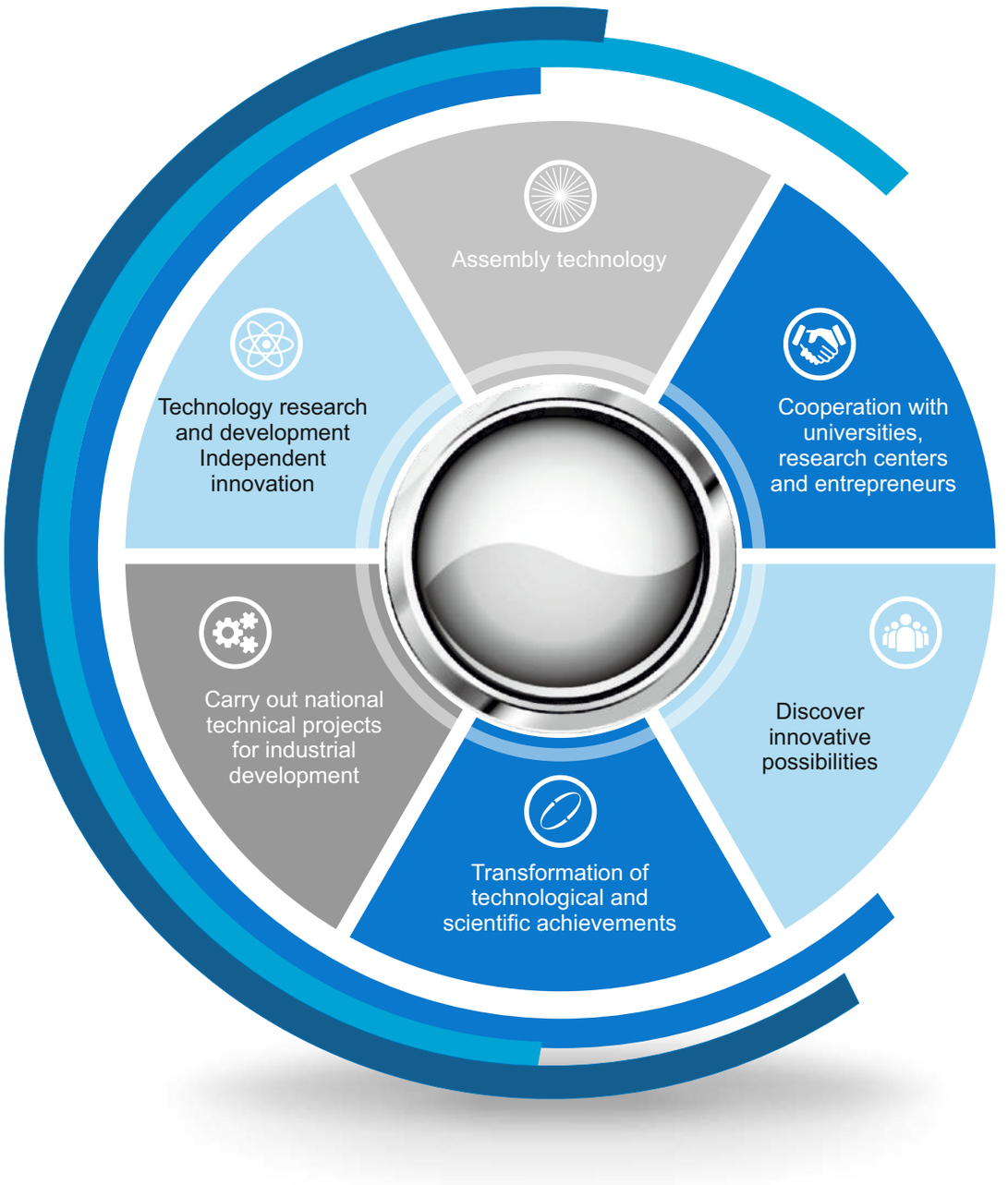



Filtration
Smart Control
High Efficiency And Energy Saving
VENSAART®
İKLİMLENDİRME | HVAC SYSTEMS
Excellent Applicability
Vibration and impact resistance
Anti-corrosion and anti-explosion

VENSAART®
Tomorrow's Quality
In Air Conditioning
Sector
Is Today's Goal

Environmental solutions
applicable to different
industries

VENSA-ART has key and forward-thinking core technologies built on a high quality innovative platform. While VENSA-ART continues to grow, it provides better services in line with its industrial and market values through its perfect industry and



VENSA-ART manufactures advanced and customized products with high quality precision control within the factory.

High Quality Products And Service Network Designed In Accordance With Customer's Requirements.

The VENSA-ART air conditioner occupies a leading position in the industry in its applications for various industries. Products designed correctly for all premises are provided to customers at the right time.

- Anti-corrosion and vibration resistance.
- Products designed outside of standards.
- Low power consumption, heat recuperators and inverters.
- Hygienic applications.
- High heat recovery performance.
- The right design for every space.

The Product <<

VENSAART®
İKLİMLENDİRME | HVAC SYSTEMS

SERVICE
>>

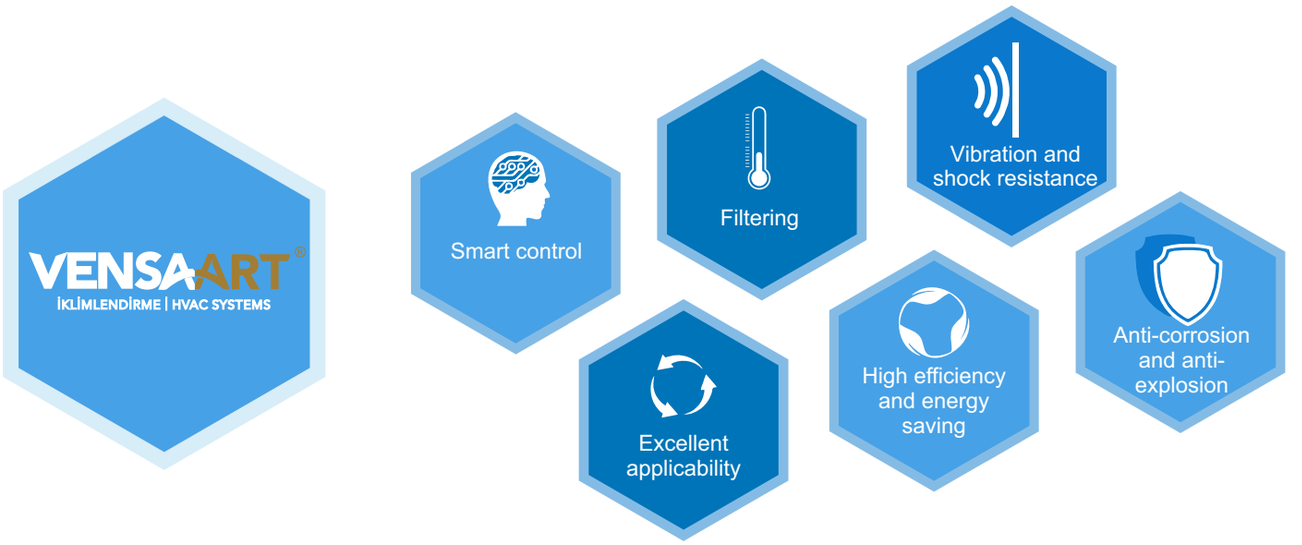
Different System Solutions For Different Industries

Thanks to its developed service network throughout Turkey, it provides service to its customers 24/7 in case of a possible malfunction.

Decisions:

Research	Feasibility study Design ideas Cost calculation
Production	Necessary analysis Adequate design Production flexibility Installation Commissioning
Service	Quick response Intervention on the spot

Mode of Innovation in Technological Systems



VENSA-ART produces both competitive and innovative products with the devices it produces, with excellent environmental applicability and the most intelligent control units.

Wide range of applications
-40°C to +80°C; HR: 0% - 100%

Hygienic Eco Solutions

Temperature and Explosion Proof

Moisture resistance, corrosion resistance, no vibration, 24 hours / 365 days operation

Accurate temperature control, Dehumidification Function, 100% fresh air

Index

VENSAART®
İKLİMLENDİRME | HVAC SYSTEMS

Product Range

VENSA-ART manufactures over 250 different model items in 25 different products with a wide range of products.

VENSAART®

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Applicable environmental solutions for different industries

VKS
Air Handling Unit

TECHNICIAL SPECIFICATIONS

Production Quality

Enclosure strength, air tightness, by-pass filter and enclosure sound insulation comply with TSE standard

Structure and Panel

Self-supporting frame and double sheet sandwich panels

Profile

Aluminum alloy (Almgsi0.5)

Sheet Material

Galvanized Steel

Panel Thickness

60 mm

Air Sealing

Ensuring complete tightness of the surface of the panels
For Targeted EPDM Pressure Seals

Heat and Sound Proofing

Stone Wool / Glass Wool

Heating / Cooling Coil

DX Battery, Copper Pipe Aluminum Wing

Fan

Backward curved / head fan Forward curved / head fan
Plug-in fan / EC motor Fan

Moistening

Sterile Steam / Water Spray

Heat Recovery

Plate / Thermal Rotor / Heat Pipe
Water-to-Air Heat Recovery

Power and Regulation

Built-in Power and Electrical Regulation Board

Monitoring / Management

BSM Management

Improved Indoor and Air Quality

Unlimited Modular, Flexible and Energy Efficient Air Handling Units
Air Handling Units Produced in Different Sections Up to 100,000 m³/s Air Flow

Realize Modularity and Compactness

Optimal Energy Efficiency, Air Quality and Comfort
Wide and Versatile Product Range
Integrated Electronic Regulation
Energy Saving Special Solutions for All Commercial Buildings

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

AIR HANDLING UNIT ELECTION PROGRAM

The selection, sizing and creation of a technical report containing performance curves for VENSA-ART units can be easily done with the VKS unit selection software.

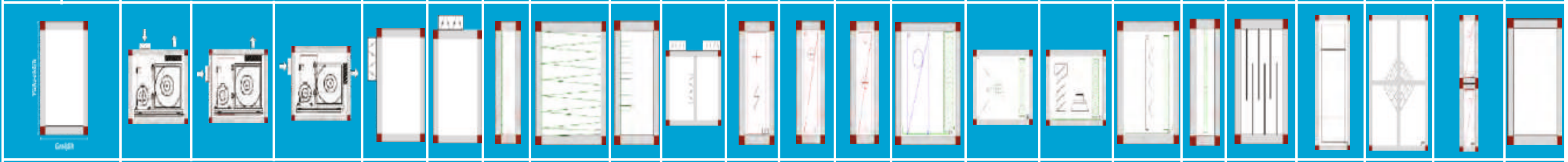
With the air handling unit selection program;

- According to the desired air flow rate, the most suitable section can be determined by seeing the air velocities in different device sections and on the serpentine surface. The desired device can be created by bringing the determined elements side by side.
- Accessory can be specified for each element.
- In each element selection, you can see the brand and model alternatives, if any, together with their price ratios, yield, price, etc. among the options. the most suitable one can be selected.
- The maximum cell size can be determined by how many parts the device will consist of.
- The dimensions and weights of the parts that make up the device can be seen.
- The technical report containing the price, sized picture and necessary information of the selected device can be printed.

VKS Series Air Handling Units Diameters and Flow Rate Information

Air Handling Unit Models	Inner Shield		Battery Cross-section	Air Flow (m3/h)								
				Serpentine Air Intake Speed Hm								
	Width	Height	m²	2	2,25	2,5	2,75	3	3,25	3,5	3,75	4
	(mm)	(mm)		m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s
VKS-01	780	800	0,3968	2856,96	3214,08	3571,2	3928,32	4285,44	4642,56	4999,68	5356,8	5713,92
VKS-02	1080	800	0,5888	4239,36	4769,28	5299,2	5829,12	6359,04	6888,96	7418,88	7948,8	8478,72
VKS-03	1080	1100	0,8648	6226,56	7004,88	7783,2	8561,52	9339,84	10118,16	10896,48	11674,8	12453,12
VKS-04	1380	1100	1,1468	8256,96	9289,08	10321,2	11353,32	12385,44	13417,56	14449,68	15481,8	16513,92
VKS-05	1380	1400	1,5128	10892,16	12253,68	13615,2	14976,72	16338,24	17699,76	19061,28	20422,8	21784,32
VKS-06	1680	1400	1,8848	13570,56	15266,88	16963,2	18659,52	20355,84	22052,16	23748,48	25444,8	27141,12
VKS-07	1680	1700	2,3408	16853,76	18960,48	21067,2	23173,92	25280,64	27387,36	29494,08	31600,8	33707,52
VKS-08	1980	1400	2,2568	16248,96	18280,08	20311,2	22342,32	24373,44	26404,56	28435,68	30466,8	32497,92
VKS-09	1980	1700	2,8028	20180,16	22702,68	25225,2	27747,72	30270,24	32792,76	35315,28	37837,8	40360,32
VKS-10	1980	2000	3,3488	24111,36	27125,28	30139,2	33153,12	36167,04	39180,96	42194,88	45208,8	48222,72
VKS-11	2280	2000	3,9008	28085,76	31596,48	35107,2	38617,92	42128,64	45639,36	49150,08	52660,8	56171,52
VKS-12	1980	2300	3,8948	28042,56	31547,88	35053,2	38558,52	42063,84	45569,16	49074,48	52579,8	56085,12
VKS-13	2280	2300	4,5368	32664,96	36748,08	40831,2	44914,32	48997,44	53080,56	57163,68	61246,8	65329,92
VKS-14	2580	2000	4,4528	32060,16	36067,68	40075,2	44082,72	48090,24	52097,76	56105,28	60112,8	64120,32
VKS-15	2580	2300	5,1788	37287,36	41948,28	46609,2	51270,12	55931,04	60591,96	65252,88	69913,8	74574,72
VKS-16	2580	2600	5,9048	42514,56	47828,88	53143,2	58457,52	63771,84	69086,16	74400,48	79714,8	85029,12
VKS-17	2880	2600	6,6368	47784,96	53758,08	59731,2	65704,32	71677,44	77650,56	83623,68	89596,8	95569,92
VKS-18	2580	2900	6,6308	47741,76	53709,48	59677,2	65644,92	71612,64	77580,36	83548,08	89515,8	95483,52
VKS-19	2880	2900	7,4528	53660,16	60367,68	67075,2	73782,72	80490,24	87197,76	93905,28	100612,8	107320,3
VKS-20	3180	3200	9,1808	66101,76	74364,48	82627,2	90889,92	99152,64	107415,4	115678,1	123940,8	132203,5
VKS-21	3480	3200	10,0928	72668,16	81751,68	90835,2	99918,72	109002,2	118085,8	127169,3	136252,8	145336,3
VKS-22	3180	3500	10,0868	72624,96	81703,08	90781,2	99859,32	108937,4	118015,6	127093,7	136171,8	145249,9
VKS-23	3480	3500	11,0888	79839,36	89819,28	99799,2	109779,1	119759	129739	139718,9	149698,8	159678,7

- Air velocity selection should be in the range of 2m/s – 3m/s in air handling units with heating or cooling coils.



Air Handling Unit Models	Width	Height	Aspilator and Ventilator cell: Fan Connection Direction			Air Inlet-Output Cell		Coarse Filter Cell	Bag Filter Cell	Carbon Filter Cell	Mixing Cell	Electric Heater Cell	Heating Aqueous Serpentine Cell	Heating Steam Serpentine Cell	Cooling Coil + Drip Holder Cell	Steam Humidification Cell	Evaporative Humidification Cell	Aqueous Humidifier Cell	Diffuser Cell	Silencer Cell	Heat Recovery Cell: Drum Heat Recovery Cell	Heat Recovery Cell: Plate Heat Recovery Cell	Heat Recovery Cell: Serpentine Heat Recovery	Empty Cell
	0		1			2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
VKS-01	780	800	930	930	930	200	500	400	700	700	930	500	300	300	600	600	900	700	350	700-1200	600	930	600	600
VKS-02	1080	800	930	930	930	200	500	400	700	700	930	500	300	300	600	600	900	700	350	700-1200	600	930	600	600
VKS-03	1080	1100	1240	930	930	200	600	400	700	700	930	500	300	300	600	700	900	800	350	700-1200	600	930	600	600
VKS-04	1380	1100	1240	1240	1240	200	600	400	700	700	1550	500	300	300	600	700	900	800	350	700-1200	600	1240	600	600
VKS-05	1380	1400	1550	1550	1550	300	800	400	700	700	1550	500	300	300	600	700	900	800	350	700-1200	600	1240	600	600
VKS-06	1680	1400	1550	1550	1550	400	800	400	700	700	1550	500	300	300	600	800	900	900	350	700-1200	600	1240	600	600
VKS-07	1680	1700	1550	1550	1550	400	800	400	700	700	1550	500	300	300	600	800	900	900	350	700-1200	600	1550	600	600
VKS-08	1980	1400	1860	1860	1550	400	800	400	700	700	1550	700	300	300	600	800	900	900	350	700-1200	600	1550	600	600
VKS-09	1980	1700	1860	1860	1550	500	1000	400	700	700	2170	700	300	300	600	900	900	1000	350	700-1200	600	1860	600	600
VKS-10	1980	2000	2170	1860	1860	500	1000	400	700	700	2170	700	300	300	600	900	900	1000	350	700-1200	600	2480	600	600
VKS-11	2280	2000	2170	1860	1860	500	1000	400	700	700	2170	700	300	300	600	900	900	1000	350	700-1200	600	2480	600	600
VKS-12	1980	2300	2170	1860	1860	500	1000	400	700	700	2170	700	300	300	600	900	900	1000	350	700-1200	600	2480	600	600
VKS-13	2280	2300	2170	1860	1860	500	1000	400	700	700	2170	700	300	300	600	1000	900	1200	350	700-1200	600	2480	600	600
VKS-14	2580	2000	2480	2480	2170	500	1200	400	700	700	2170	-	300	300	600	1000	900	1200	350	700-1200	600	3100	600	600
VKS-15	2580	2300	2480	2480	2170	500	1200	400	700	700	2170	-	300	300	600	1000	900	1200	350	700-1200	600	3100	600	600
VKS-16	2580	2600	2480	2480	2170	600	1500	400	700	700	2170	-	300	300	600	1000	900	1200	350	700-1200	600	3100	600	600
VKS-17	2880	2600	2480	2480	2480	600	1500	400	700	700	2170	-	300	300	600	1000	900	1200	350	700-1200	600	3100	600	600
VKS-18	2580	2900	2790	2790	2480	700	1500	400	700	700	2790	-	300	300	600	1000	900	1200	350	700-1200	600	3100	600	600
VKS-19	2880	2900	2790	2790	2480	700	1500	400	700	700	2790	-	300	300	600	1000	900	1200	350	700-1200	600	3500	600	600
VKS-20	3180	3200	2790	2790	2790	900	1500	400	700	700	2790	-	300	300	600	1000	900	1200	350	700-1200	600	3500	600	600
VKS-21	3480	3200	2790	2790	2480	700	1500	400	700	700	2790	-	300	300	600	1000	900	1200	350	700-1200	600	3500	600	600

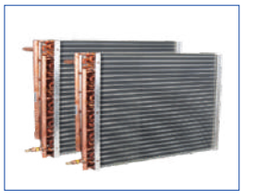
▶ DESIGN OF AIR HANDLING UNIT

Carcass Structure

Corner and omega parts of the profiles are made of heat resistant glass reinforced polyamide material. EPDM based sealing gasket is used in the junction of the panels with the profiles.

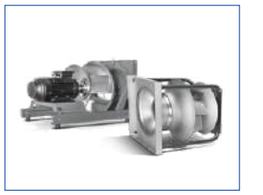
Dampers

It has high quality 6063 (AlMgSi0.5) Aluminum extruded body and impact resistant hard PVC gears. The sealing of the dampers is provided by EPDM gasket.



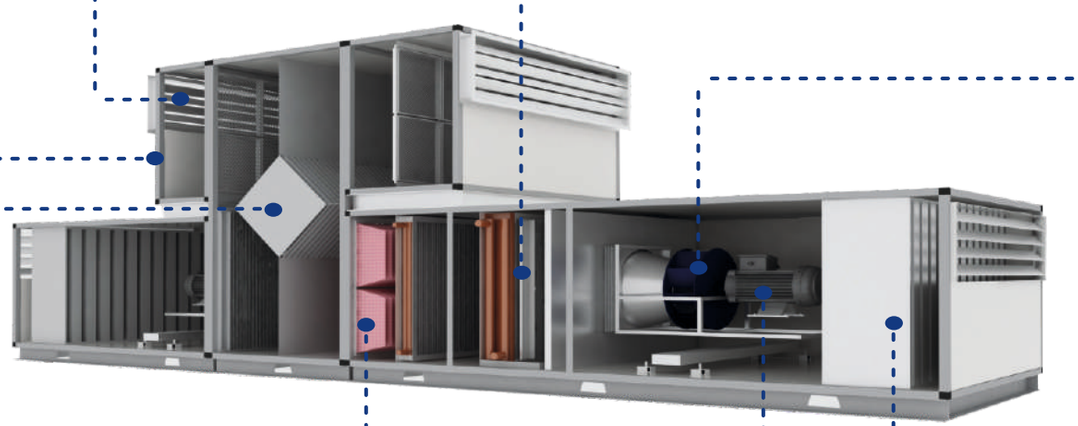
Heating and Cooling Coils

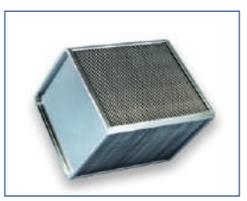
Heating and cooling coils have wide tube and fin combinations and different fin coating properties.



Fans

Heating and cooling coils have wide tube and fin combinations and different fin coating properties.





Heat Recovery

Plate, drum, heat pipe, which offers high efficiency and low pressure loss together, provides a fully compatible selection from water to air.

Filters

Depending on the application, coarse (G Class), Medium (M Class), Fine (F Class) alternatives in accordance with EN 779:2012 and ISO 16890 standards and EPA, HEPA, UIPA class filters in accordance with EN 1822:2009 standards can be used.

Engines

Highly efficient, in compliance with IEC 60034-2-1:2014 performance criteria, optionally with IE-2 or IE-3, F class insulation, IP55 protection class, B class temperature standards. self-cooling TEFC type motors.

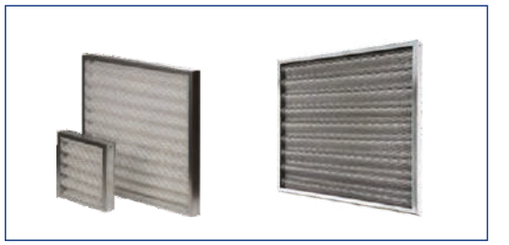
Silencers

High-density glass wool or rock wool insulation materials are used in the muffler backstages produced in a double-walled structure. The specially designed aerodynamic structure offers maximum sound absorption values with minimum pressure loss.

▶ AIR HANDLING UNIT EQUIPMENT

FILTERS

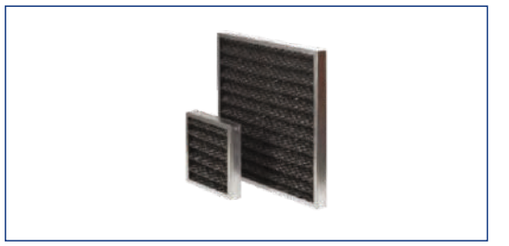
The cross-section measurement of VENSA-ART Air Handling Units is made in accordance with international standards, taking into account the filtration surface area. The filters are cassette type and can be easily mounted and removed. Air leaks are prevented by appropriate designs. There is a service door for maintenance and replacement in the filter cells. Optionally, manometer, lighting and sight glass are used. Considering the importance of indoor air quality in air handling units, filters of different types and efficiency are used.



Types of filters in general

- panel filter
- metal filter
- bag filter
- Activated carbon filter
- compact filter
- It's a hepa filter.

Panel filters are used as pre-filters. The filter material is synthetic or metallic. Metal filters have the feature of holding oil. The filter classes we use; for synthetic material: G2, G3, G4, for metallic material: G2, G3.



Bag filters are used for high efficiency air filtration. Dust holding capacity is high. They should be used with a pre-filter to increase their life. Bag sizes vary as 305mm, 508mm, 635mm according to the air flow. The filter classes we use; G4 is F5, F6, F7, F8.

Activated carbon filters are used to absorb odorous gas or vapor molecules from the air (such as exhaust fumes, rubber odors, odors from alcohol, hydrocarbon, chlorine and other chemical production processes). Hydrogen sulfide, sulfur dioxide, etc. There is an alternative model for absorbing odors emitted from other industrial processes, such as They should be used with a pre-filter to increase their life.

Compact filters are high efficiency filters. They should be used in conjunction with a pre-filter. Since their depth is 292mm, they take up little space inside the switchboard. Due to the filter structure, it is possible to distribute the air evenly over the entire filter surface. The filter classes we use; They are F6, F7, F8, F9. Hepa filters are used for hygienic environments. Their yield is very high. These filters are installed after the fan and must be used together with a pre-filter. The filter classes we use; H10,
H12, H13, H14.

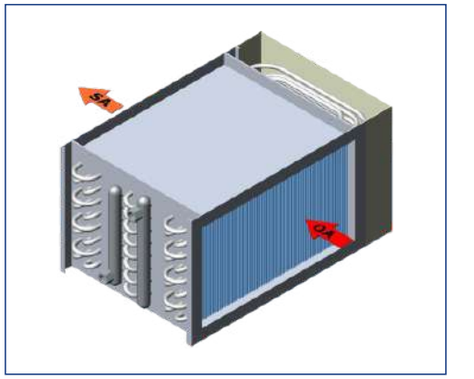
AIR HANDLING UNIT EQUIPMENT

HEAT RECOVERY SYSTEM

Today, energy efficiency is of great importance. For this reason, the use of heat recovery units in air handling units has started to be preferred. Heat recovery elements with heat pipes, plates and rotors are used in VENSA-ART Air Handling Units.

In general, efficiency in heat recovery systems,

- 30-50% in heat pipe type heat recovery units,
- 40-60% in plate type,
- It varies between 60-80% in rotor type.



HEAT PIPE HEAT RECOVERY

Heat transfer from heat recovery elements with compact heat pipes is realized by phase difference of the fluid in the closed circuit due to the temperature difference of the exhaust and fresh air. No additional equipment is needed. There is no mixing of fresh air and exhaust air. It is easy to clean and maintain. They are preferred due to their long-lasting use. Heat pipes can be manufactured to be resistant to corrosion.

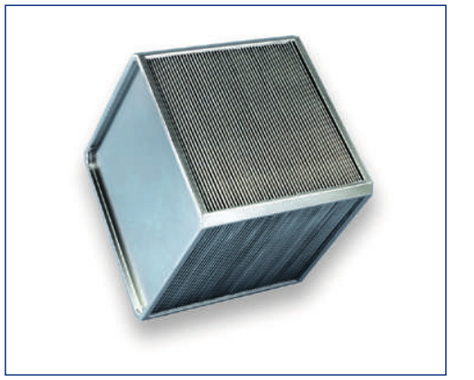


PLATE HEAT RECOVERY

Cross-flow plate heat recovery elements provide heat transfer between fresh air and exhaust air without having moving parts. Full sealing can be achieved even at high pressure differences. It can operate at temperatures between -30°C and 90°C. The plate is made of aluminum, epoxy coated aluminum or stainless steel. They are manufactured with by-pass dampers to prevent freezing at low temperatures. In the exhaust section, a condensation pan is mounted against condensation that may occur.

ROTOR HEAT RECOVERY

They have a compact structure and high thermal performance. Heat transfer is carried out with aluminum plates in the appearance of wavy sheet metal placed inside the rotor. Rotor rotation is provided by a belt-pulley driven electric motor. Due to its compact structure, it takes up little space. The temperature efficiencies of the heat wheels are optimized for a rotational speed of 12rpm per minute. It is increased according to the application situation. If capacity control is desired according to variable climatic conditions, speed control is done with a frequency converter. Capacity control request must be stated in the order. There is no risk of freezing.

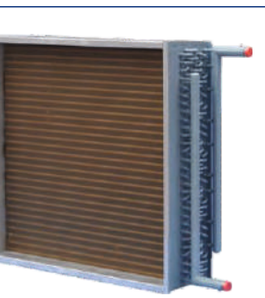
AIR HANDLING UNIT EQUIPMENT

ELECTRIC HEATER

Electric heaters are optionally used in VENSA-ART Air Handling Units. It is used at the entrance of the power plant in areas with high freezing risk. It is also used at the power plant outlet in sensitive systems that need instantaneous heating. The electric heater cassette is optionally manufactured from galvanized or stainless steel. Elements are stainless material. The protection class is IP34. Gradual or proportional control can be done. It has CE certificate. As standard, the heaters have an automatic reset limit thermostat and a manual reset safety thermostat. If the heater power is above 30kW, it is recommended to run the fan of the plant for 2-3 more minutes after the electrical heater is cut off. If there is an electrical heater in the air handling unit, it is absolutely necessary to take precautions to disable the electrical heater in cases where the fan does not operate or operates at very low speeds (below 1.5m/s).

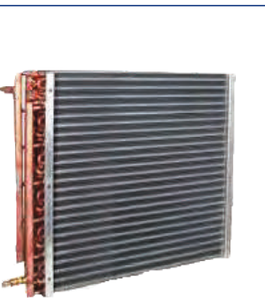
HEATER-COOLING SERPENTINE

Heating and cooling processes are carried out with serpentines. Serpentine pipes can be copper or steel, fins can be aluminum, copper, steel, epoxy coated aluminum or epoxy coated copper. Direct expansion coils are manufactured as copper pipes and aluminum fins and the collectors are copper. The serpentine cassette is made of galvanized steel sheets. The test pressure is 20 bar. In hot and cold water coils, the pipe inlet-outlet mouths are threaded; Pipe inlet and outlet ports are flanged in superheated water and steam coils. It is designed to be easily taken out for maintenance. With special by-pass sheets, it is ensured that the air passes only through the serpentine surface. It is designed as air and water counter flow to ensure high efficiency. In hot and cold water coils, the water inlet is from the bottom and the water outlet is from the top. In the cooling coils, the coil surface area has been efficiently used, thanks to the condensation pan that is embedded in the panel. The condensation pan is manufactured from stainless steel sheet with double slopes. A separator is used to keep the condensed water in the air after the cooling coil.



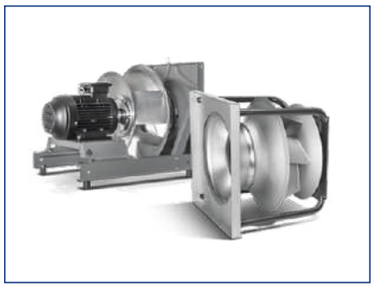
DX BATTERY

DX Coils minimize energy and heat loss by making the heat transfer directly from the air by means of the refrigerant. In winter, it is necessary to use an electric or water type preheater or a freezing thermostat at low temperatures. Outdoor unit connections can be made easily. Maintenance and repair is very simple.

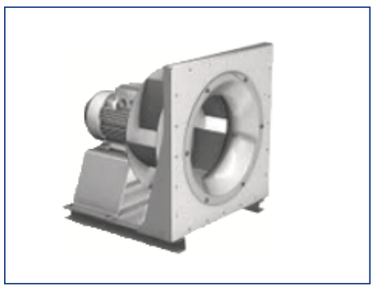


AIR HANDLING UNIT EQUIPMENT

FAN AND MOTOR



Various fan types are presented in accordance with the air flow and total pressure drop in each section. Statically and dynamically balanced fans in accordance with international standards can have forward curved, backward curved or airfoil blades depending on the purpose of use and customer request. Fan motor group is selected by considering high efficiency, low noise level and minimum energy consumption depending on air flow and total static pressure. In order to prevent vibration, the fan-motor group is connected to the device with spring isolators.



Bushing, fixed diameter pulleys are used as standard in our devices and it is possible to use variable diameter pulleys optionally. SPZ, SPA, SPB and SPC belt types are available. The tension of the belt is provided by a special mechanism. There is a service door with a safety guard in the fan chamber for service and maintenance. In special cases, plug type fans are used and the motor is directly coupled. The motors are in IPS5 protection class as standard and comply with CE norms. The motors are single-speed as standard, and double-speed motors can be used optionally. A frequency converter for motor speed control is available as an accessory.

SILENCER

The noise level, which is of great importance in ventilation systems, is reduced to an acceptable sound level in the area with the help of silencers. Sound absorption coefficient of silencers varies according to the silencer size used. The silencer cell consists of backstages in which rock wool is placed in galvanized or stainless steel sheets. Silencer elements are designed not to deform at 20 m/s air speed. 6 different silencer sizes are offered in VENSA-ART air handling units. In the tables below, sound absorption capacities are given according to silencer sizes.

Silencer Length (mm)	Sound Absorption Capacity (dB)							
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
600	5	9	15	16	16	11	8	8
900	6	12	21	22	23	16	11	11
1200	7	15	27	28	29	20	12	12
1500	9	19	33	34	36	25	17	17
1800	10	22	39	40	42	29	20	20
2100	11	25	45	46	48	33	23	23

CONTROL AND CONTROL FUNCTIONS

Function-Equipment	Description
Emergency Stop Button	Emergency stop button that stops the system in an emergency
Terminal board for external connections	Motor terminals are moved to an easily accessible panel outside the device.
AUTOMATIC CONTROL electrical control panel Duct type temperature sensor Duct type humidity sensor Valve servomotors damper motors Frequency converters	Air temperature control at desired point or points. Humidity control at desired point or points. Control of two-way or three-way valves Control of dampers air pressure control
MICROPHONE CONTROL Microprocessor Duct type temperature sensors Duct type humidity sensors Differential pressure protests Valve servomotors Damper servomotors Frequency converters 	-Air flow is controlled. Pressure control can be made between two places. Providing the desired flow Generating alarm information in case of clogging, malfunction, contamination. -The desired fan flow rate can be adjusted according to the operating altitude and temperature. -Preheating, heating and cooling algorithms optionally inlet, outlet or preheat can be made according to the temperature Top temperature limit control can be done. -Detecting pollution of all filters used separately and generating alarm information. -DX Battery control provides efficient working conditions. -All exchanges can communicate in the form of a network. -Operation and configuration parameters can be encrypted. - Audible and visual alarm information can be given. -Daily, weekly work-stop time adjustment can be made. -Turkish and English languages can be used. -The whole system can be connected to a central computer with additional hardware, managed and accessed over the internet. -When the device configuration is changed, a new configuration can be easily defined parametrically. (Adding humidifier, valve-damper control changes, dehumidification, changing fan control type, etc.) - Temperature control can be parametrically proportional, proportional + integral or proportional + integral + derivative. - Compensation can be made according to the outside air temperature and can be adjusted parametrically. - The control of the fans can be adjusted parametrically, thermostatically, continuously, gradually or proportionally. - The starting shape of the fan motors (pole, star, triangle) can be adjusted parametrically. - Each piece of equipment can be tested by running it individually. - All kinds of alarm information are kept in memory. (Differential pressure switches, thermal, sensor, emergency stop etc.) - It can be integrated into the building automation system with all known communication languages (Modbus, BACnet, Lon-ECHOLON, LAN TCP/IP, SNMP) with an additional hardware.way valves Control of dampers air pressure control

VENSAART®

İKLİMLENDİRME | HVAC SYSTEMS

Farklı Endüstriler İçin Uygulanabilir Çevresel Çözümler.

V-HNS Pool Dehumidification Plant

▶TECHNICIAL SPECIFICATIONS

Models
P: Plate Heat Recovery, H: Heat Pipe Recovery,
A: No Heat Recovery

Structure and Panel
Self Supporting Frame and Double Sheet Sandwich Panels

Profile
Aluminum alloy (Almgsi0.5)

Sheet Material
Painted Galvanized Steel

Heat and Sound Proofing
Stone Wool

Cold Fluid Control
Electronic Expansion Valve

Heating / Cooling Coil
CU / AL Epox Door 3 Way Valve with Hot Water Battery / Electric

Fan
Radial Fan / Plug-in Fan

Condenser
Copper Aluminum Epoxy Coated Condenser

Evaporator
Copper, Aluminum Hydrophilic Door Evaporator

Energy-saving
Freecooling Option with VDF Control

Heat Recovery
Plate / Heat Pipe Heat Recovery

Power and Regulation
Built-in Power and Electrical Regulation Board

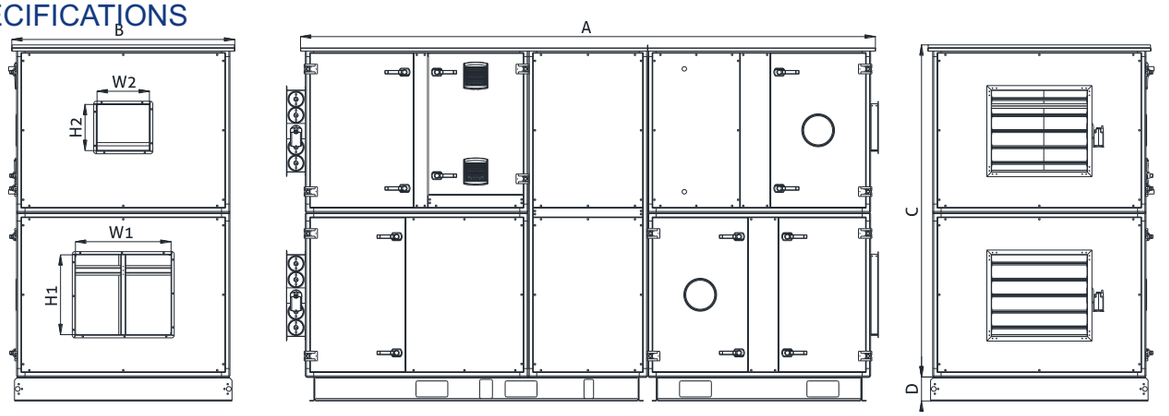
Monitoring / Management
BSM Management

Total Comfort for Pool Environments
Dehumidification Capacity up to 200 kg/a
Environmentally Friendly R410A Cold Fluid with Scroll Hermetic Compressor
Energy Recovery

Up to 70% Heat Recovery
Optimal Energy Efficiency, Air Quality and Comfort
Wide and Versatile Product Range
Integrated Electronic Regulation
Energy Saving Special Solutions for Swimming Pools

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

TECHNICIAL SPECIFICATIONS

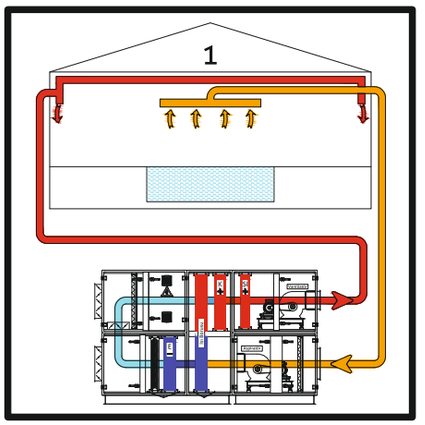


MODEL			V-HNS-3200	V-HNS-4500	V-HNS-6000	V-HNS-7500	V-HNS-9000	V-HNS-12000	V-HNS-15000	V-HNS-18000	V-HNS-20000
* Dehumidification Capacit		kg/h	20	28,09	38,1	47,7	57,24	76,32	95,43	114,5	127,2
** Dehumidification Capacity		P	15,6	21,9	26,8	35,7	38,25	55,77	64,5	80,4	87,4
		H	15,7	22,1	26,4	35,7	37,98	54,72	61,5	79,3	85,7
		Y	14,1	19,86	24,6	33,2	36,27	50,1	58,88	71,3	81,5
Air Flow		m³/h	3200	4500	6000	7500	9000	12000	15000	18000	20000
Ventilator Pressure (External Static Pressure)		Pa	300	300	300	300	300	300	300	300	300
Apirator Pressure (External Static Pressure)		Pa	300	300	300	300	300	300	300	300	300
Ventilator Motor		kW - d/d	1,5 - 1500	2,2 - 1500	3 - 1500	4 - 1500	5,5 - 1500	7,5 - 1500	7,5 - 1500	11-1500	11-1500
Apirator Motor		kW - d/d	1,5 - 1500	2,2 - 1500	4 - 1500	5 - 1500	5,5 - 1500	7,5 - 1500	7,5 - 1500	11-1500	11-1500
Cooling Capacity (KW)		P	16,1	22,8	35,5	52,02	45,8	71,7	82,87	95,5	114
		H	16	22,7	34,57	49,77	45,4	71,04	81,65	93,5	111,1
		Y	17,8	25,57	38,29	55,08	48,5	77,66	89,25	101,5	122,4
***Heating Capacity		kW	33,4	49,3	65,6	100,1	97,4	132,67	147,8	219	224,6
Optional Duct Type Electric Heater		kW	15	22,5	30	37,5	45	60	75	91	120
Total Absorbed Power		kW	8,1	12,1	16,2	20,7	26,4	34,3	42,5	52,8	65,5
A	mm	P	3430	3550	3650	3950	3950	4200	4355	4785	5420
	mm	H	3300	3420	3500	3780	3780	4080	4130	4500	5180
	mm	Y	3350	3460	3540	3840	3840	4120	4200	4640	5250
B		mm	1030	1030	1340	1650	1650	1960	1960	2270	2270
C		mm	1440	2060	2060	2060	2060	2680	2680	2680	3300
D		mm	150	150	150	150	150	150	150	150	150
Local Suction W1xH1		mm	600x300	600x400	600x500	900x600	900x600	1100x700	1100x700	1400x600	1400x800
Local Blow W1xH2		mm	300x265	300x265	330x290	395x340	395x340	505x505	505x505	340x360	340x360

- * Designed According to VDI 2089
- ** For indoor values of 30°C KT and 50% RH.
- *** Values are for -12°C Outside Temperature 90% RH and 90/70 Water temperature
- **** Electric heater not included

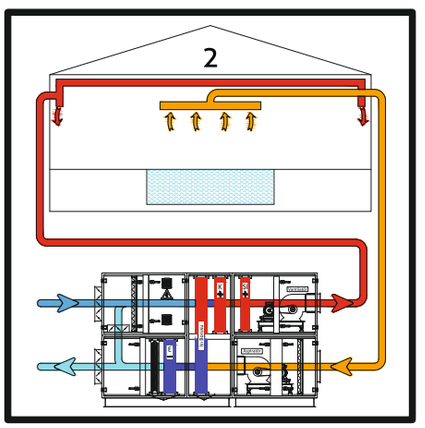
P - Plate Heat Recovery
H - Heat Recovery with Heat Pipe
Y - No Heat Recovery

▶ WORKING SCENARIOS



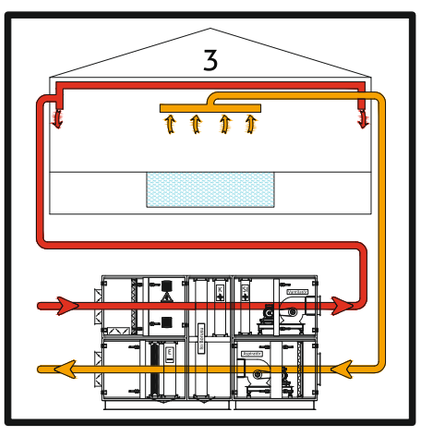
SCENARIO 1: Winter - Night

It is generally preferred at night in the winter months. Since there is no user in the pool, the fresh air and exhaust dampers are closed. the mixing damper is fully opened. It works with 100% indoor air. Compressor is on and performs the task of receiving refrigerant. As the cooled air passes over the condenser, it increases the temperature by keeping the humidity constant.



Scenario 2: Winter - Day

It is generally preferred for the daytime hours when the pool is actively used in the winter months when the outside air temperature is low. As the intake air passes through the heat pipe, it leaves some of the heat on it. The compressor is on and the refrigerant performs its dehumidification task. It mixes some exhaust air with fresh air for energy economy. The heat accumulated from the heat pipe is recovered. The heating coil brings the reduced blowing temperature to the comfort level after dehumidification.



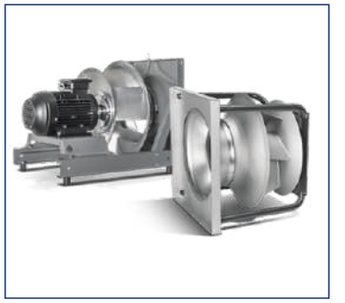
Scenario 3: Summer

It is generally preferred for situations where the outdoor temperature is higher than the indoor temperature. In such applications, the heat pipe and compressor are disabled. Humidity is kept constant with 100% fresh air.

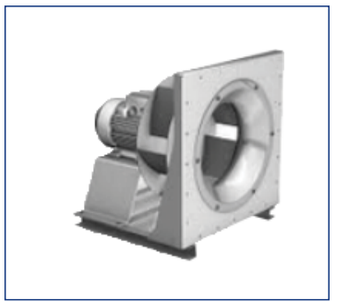
▶ POOL DRYING UNIT EQUIPMENTS

Fan and Motor

Various fan types are presented in accordance with the air flow and total pressure drop in each section. Statically and dynamically balanced fans in accordance with international standards can have forward curved, backward curved or airfoil blades depending on the purpose of use and customer request. Fan – motor group is selected by considering high efficiency, low sound level and minimum energy consumption depending on air flow and total static pressure. In order to prevent vibration, the fan-motor group is connected to the device with spring isolators.



Bushing, fixed diameter pulleys are used as standard in our devices, and it is possible to use variable diameter pulleys optionally. SPZ, SPA, SPB and SPC belt types are available. The tension of the belt is provided by a special mechanism. There is a service door with a safety guard in the fan chamber for service and maintenance. In special cases, plug type fans are used and the motor is directly coupled.



The motor is in IP55 protection class as standard and complies with CE norms. The motors are single-speed as standard, and double-speed motors can be used optionally. A frequency converter for motor speed control is available as an accessory.

Heater - Cooler Equipment

Heating and cooling processes are carried out with serpentines. Serpentine pipes can be copper or steel, fins can be aluminum or epoxy coated copper. The collectors used are copper. The serpentine cassette is made of galvanized steel sheets. The test pressure is 20 bar. It is designed to be easily taken out for maintenance. With special by-pass sheets, it is ensured that the air passes only through the serpentine surface. Air and refrigerant are designed as counter flow to ensure high efficiency. In hot and cold water coils, the water inlet is from the bottom and the water outlet is from the top. In the cooling coils, the coil surface area has been efficiently used, thanks to the condensation pan that is embedded in the panel. The condensation pan is manufactured from stainless steel sheet with double slopes. To keep the condensed water in the air after the cooling coil, a drop catcher whose blade material is made of PVC is used. In order to prevent air leakage and possible condensation between the heating and cooling coil water inlet - outlet pipes and the panel sheet, a rubber rosette is attached to the pipe.

▶ POOL DRYING UNIT EQUIPMENTS

Compressor

Scroll type compressors are used in V-HNS series Pool Dehumidification Units. All equipment used is protected against high temperature and current. R407C is used as refrigerant.

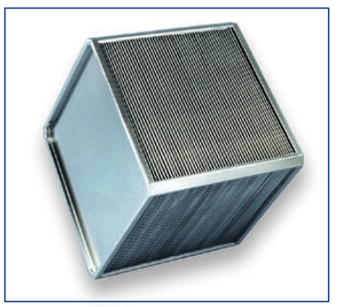
Filters

G4 filters are used in the suction and blowing lines of the pool dehumidifiers. Section measurement is made in accordance with international standards, taking into account the filtration surface area. The filters are cassette type and can be easily mounted and removed. Air leaks are prevented by appropriate designs. There is a service door for maintenance and replacement in the filter cells. Optionally, manometer, lighting and sight glass can be used.

Heat Recovery Cell

Today, energy efficiency is of great importance. For this reason, heat-pipe (Heat-Pipe) type heat recovery coil or plate heat recovery units are used in heat recovery units in V-HNS series Pool Dehumidification Units. In this way, while efficiency is increased, energy consumption and operating costs are reduced to minimum levels.

In heat recovery elements with a compact structure, heat transfer is realized by phase difference of the fluid in the closed circuit due to the temperature difference of the exhaust and fresh air. No additional equipment is needed. There is no mixing of fresh air and exhaust air. It is easy to clean and maintain. They are preferred due to their long-lasting use. Heat pipes can be manufactured to be resistant to corrosion. There is a double inclined condensation pan under the heat pipe.



▶ PRACTICAL CAPACITY ACCOUNT

Pool Dehumidification Control System

Pool dehumidification plants are systems that take the moisture on the air by cooling and reheating the air with its compressor structure. Pool dehumidification plants are used for dehumidification in the pools of hotels, schools, private pool enterprises. The HV-DHMC-1-M controller is designed for the control of pool dehumidification units with compressors. It is possible to control and monitor with building management systems.

Controller features;

- Connection to building management systems (Modbus-RTU)
- Fault entries
- enthalpy
- Weekly program (Optional)
- Keylock

Example Capacity Calculation

The following formula can be used to practically calculate the amount of evaporation that will occur on the pool surface. You can use the tables below for the coefficients in the formula.
Wp= (Fa x A x k) / 1.5
Wp: Evaporation Amount (kg/s)
A: Pool Surface Area (m²)
Fa: Activity Factor
k: Evaporation Coefficient

Example Capacity Calculation

The surface area of a hotel pool with an ambient temperature of 28°C, a Relative Humidity of 50% and a Pool Water Temperature of 30°C is 55m². How much evaporation will occur from this pool?
According to the given values (k), it is determined as k=0.488 from the Evaporation Coefficient Table.
It is determined as Fa=0.8 from the Usage Factor Table.
It is calculated as Wp= (0.8 x 55 x 0.488) / 1.5 = 14.31 kg/h.

▶ PRACTICAL CAPACITY ACCOUNT

Air Temperature (°C)	Relative humidity (%)																	
	50	55	60	50	55	60	50	55	60	50	55	60	50	55	60	50	55	60
20	0,410	0,384	0,353	0,492	0,465	0,434	0,573	0,548	0,516	0,654	0,629	0,597	0,788	0,762	0,731	0,923	0,897	0,866
21	0,396	0,362	0,330	0,477	0,444	0,413	0,560	0,525	0,494	0,641	0,606	0,575	0,774	0,740	0,710	0,908	0,875	0,843
22	0,374	0,341	0,308	0,456	0,422	0,390	0,537	0,503	0,471	0,618	0,584	0,552	0,753	0,719	0,687	0,887	0,852	0,821
23	0,353	0,318	0,287	0,434	0,399	0,368	0,516	0,480	0,449	0,597	0,563	0,531	0,731	0,696	0,665	0,864	0,830	0,798
24	0,330	0,296	0,264	0,413	0,378	0,345	0,494	0,459	0,426	0,575	0,540	0,509	0,710	0,674	0,642	0,843	0,809	0,776
25	0,309	0,275	0,242	0,390	0,356	0,323	0,473	0,437	0,405	0,554	0,518	0,486	0,687	0,653	0,620	0,821	0,786	0,755
26	0,287	0,252	0,219	0,369	0,333	0,300	0,450	0,414	0,383	0,531	0,497	0,464	0,666	0,630	0,597	0,800	0,764	0,732
27	0,266	0,230	0,197	0,347	0,312	0,279	0,429	0,393	0,360	0,510	0,474	0,441	0,644	0,608	0,576	0,777	0,743	0,710
28	0,243	0,209	0,176	0,326	0,290	0,257	0,407	0,371	0,338	0,488	0,452	0,419	0,623	0,587	0,554	0,756	0,720	0,687
29	0,222	0,186	0,146	0,303	0,267	0,227	0,386	0,350	0,308	0,467	0,431	0,390	0,600	0,564	0,524	0,735	0,698	0,657
30	0,201	0,164	0,107	0,282	0,246	0,189	0,363	0,327	0,270	0,444	0,408	0,351	0,579	0,542	0,486	0,713	0,677	0,620
Water Temperature (°C)	24			26			28			30			32			34		

(k) Evaporation coefficient table

Pool Type	Activity factor (Fa)
Pools out of use	0,50
Residential Pools	0,50
Floor Pools	0,65
Therapy Pools	0,65
Hotel Pools	0,80
Public Pools	1,00
Hot Spring Pools	1,00
Wave Pools	1,50

(Fa) Activity Factor table

Pool Type	Air Temperature (°C)	Water temperature (°C)	Relative humidity (%)
Treatment Pools	29 – 32	29 – 32	50 – 60
Therapy Pools	27 – 29	29 – 35	50 – 60
Hotel Pools	28 – 29	28 – 30	50 – 60
Hot Spring Pools	27 – 29	36 – 40	50 – 60
Fun Pools	24 – 29	24 – 29	50 – 60
Competition Pools	26 – 29	24 – 28	50 – 60
Diving Pools	27 – 29	27 – 32	50 – 60

Pool Water Temperature Chart

VENSAART®

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Farklı Endüstriler İçin Uygulanabilir Çevresel Çözümler.

V-HKS
Package Type
Hygienic Air Handling Unit

▶TECHNICIAL SPECIFICATIONS

Production Quality
Body Strength, Air Tightness, Filter By-Pass Ratio, Thermal Permeability, Thermal Bridging and Body Sound Insulation Complies with EN 1886 Standard

Structure and Panel
Self-supporting frame and double sheet sandwich panels

Profile
Aluminum alloy (Almgsi0.5)

Sheet Material
304 quality stainless steel

Panel Thickness
50 mm

Air Sealing
Ensuring complete tightness of the surface of the panels
For Targeted EPDM Pressure Seals

Heat and Sound Proofing
Stone Wool / Glass Wool

Heating / Cooling Coil
Copper Tube Aluminum Fin / Copper Tube Copper Fin, Epoxy Coated Coil

Fan
Backward curved / Aerofil Fan / Plug-in fan / EC motor Fan

Moistening
Sterile Steam

Heat Recovery
Water-to-Air

Compressor
Scroll Hermetic Compressor with Thermal Protection

User panel
Programmable Touch-Screen Display

Capacity /Thermal Control
Proportional Heating Capacity Control / Cooling Capacity Control Thanks to Hot Gas By Pass Technology

Power and Regulation
Built-in Power and Electrical Regulation Board

Monitoring / Management
BSM Management

Types
PHK : Standard (100% Fresh air/Mixed air/Heat recovery)
PHK HP-H : Heat Pump (Thermodynamic heat recovery)

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

▶ TECHNICIAL SPECIFICATIONS

Construction features

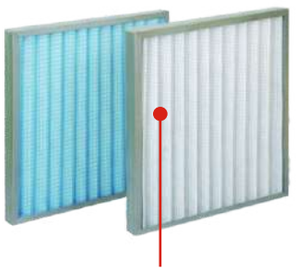
- The carcass structure of the modular cells of VENSA-ART Package Type Hygienic Air Handling Units is formed by mounting special alloy aluminum extruded profiles or steel profiles to reinforced hygienic corner pieces.
- Modular cell panels are double-walled; The outer panels are completely detachable carcass design, the outer surface is electrostatic powder painted galvanized sheet. The panels are fixed on aluminum carcass profiles with special stainless bolts suitable for external disassembly.
- The inner surfaces of the units are designed in such a way that they do not harbor bacteria and no dead spots, and the inner sheet is Imm AISI 304 stainless steel. The outer sheet is Imm electrostatic powder coated galvanized material.
- The connection of the modules can be made easily by tightening them from the inside of the unit with the durable connection parts.
- Forklift entry points and crane connection points are available in accordance with the transport and placement operations with 150 mm feet integrated into the power plant frame. It is manufactured from 2 mm electrostatic powder coated galvanized material.

Fan-Engine Section

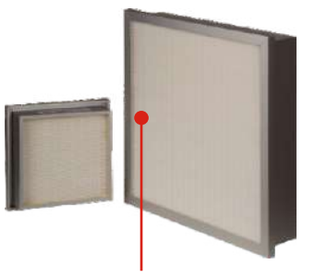
- In VENSA Package Type Hygienic Air Handling Units, EC plug fans with backward curved direct coupled motor conforming to international standards (ISO / DIN 1940) are used.
- It has a compact electronic system.
- Thanks to the electronic circuit on it, it provides speed control up to 100%.
- It is preferred due to its high efficiency and compact structure.
- It has a low sound level.
- Fan – Motor group can adjust its own speed in line with air flow and total static pressure integratedly.

▶TECHNICIAL SPECIFICATIONS

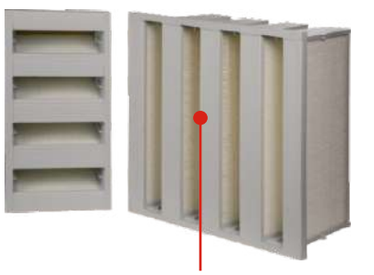
- The filter passage area of the package type hygienic air handling unit is calculated completely based on international standards.
- The filters are cassette type and designed to be easily disassembled and mounted.
- The sealing of the filters is provided by special EPDM gaskets.
- In order to learn the pollution status of the filters, the pollution status of the filters can be monitored with the filter pollution warning.
- In accordance with EN1822 standards, 3-stage filters are used for fresh air from all kinds of particles, bacteria and viruses in packaged hygienic air handling units.



1. Stage
G4 Fiber
Filter



2. Stage
F7 Rigid
Filter



3. Stage
F9 Compact
Filter

Rigid filters with efficiencies ranging from 80% to 85% have a high dust holding capacity. They are used as 2 stage filters. In order to increase the life of rigid filters, G4 fiber filter is used as the first stage pre-filter. Rigid filters use F7 class as standard, but F6, F8, F9 class can also be used upon request.

Compact filters with increased particle holding surface areas are used as final stage filters. Its efficiencies are between 95% and 98% and it has very high particle retention. The compact filter class used is F9. It can be used in H11, H12, H13 filter class upon request. It is recommended to put the HEPA filter at the final exit point of the air from the room. Only optional H14 class hepa filter with 99% efficiency is used instead of compact filter.

Package Type Hygienic Air Handling Units are used in applications where hygiene is at the forefront such as health, food and chemical industry. Package type hygienic air handling units ensure that all kinds of bacteria, particles and viruses in the environment are removed and the fresh air taken from the outside environment is passed through the necessary filters, bringing it to the desired sterilization level and sending it to the place.

The most important task of the air conditioning system in the operating room rooms is to bring the number of particles in the room to the desired standard values, to prevent the operated patient from getting infected, and to ensure the thermal comfort of the patient and the surgical team. Air conditioning systems are used to blow particle-free air in clean and sterile areas and to provide positive and negative pressure settings, to take the heat load caused by people and equipment, to meet the fresh air needs of patients and personnel, to remove polluted air, to reduce the number of microorganisms with minimum operating costs. should be planned completely separate from the air conditioning system of the regions. In general, if there are no other criteria, the clean room temperature is 22°C (18-28°C) and the relative humidity is 45% (40-55) Rh. It is necessary to keep the temperature with a tolerance of ± 2 in the rooms that require precision, to prevent the rapid growth of mold, fungus and microorganisms. VENSA Package Type Hygienic Air Handling Unit has been designed to meet these needs and HAS BEEN TESTED IN EN 1751/1988 DIN 1946-4;2008DIN EN ISO 5167 STANDARDS.

Package Type Hygienic Air Handling Units are produced in 7 types from 23.850m³/h to 10.000m³/h. Package type hygienic air handling units are preferred because of their compact structure, small footprint and high efficiency. In addition, package type devices are designed to meet the needs of the desired location by themselves.

▶ V-HKS Series - Standard		1-022~1-101						
		1-022	1-033	1-045	1-058	1-070	1-085	1-101
Technicial Specifications								
❶ Fan Air Flow	m^3/h	2.200	3.300	4.500	5.800	7.000	8.500	10.100
Maximum External Static Pressure	Pa	800	800	800	800	800	800	800
Fan Motor Power	kW	1,50	3,00	4,00	5,50	5,50	2x4,00	2x5,50
❶ Aspirator Air Flow	m^3/h	2.200	3.300	4.500	5.800	7.000	8.500	10.100
Maximum External Static Pressure	Pa	350	350	350	350	350	350	350
Aspirator Motor Power	kW	0,75	1,10	1,50	2,20	3,00	2x1,50	2x2,20
❷ Cooling Capacity	kW	19,0	23,6	32,0	39,7	44,5	54,1	66,4
Compressor Power	kW	5,30	5,30	7,10	12,4	11,9	17,0	21,7
❸ Heating Capacity (Hot Water)	kW	34,1	51,5	64,7	84,1	94,6	122,5	140,8
Steam Humidifier								
❹ Steam Humidifier Capacity	kg/h	10,0	15,0	20,0	30,0	40,0	50,0	60,0
Steam Humidifier Attractive power	kW	7,5	11,3	15,0	22,6	30,1	37,6	45,1
Electric Heater Capacity	kW	5,0	7,5	10,0	16,0	16,0	20,0	20,0
Cooling Circuit								
Cooling Circuit					R410a			
Compressor Type					Scroll			
Number of Compressors		2	2	2	2	2	2	2
Cooling Circuit		2	2	2	2	2	2	2
Audio Information								
Sound Power-Out of Device	dB(A)	59	60	62	62	65	62	64
Sound Power-Suction Duct	dB(A)	78	81	84	86	90	83	87
Sound Power-Blow Duct	dB(A)	81	82	84	84	87	84	86
Diameter Information								
Height (H)	mm	1.880	2.070	2.150	2.150	2.270	2.270	2.270
Width (W)	mm	1.865	2.150	2.150	2.150	2.150	2.255	2.255
Depth (D)	mm	910	910	1.060	1.300	1.350	1.840	1.840

❶ Flow rates given are nominal values. Fan and Aspirator flow rates can be selected differently within the range of ±10%.

❷ The battery inlet temperature is 19°CWB. It may differ by ±2% according to the dry bulb temperature.

❸ The water inlet-outlet temperature of the water coil is 90°C/70°C, and the outside temperature is 0°C.

❹ The steam humidification capacities given are nominal values and it is possible to select the device for different values.

▶ V-HKS HP Serisi Heat Pump		1-022~1-101						
		1-1022	1-1033	1-1045	1-1058	1-1070	1-1085	1-1101
Technicial Specifications								
❶ Fan Air Flow	m^3/h	2.200	3.300	4.500	5.800	7.000	8.500	10.100
Maximum External Static Pressure	Pa	800	800	800	800	800	800	800
Fan Motor Power	kW	1,50	3,00	4,00	5,50	5,50	2x4,00	2x5,50
❶ Aspirator Air Flow	m^3/h	2.200	3.300	4.500	5.800	7.000	8.500	10.100
Maximum External Static Pressure	Pa	350	350	350	350	350	350	350
Aspirator Motor Power	kW	0,75	1,10	1,50	2,20	3,00	2x1,50	2x2,20
❷ Cooling Capacity	kW	21,7	31,8	43,1	56,5	66,8	86,6	103,4
Fixed compressor power (Cooling)	kW	1,90	2,80	4,00	4,30	4,60	6,80	8,60
Inverter compressor power (Cooling)	kW	5,90	7,70	11,7	16,4	19,7	23,3	28,5
❸ Heating Capacity (DX)	kW	20,9	29,2	40,8	56,8	68,5	85,7	101,0
Inverter compressor power (Heating)	kW	4,90	6,30	9,70	14,4	17,8	21,0	25,9
❹ Electric preheater	kW	12,0	18,0	23,0	29,0	35,0	43,0	51,0
Steam Humidifier								
❺ Steam Humidifier Capacity	kg/h	10,0	15,0	20,0	30,0	40,0	50,0	60,0
Steam Humidifier Attractive power	kW	7,5	11,3	15,0	22,6	30,1	37,6	45,1
Electric Heater Capacity	kW	5,0	7,5	10,0	16,0	16,0	20,0	20,0
Cooling Circuit								
Cooling Gas					R410a			
Compressor Type					Scroll			
Number of Compressors		2	2	2	2	2	2	2
Audio Information								
Sound Power-Out of Device	dB(A)	59	60	62	62	65	62	64
Sound Power-Suction Duct	dB(A)	78	81	84	86	90	83	87
Sound Power-Blow Duct	dB(A)	81	82	84	84	87	84	86
Diameter Information								
Height (H)	mm	1.770	1.960	2.080	2.080	2.140	2.160	2.160
Width (W)	mm	2.500	2.800	2.850	2.975	2.975	2.975	2.975
Depth (D)	mm	910	910	1.060	1.300	1.350	1.840	1.840

❶ Flow rates given are nominal values. Fan and Aspirator flow rates can be selected differently within the range of ±10%.

❷ The battery inlet temperature is 20°CWB. It may differ by ±2% according to the dry bulb temperature.

❸ Outside temperature is 0 C°

❹ The electric pre-heater is used in 3 stages at outside temperatures below 0 C°.

❺ The steam humidification capacities given are nominal values and it is possible to select the device for different values.

VENSAART®

İKLİMLENDİRME | HVAC SYSTEMS

Applicable environmental solutions for different industries

V-RT Rooftop

TECHNICIAL SPECIFICATIONS

Models
Cooling Only / Heat Pump / Cooling Only +
Natural Gas / Heat Pump + Natural Gas

Structure and Panel
Corrosion Resistant Self Supporting Frame

Sheet Material
Galvanized Steel

Heat and Sound Proofing
High Performance Thermo Acoustic Insulation

Cold Fluid Control
Thermostatic Expansion Valve

Heating
Heat Pump / Gas Fired / Hot Water / Electric Heating

Heating / Cooling Coil
Copper Tube Aluminum Fin / Hydraulic Heat Exchanger

Fan
VFD Controlled Plug Fan

Pressure
High / Low Pressure Gauges

Energy Saving
Free Cooling Option (Thermal / Enthalpic Free Cooling)

Power and Regulation
Built-in Power and Control Board

Monitoring / Management
BSM Management

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

▶ DEVICE DESCRIPTION

As air conditioning, we make 3 different models of Rooftop device. In today's air conditioning technology, roof type packaged air conditioners are preferred because they can meet the heating, cooling and fresh air needs as a single device. Being versatile and efficient, being able to be used outdoors are the most important reasons why they are preferred. Roof type air conditioner solutions are package solutions with the best cost performance balance for buildings where single volume comfort air conditioning will be applied. Roof type air conditioners are economical air conditioners used for comfort conditioning of medium and large volumes. In addition, in today's technology, rooftop air conditioners can only be offered with cooling, heat pump (heating-cooling), natural gas heated and heat pump, electric heater reinforced heat pump, heater water battery reinforced heat pump versions and different operating mode options. Thanks to their optional features, rooftop air conditioners enable high efficiency and low operating cost operation in today's conditions where savings come to the fore. Thanks to their technology and compact design, rooftop air conditioners are chosen as the most suitable devices for use in plug-and-play logic. Today, rooftop air conditioners (Roof Top) are used in hypermarkets, business and shopping centers, complex buildings (hotel residence, shopping mall, etc.), airports, movie theaters, theater halls, performance centers, congress centers, social facilities, hotel meeting rooms, shops, educational institutions. , gyms, logistics centers, warehouses, warehouses, etc. They are used in factories for industrial purposes.

As VENSAART air conditioning, we make 3 different models of Rooftop device.

Single Fan Rooftop
In this model, the air sucked in from the space is subjected to conditioning processes and the space is pressed again. There are two dampers in the device; one controls the intake air, the other controls the fresh air. In other words, fresh air can be optionally mixed with the air sucked from the room.

Double Fan Mixed Tipper Rooftop
With the help of two fans used in this model, the aspirator and ventilator fans work separately. With the mixing damper assembly, the desired mixture and fresh air can be provided.

Rooftop with Double Fan Plate Heat Exchanger
The air to be exhausted from the room is passed through the plate heat exchanger and transfers its heat to the fresh air. Thus, heat recovery is achieved. The system works with one hundred percent fresh air.

Construction Features

- The whole body of the roof type air conditioner is manufactured from 1.5 mm dip galvanized material with a single wall or rock wool insulation material with 50-70 kg/m3 insulation density and AI combustion class is used between the inner and outer walls.
- All parts of the device that may come into contact with water outside are painted with electrostatic powder paint.
- The sealing of the device is provided with EPDM special gaskets and silicones.
- Rubber insulation is used for thermal insulation and acoustic insulation is used for sound insulation.
- The device is placed on a pedestal with a height of 15 cm.
- Compressor and radial fan used in Rooftop are placed on a pedestal together with vibration damping wedges to prevent them from vibrating.
- Evaporator and condenser sections are separated by 10 cm thick and rock wool insulated sandwich panel.
- In order to prevent sweating in the evaporator section, a drop trap and a specially designed drainage line are used.

TECHNICIAL SPECIFICATIONS

Compressor;

- Up to 4 compressors are used according to the capacity.
- Valve sets, crankcase heater and vibration absorbers, Low-High pressure pressure switches, Liquid freezing thermostats,
- Safe operation of the system is ensured with Sight Glass, Drier and Liquid Valve.
- The system works only as cooling. It can be used as both heating and cooling (HEAT PUMP) with the 4-way valve integrated into the system.
- Compressors are protected with overcurrent relays and the required mains electricity is 400 V / 3 Phase / 50 Hz.

Evaporator Group;

- Coils with high thermal transfer, copper tube and aluminum fins are used.
- Since the cooling stage is also in the evaporator coil, the condensed water particles are thrown out of the drainage line by using the condensation pan and drip trap.
- The forehead speed on the battery is max: 2.5 m/s.
- Evaporator fans are double suction belt-pulley radial fans.

Condenser Group

- Coils with high thermal transfer, copper tube and aluminum fins are used.
- The maximum forehead velocity on the battery is: 3 m/s.
- Condenser fan is directly coupled and self-powered axial fan is used.
- The number differs according to the capacity.

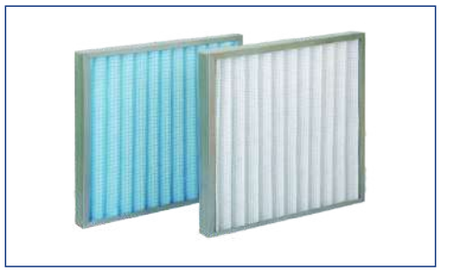
Fan Section

- The fans used in the evaporator to supply air to the space or to make suction from the space are double suction forward curved radial fans. They are driven by belt pulley.
- The fans used to absorb the heat in the condenser are self-powered axial fans. These fans are activated and deactivated according to the compressor discharge gas temperature and discharge gas pressure.

TECHNICIAL SPECIFICATIONS

Filter Section

EU4 fiber filter is used as filter, it can be disassembled and washed easily. These fans are activated according to the compressor's discharge gas temperature and discharge gas pressure. they turn off.



Heat Exchanger Section

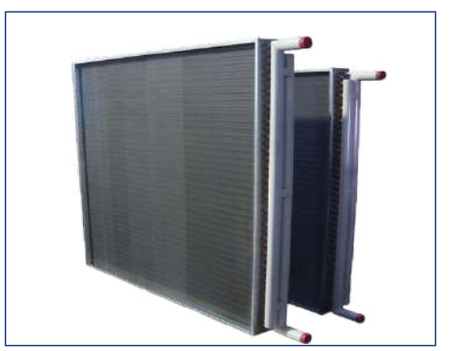
- High efficiency plate aluminum heat exchangers are used
- It is only used in models with double fan plate heat exchanger.

Damper Section

- Up to 4 compressors are used according to the capacity.
- Valve sets, crankcase heater and vibration absorbers are used up to 4 compressors according to low capacity.
- Valve sets, crankcase heater and vibration absorbers, Low-High pressure pressure switches, Liquid freezing thermostats,
- Safe operation of the system is ensured with Sight Glass, Drier and Liquid Valve.
- The system works only as cooling. It can be used as both heating and cooling (HEAT PUMP) with the 4-way valve integrated into the system.
- Compressors are protected by overcurrent relays and the required mains electricity is 400 V / 3 Phase / 50 Hz.

Wet Battery Section (Optional)

- It consists of a seamless copper tube and aluminum fins.
- The batteries are in a frame made of galvanized sheet material.
- Aluminum lamella spacing is minimum 2.1 mm.
- The battery front velocity is designed between 2 m/sec - 2,5 m/sec.
- It has steel pipe collector.
- Pressure loss of the fluid side maximum 25kPa.
- It has frost thermostat, flange and counter flanges as accessories.



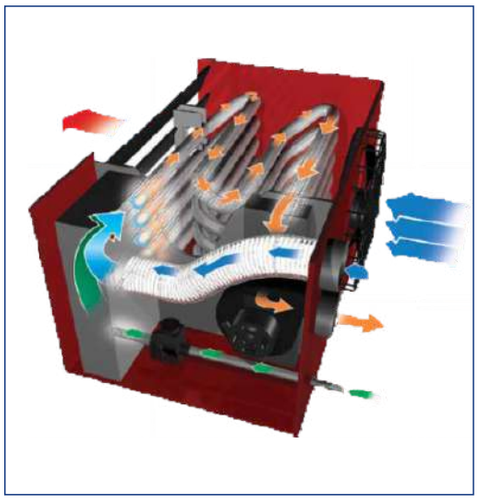
Electric Heater Section (Optional)

- It can be produced in standard capacities as well as in valid project capacities upon request.
- Electric heaters have a double overtemperature cut-out safety thermostat.
- They are designed between 2 m/sec – 2.5 m/sec.

TECHNICIAL SPECIFICATIONS

Natural Gas Heating Section (Optional)

After the natural gas or LPG is passed through the gas path armature inside the device and mixed with the combustion air, it is burned separately in the pipe heat exchanger with the electronic ignition system (burner). The burnt hot gases are circulated in the heat exchangers by means of a fan, and after cooling, they are thrown out as exhaust. When the pipe heat exchangers are heated, the fan is activated and the cold air taken from the environment to be heated is passed through the heat exchangers and pressed into the interior as heated air.



It is designed as a package and is directly integrated into the rooftop device to support heating.

The device is made safe thanks to the pressure thermostats against any fan failure. In case of a pressure increase on the device, the device stops immediately by securing itself thanks to these thermostats. Gas flow, burner control and fan control are completely automatic with the electronic card.

Optional Features

- Ability to work at 100% fresh air rate
- Smoke detector
- Filter contamination alarm
- Variable flow control (inverter) for evaporator and condenser fans
- Variable flow control (inverter) in the compressor used for the cooling cycle
- Support for heating with hot water battery
- Support for heating with natural gas heating
- Support for heating with electric heater
- Support for heating with steam battery
- Thermal or enthalpy free cooling (economizer): When the outside temperature and humidity are suitable,
- With 100 outside air, air-conditioning is carried out without cooling and energy saving is achieved. (Standard in Double Fan Models.)
- CO2 indoor air control: Indoor air quality is protected with high efficiency filters, filter pollution alarm and CO2 indoor air quality sensor. The CO2 indoor air quality sensor, which controls the return air pollution, works integrated with the economizer and energy saving is achieved by taking fresh air at the required rate.
- Flexible production and solutions according to special projects.
- Solution to special automation requests.

TECHNICIAL SPECIFICATIONS

STANDARD AND OPTIONAL FEATURES		STANDARD	OPTIONAL	STANDARD	OPTIONAL
		DOUBLE FAN, MIXED AIR		SINGLE FAN	
FILTER	G4 FILTER	X		X	
	F7 BAG FILTER		X		X
	F9 BAG FILTER		X		X
HEATING	HEAT PUMP		X		X
	WET BATTERY		X		X
	STEAM BATTERY		X		X
	ELECTRIC HEATER		X		X
	NATURAL GAS HEATING		X		X
HEAT RECOVERY	PLATE HEAT RECOVERY		X		X
FANS	CONDENSER FAN SPEED CONTROL	X		X	
	EVAPORATOR FAN SPEED CONTROL		X		X
	RADIAL FAN	X		X	
	PLUG FAN		X		X
	EC FAN		X		X
EQUIPMENT-ACCESSORIES	ELECTRONIC EXPANSION VALVE	X		X	
	INVERTER COMPRESSOR		X		X
	ON/OFF HUMIDIFIER		X		X
	PROPORTIONAL HUMIDIFIER		X		X
	HOT WATER BATTERY 3-WAY VALVE		X		X
	ELECTRIC HEATER OVERHEATED SAFETY SWITCH	X		X	
	PROPORTIONAL DAMPER MOTOR	X		X	
	STAINLESS INSIDE BODY		X		X
	EPOXY CLOSED EVAPORATOR		X		X
	EPOXY CLOSED CONDENSER		X		X
	INTERIOR AND EXTERNAL ELECTROSTATIC	X		X	
	SMART DEFROST	X		X	

TECHNICIAL SPECIFICATIONS

STANDARD AND OPTIONAL FEATURES		STANDARD	OPTIONAL	STANDARD	OPTIONAL
		DOUBLE FAN, MIXED AIR		SINGLE FAN	
AUTOMATION - SENSORS	ENTALPY FREE COOLING	X		X	
	THERMAL FREE COOLING	X		X	
	BLOW TEMPERATURE SENSOR	X		X	
	SUCTION TEMPERATURE SENSOR	X		X	
	OUTDOOR TEMPERATURE SENSOR	X		X	
	BLOWING HUMIDITY SENSOR		X		X
	SUCTION HUMIDITY SENSOR		X		X
	OUTDOOR HUMIDITY SENSOR		X		X
	1. STAGE FILTER POLLUTION SENSOR	X		X	
	2. STAGE FILTER POLLUTION SENSOR		X		X
	3. STAGE FILTER POLLUTION SENSOR		X		X
	4. STAGE FILTER POLLUTION SENSOR		X		X
	VENTILATOR DIFFERENCE PRESSURE SENSOR		X		X
	ASPIRATOR DIFFERENCE PRESSURE SENSOR		X		X
	Co2 SENSOR		X		X
	VOC SENSOR		X		X
	FIRE DETECTOR INPUT	X		X	
	REMOTE CONTROL PANEL	X		X	
	CONNECTION WITH MODEM OR MODBUS VIA INTERNET	X		X	
	REMOTE CONNECTION KIT	X		X	
	COMPRESSOR DISCHARGE GAS OVERHEAD SENSOR	X		X	
	COMPRESSOR SUCTION GAS LOW TEMPERATURE SENSOR	X		X	
	LOW PRESSURE SWITCH	X		X	
	HIGH PRESSURE SWITCH	X		X	
	LOW PRESSURE TRANSMITTER	X		X	
	HIGH PRESSURE TRANSMITTER	X		X	

TECHNICIAL SPECIFICATIONS

MODEL		5	7	10	12	14	17	20	23	25	29	33	35	40
Cooling														
Cooling capacity	Kw	27	8	57	66	78	91	112	135	152	175	198	216	238
Compressor power	Kw	8,95	13,6	19,8	24	26,9	32,4	32,3	38,1	40,5	42,6	45,7	52,6	57,6
EER		2,98	2,8	2,88	2,75	2,9	2,76	2,81	2,9	2,8	2,9	2,8	2,79	2,79
Heating - heat pump														
Heating capacity	Kw	28	40,5	57,5	67	80	94	115	135	151	176	201	218	237,2
Compressor power	Kw	8,1	11,65	16,7	22	22,6	28	35,6	29,1	32	38	42	45,7	49,6
COP		3,4	3,48	3,36	3,1	3,52	3,36	3,24	3,3	3,3	3,2	3,1	3	3,1
Compressor														
Cooler liquid		R-410a												
Number of compressors	pcs.	1	1	2	2	2	2	2	2	2	4	4	4	4
Type of compressors		Scroll												
Compressor connection type		Standard	Standard	Standard	Standard	Asymmetric	Standard	Asymmetric	Asymmetric	Standard	Standard	Standard	Asymmetric	Asymmetric
Cooling circuit	pcs.	1	1	1	1	1	1	1	1	1	2	2	2	2
Capacity control	level	1	1	2	2	3	2	3	3	2	4	4	6	6
Ventilator														
MİNİMUM	Type of fan	Radyal / Plug												
	Flow rate	m³/ h	3800	5900	8150	10000	11200	13200	15500	17850	19800	23600	26850	28600	32600
	static pressure	Pa	250	300	300	300	300	300	350	350	350	350	350	400	400
	Number of fans	pcs.	1	1	1	1	1	1	1	1	1	1	1	1	1
	Fan motor power	Kw	1,5	1,5	2,2	3	3	4	5,5	7,5	7,5	11	11	15	15
STANDARD	Flow rate	m³/ h	5000	7500	10000	12000	14000	17000	19500	23000	25000	29000	32500	35000	40000
	static pressure	Pa	250	300	300	300	300	300	350	350	350	350	350	400	400
	Number of fans	pcs.	1	1	1	1	1	1	1	1	1	1	1	1	1
	Fan motor power	Kw	2,2	2,2	3	4	4	5,5	7,5	11	11	11	11	15	15
MAXIMUM	Flow rate	m³/ h	5500	8400	11650	13650	16000	18900	22750	38200	28000	33250	38600	41500	46500
	static pressure	Pa	350	300	300	300	300	300	350	350	300	350	350	400	400
	Number of fans	pcs.	1	1	1	1	1	1	1	1	1	1	1	1	1
	Fan motor power	Kw	2,2	2,2	3	4	4	5,5	7,5	11	11	11	11	15	15
Aspirator														
MİNİMUM	Type of fan	Radyal / Plug												
	Flow rate	m³/ h	3800	5900	8150	10000	11200	13200	15500	17850	19800	23600	26850	28600	32600
	static pressure	Pa	250	300	300	300	300	300	350	350	350	350	350	400	400
	Number of fans	pcs.	1	1	1	1	1	1	1	1	1	1	1	1	1
	Fan motor power	Kw	1,5	1,5	2,2	3	3	4	5,5	7,5	7,5	11	11	15	15
STANDARD	Flow rate	m³/ h	5000	7500	10000	12000	14000	17000	19500	23000	25000	29000	32500	35000	40000
	static pressure	Pa	250	300	300	300	300	300	350	350	350	350	350	400	400
	Number of fans	ad.	1	1	1	1	1	1	1	1	1	1	1	1	1
	Fan motor power	Kw	2,2	2,2	3	4	4	5,5	7,5	11	11	11	11	15	15
MAXIMUM	Flow rate	m³/ h	5500	8400	11650	13650	16000	18900	22750	38200	28000	33250	38600	41500	46500
	static pressure	Pa	350	300	300	300	300	300	350	350	300	350	350	400	400
	Number of fans	pcs.	1	1	1	1	1	1	1	1	1	1	1	1	1
	Fan motor power	Kw	2,2	2,2	3	4	4	5,5	7,5	11	11	11	11	15	15

TECHNICIAL SPECIFICATIONS

MODEL		5	7	10	12	14	17	20	23	25	29	33	35	40
Heating - Natural gas														
Capacity	Kw	25	35	49	74	74	95	115	115	130	146	146	192	192
Gas flow	Nm³/ h	2,61	3,7	5,82	6,57	8,96	9,42	12,61	12,61	14,69	17,92	17,92	20,84	22,6
Burner pressure (Min/Max)	m/bar	17/55												
Power draw	w	550	650	1100	1100	1100	1100	1650	1650	2200	2200	2200	2200	3300
Heating-Electric resistance														
Capacity (OT=15C)	Kw	25	40	50	60	72	85	104	120	126	150	162	180	202
Capacity (OT=30C)	Kw	52	79	98	116	141	174	208	236	260	302	320	362	400
Heating-Hot water														
Capacity	Kw	60	94	120	140	210	230	252	330	352	395	440	556	598
hot water regime	°C	80/60												
Heating-Steam														
Capacity	Kw	60	109	140	162	254	264	286	190	414	456	465	648	684
Steam pressure	bar	3												
Condenser														
Fan type		Axial												
Number of fans	pcs.	2	2	2	2	4	4	4	4	4	4	4	6	6
Air flow (Cooling)	m³/ h	13000	15000	18500	18500	34000	34000	34000	68500	68500	68500	68500	94600	94600
Fan motor power (Cooling)	Kw	1,4	1,5	1,9	1,9	3,8	3,8	3,8	6,8	6,8	6,8	6,8	12,3	12,3
Sound pressure level														
Sound pressure level from 1m	dB(A)	84,0	66,0	96,0	96,0	97,0	92,0	89,0	97,0	97,0	97,0	97,0	96,0	98,0
Sound pressure level from 10m	dB(A)	66,0	71,0	77,0	78,0	79,0	76,0	71,0	79,0	79,0	79,0	79,0	77,0	79,0
Dimensions														
Width	mm	2150	2150	2360	2360	2104	2104	2410	2410	2410	2410	2410	2410	2410
Length	mm	1800	1800	2176	2176	3543	3543	3722	4910	4910	4910	4910	7900	7900
Height	mm	2054	2054	2346	2346	2487	2487	2590	2600	2600	2600	2600	2680	2680

INDOOR TEMPERATURE 27°C 50% RH - EXTERNAL TEMPERATURE AT COOLING 35°C

OUTDOOR TEMPERATURE IN HEATING: 7°C - INDOOR TEMPERATURE 22°C 50% RH

ALL SELECTIONS ARE MADE ACCORDING TO 30% FRESH AIR

V-RT-H : HEAT PUMP ROOFTOP
V-RT-SS : ONLY COOLING ROOFTOP
V-RT-DH : HEAT PUMP+NATURAL GAS ROOFTOP
V-RT-SSD : COOLING ONLY+NATURAL GAS ROOFTOP

CODING EXAMPLE: V-RT-H-12 : 12000m3/h'lik Heat pump Rooftop

1- ELECTRONIC EXPANSION VALVE IS USED IN ALL MODELS.
2-ALL MODELS ARE CONTROLLED BY PLC.
3-CONDENSER FANS ARE CONTROLLED ACCORDING TO THE PRESSURE WITH THE INVERTER.
4-ASYMMETRIC COOLING PRINCIPLE IS APPLIED.
5-FREECOOLING AND FREE HEATING FEATURE AVAILABLE IN ALL MODELS.
6-HEAT PUMP MODELS HAVE SMART DEFROST FEATURE.
7- IN SYSTEMS USING MORE THAN ONE COMPRESSOR, THE FEATURE OF COOPERATIVE IS APPLIED BETWEEN THE COMPRESSORS.

VENSAART®
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Applicable environmental solutions for different industries

V-IGK
Ceiling Type Heat Recovery Devices

TECHNICIAL SPECIFICATIONS

Models
Airflow Configurations for Flexible Installation

Structure and Panel
Self Supporting Frame

Sheet Material
Galvanized Steel

Air Sealing
EPDM Sealing Gaskets are Used to Provide Full Airtightness on Panel Surfaces

Heat and Sound Proofing
K-Flex Insulation Materials

Heat Recovery
Plate Heat Recovery

Heating
Electric Heating - Water Coil - DX Coil

Fan
Backward Curved Fan / Plug Fan

Power and Regulation
Built-in Power and Electrical Regulation Board

Monitoring / Management
BSM Management

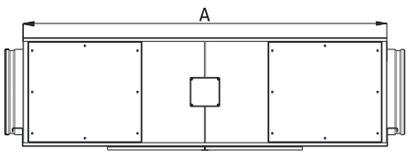
Control panel

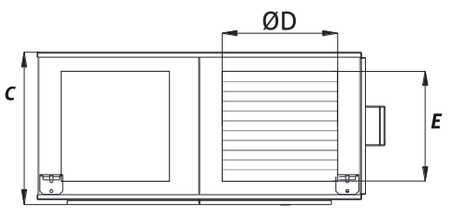
High Efficiency and Compactness
Monoblock, Thin and Flexible Structure
Heat Recovery Units Produced in 7 Different Sections Up to 5,000 m³ / h Air Flow
Heat Recovery Air Renewal Terminal Units

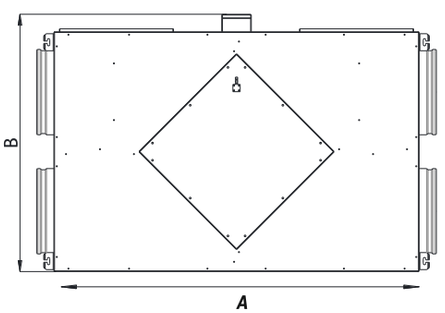
Flexible Air Coupling
Optimal Energy Efficiency, Air Quality and Comfort
Wide and Versatile Product Range
Easy Control with Leading Control Equipment
Motorized Damper and Electric Heating Functions

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

▶ TECHNICIAL SPECIFICATIONS







MODEL	A	B	C	D	E	VOLTAGE	FREQUENCY	POWER	CURRENT	CYCLE	FLOW	SOUND LEVEL	WEIGHT
	mm	mm	mm	mm	mm	V	Hz	W	A	RPM	m³/h	dBA	Kg
V-IGK300	990	300	300	230	200	220	50	2X90	2X0,4	2300	300	42	35
V-IGK500	990	350	300	230	200	220	50	2X90	2X0,4	2580	500	44	45
V-IGK800	990	350	400	230	200	220	50	2X150	2X0,7	2600	800	47	55
V-IGK1000	1170	400	450	260	230	220	50	2X150	2X0,7	2600	1000	48	60
V-IGK1500	1350	500	450	300	260	220	50	2X375	2X1,7	2500	1500	48	105
V-IGK2000	1350	550	450	300	260	220	50	2X450	2X2,04	1400	2000	49	130
V-IGK2500	1650	600	550	330	300	220	50	2X450	2X2,04	1380	2500	52	165
V-IGK3000	1650	700	550	330	300	220	50	2X550	2X2,5	1300	3000	53	210
V-IGK3500	1850	1300	600	330	300	220	50	2X550	2X2,5	1300	3.500	55	250
V-IGK4000	1850	1300	600	390	340	220	50	2X1100	2X2,5	1300	4.000	57	275
V-IGK4500	1850	1300	600	390	340	220	50	2X1100	2X2,5	1300	4.500	57	310
V-IGK5000	1850	1300	600	390	340	220	50	2X1100	2X2,5	1300	5.000	60	350

DUCT TYPE ELECTRIC HEATERS

- It has TSEK Quality Certificate and CE mark.
- It is used at the exit of the heat recovery device in cold climates and at the inlet of fresh air against freezing in very cold climates.
- It can be designed as single, double or three-stage according to customer needs.
- It can be produced with galvanized or stainless steel body according to the project requirements.
- Limit over-temperature breaker to be activated at 70°C. It has reset over-temperature breaker circuits to activate at 110°C temperatures.

MODEL	V-IGK300	V-IGK500	V-IGK800	VIGK1000	V-IGK1500	V-IGK2000	V-IGK2500	V-IGK3000	V-IGK3500	V-IGK4000	V-IGK4500	V-IGK5000
D	230	230	230	260	300	300	330	330	330	390	390	390
CAPACITY	1kW	2kW	3kW	4,5kW	6kW	7,5kW	9kW	10,5kW	12kW	15kW	18kW	21kW

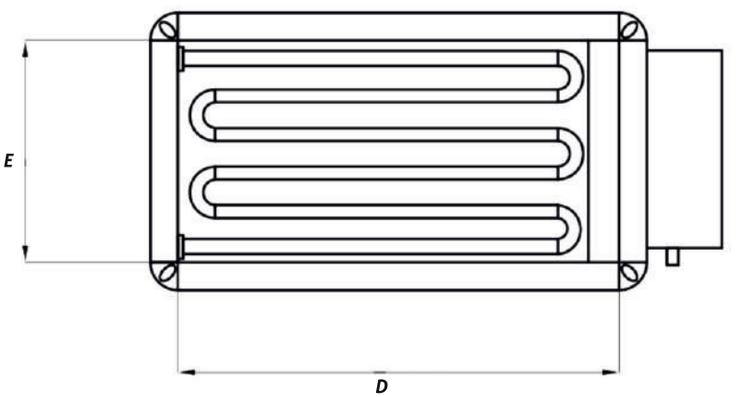
ROUND DUCT TYPE ELECTRIC HEATER POWER RANGE

Min. 1 kW – Max. 21kW

ROUND DUCT TYPE ELECTRIC HEATER DIMENSIONS

Ød: Min.100mm/ Max. 500mm

A: Min. 275mm/Max. 395mm
B: Standard 200mm
C: Standard 75mm/ 220mm If there is control equipment

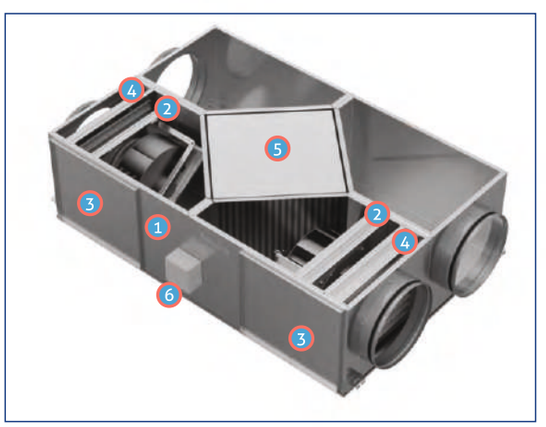


WORKING SYSTEM

- In places that are air-conditioned by heating or cooling, low quality air-conditioned indoor air is formed, which contains carbon dioxide and other harmful gases in the indoor environment.
- While this air is exhausted, the heat load it carries is collected in the plate heat exchanger of the IGK — Heat Recovery Device, thus conditioning the incoming fresh air.
- Thus, it is possible to recover 50-60% of the heat load in this air while the poor quality indoor air is discharged.
- IGK — Heat Recovery Devices work silently and with high efficiency with the plug fan motors on them.
- With the speed switch sent as standard with the product, the device can be operated at the desired flow rate.

Material

- IGK-Heat Recovery Device consists of 6 main parts.
- The case (1) is made of galvanized sheet. It is covered with 9mm rubber insulation inside, providing both sound and heat insulation.
- The blowing and exhaust fans used are Plug Fans or Radial Fans (2). They can be manufactured as Aluminum, Galvanized or Plastic.
- There are Intervention Covers (3) on the case in order to be able to easily interfere with the fans and filters. By means of these covers, the fans can be easily removed in case of maintenance or malfunction.
- The device has a G4 filter (4) at both the exhaust and fresh air inlets.
- In this way, the Aluminum Plate Heat Exchanger (5), which is the main equipment of the device, is kept clean and working efficiently.
- The Electrical Connection Box (6), where the terminal connections of the fans are located, is fixed on the case so that the mains connection of the device can be made easily.



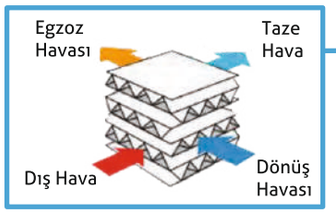
DEVICE EQUIPMENT

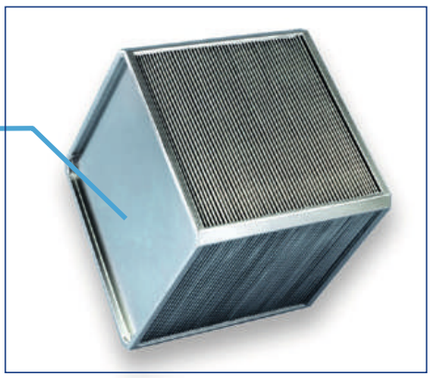
PLUG FAN-RADIAL FAN

- Back-curved sparse wing structure
- high efficiency
- low power consumption
- low sound level
- high static pressure
- Thermo-protective element against engine overheating
- Easy disassembly and service possibility with service cover and cable connection with connector

HEAT RECOVERY EXCHANGER

- Long life aluminum plate heat recovery exchanger
- High sensible heat transfer efficiency
- Sound dampening feature
- Easy disassembly and service possibility with the service cover
- Washability





CONTROL PANEL AND CONTROL PANEL

- Automatic or Manual program selection
- Easy to use with ready-made scenarios
- Possibility of integration with electric heater, DX Coil, Water battery systems
- Possibility of using Modbus system
- Aspirator and Ventilator Fan speed adjustment
- Additional heater equipment setting
- Ventilation in continuous comfort conditions with integrated room thermostat

VENSAART®
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Applicable environmental solutions for different industries

V-IP-IGK
Heat Recovery Device with Heat Pump

V-IP-IGK HEAT RECOVERY DEVICE WITH HEAT PUMP

VENSAART® İKLİMLENDİRME | HVAC SYSTEMS

TECHNICIAL SPECIFICATIONS

Body and Insulation
Corrosion-resistant pre-painted galvanized sheet on the outer body.

Air Sealing
EPDM gasket at the joints of the body sheets for full sealing.

Heat and Sound Insulation
K-Flex Insulation Materials

Heat Recovery
Heat recovery with cross flow aluminum plate up to 60% efficiency gain unit.

Fan
Streamlined backwards for low noise
high-efficiency plug or forward with curved blades
high efficiency radial fans with curved blades.

Filter
From ISO Coarse ≥ 40% (G2) to ISO ePM10 ≥ 50% (M5)
High air quality thanks to filter classes up to 25mm
long-life filters with cassette thickness.

Drainage
Made of double curved corrosion resistant galvanized sheet
Electrostatic powder painted condensation pan.

Maintenance
Easy access and maintenance to the fan, filter and heat recovery unit thanks to its compact design and easily removable service covers.

Monitoring / Management
BSM Management

High Efficiency and Compactness
Monoblock, Thin and Flexible Structure
Heat Recovery Units Produced in 7 Different Sections Up to 5,000 m³ / h Air Flow
Heat Recovery Air Renewal Terminal Units

Flexible Air Coupling
Optimal Energy Efficiency, Air Quality and Comfort
Wide and Versatile Product Range
Easy Control with Leading Control Equipment
Motorized Damper and Electric Heating Functions

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

▶ DEVICE DESCRIPTION

Description of Heat Recovery Device with Heat Pump

By performing heat transfer between the heat recovery ventilation devices and fresh air and exhaust air, the heat energy lost during ventilation is recovered and room temperature changes caused by ventilation are regulated. This ensures a comfortable and clean environment at all times. In convection ventilation systems, there are additional air conditioning loads from fresh air. In heat recovery devices, on the other hand, energy saving is achieved by reducing the load on the air conditioning system. Thanks to heat pump heat recovery devices, fresh air is obtained at room temperature. In standard heat recovery devices, a blowing temperature of 29 degrees in summer and 11 degrees in winter is obtained on average. This is not at the comfort level. In heat pump heat recovery devices, a blowing temperature of 24 degrees in summer and 19 degrees in winter is achieved, thus reaching the comfort level.

VENSA-ART heat pump heat recovery devices are produced in 6 different types as VENSA-ART 07-10 15-20-30-40. In all our models; Heat and sound insulation is provided by using a double-walled 30 mm rock wool insulated sandwich panel, the body sheet of which is made of galvanized steel, and the heat permeability coefficient is min. has been reduced. Standard heat recovery devices generally consist of eight separate sections;

Fresh Air Filter Section, Exhaust Air Filter Section, Heat Recovery Section, Exhaust Section, Ventilator Section, Compressor Section, Evaporator Section, Condenser Section.

Heat pump heat recovery devices have a compact structure. The heat exchanger, fan groups, compressor group, condenser, evaporator, and filters are designed in the same case. The device performs the cooling process with the Vapor Compression Cooling Cycle.

TECHNICIAL SPECIFICATIONS

Heat Pump Heat Recovery Device Technical Specifications Table

It is designed to be
In cooling:
Outside air: 33°C 45%RH
Indoor air: 25°C 50%RH

In heating:
Outside air: -3°C 90%RH
Indoor air: 20°C 50%RH

HEAT PUMP HEAT RECOVERY DEVICE						
MODEL	FLOW m³/h	OUTDOOR PRESSURE DROP (Pa)	COOLING CAPACITY (kW)	HEATING CAPACITY (kW)	DIMENSIONS (LxWxH)	CONNECTION DIMENSIONS (mm)
V-IP-IGK 07	750	160	3,5	7,4	1350x1000x450	250x250
V-IP-IGK 10	1000	160	4,8	9,2	1400x1100x500	280x280
V-IP-IGK 15	1500	210	7,6	14	1650x1300x550	400x400
V-IP-IGK 20	2000	220	9,5	18,3	1850x1400x650	450x450
V-IP-IGK 30	3000	150	13,4	25,1	2000x1600x750	500x500
V-IP-IGK 40	4000	230	18,7	31,9	2100x1700x750	500x500

MODEL	FLOW m³/h	COMPRESSOR POWER (W)	FAN POWER (W)	COMPRESSOR VOLTAGE (V&HZ)	FAN VOLTAGE (V&HZ)
V-IP-IGK 07	750	1100	230 x 2	220 & 50	220 & 50
V-IP-IGK 10	1000	1400	240 x 2	220 & 50	220 & 50
V-IP-IGK 15	1500	2200	450 x 2	220 & 50	220 & 50
V-IP-IGK 20	2000	2850	680 x 2	380 & 50	220 & 50
V-IP-IGK 30	3000	3400	790 x 2	380 & 50	220 & 50
V-IP-IGK 40	4000	4700	1400 x 2	380 & 50	220 & 50

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Applicable environmental solutions for different industries

V-HA
Cell Type Aspirator and Ventilator

▶ TECHNICIAL SPECIFICATIONS

Production Quality
Body Strength, Air Tightness, Filter By-Pass and Body
Sound Insulation Complies with TSE Standard

Structure and Panel
Self Supporting Frame and Double Sheet Sandwich Panels

Profile
Aluminum alloy (Almgsi0.5)

Sheet Material
Galvanized Steel

Panel Thickness
40 mm - 50 mm

Air Sealing
EPDM Sealing Gaskets are Used to Provide
Full Airtightness on Panel Surfaces

Heat and Sound Proofing
Stone Wool / Glass Wool

Fan
Backward curved / head fan Forward curved /
Plug-in fan / EC motor Fan

Power and Regulation
Built-in Power and Electrical Regulation Board

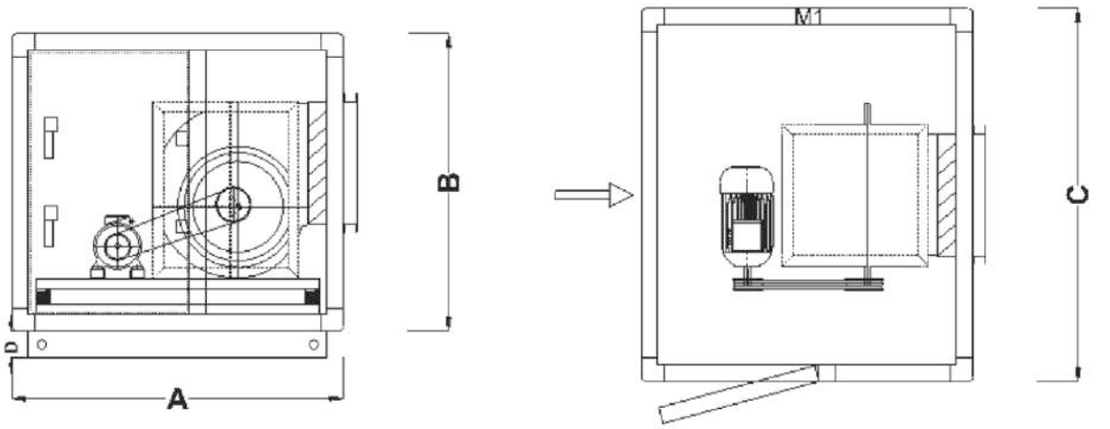
Monitoring / Management
BSM Management

Improved Indoor and Air Quality
Unlimited Modular, Flexible and Energy Efficient Cell Fans
Cell Fans Produced in Different Cross Sections Up to 100,000 m³/s Air
Flow Have TSE and CE Certificates.

Realize Modularity and Compactness
Optimal Energy Efficiency, Air Quality and Comfort
Wide and Versatile Product Range
Integrated Electronic Regulation
Energy Saving Special Solutions for All Commercial Buildings

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

DEVICE DESCRIPTION



MODEL	A	B	C	D	Suction Mouth Size W1xH1	Blow Mouth Size W2xH2	FLOW	VOLTAGE	FREQUENCY	POWER	CYCLE	WEIGHT
	mm	mm	mm	mm	cm	cm	m³/h	V	Hz	kW	RPM	kg
V-HA-01	700	700	700	80	61x25	26x23	3000	380	50	1,1	1390	123
V-HA-02	900	900	900	80	81x30	33x29	5000	380	50	1,1	1390	135
V-HA-03	900	900	900	80	81x30	39,5x34	7500	380	50	1,5	1400	148
V-HA-04	1100	1100	100	80	101x50	47x40	10.000	380	50	3	1430	190
V-HA-05	1200	1200	1200	80	111x50	55x48	12.000	380	50	3	1430	222
V-HA-06	1300	1300	1300	80	121x60	57x57	15.000	380	50	4	1430	278
V-HA-07	1500	1400	1400	80	131x60	64x64	20.000	380	50	5,5	1450	338
V-HA-08	1700	1600	1600	80	151x80	72x72	25.000	380	50	7,5	1450	458
V-HA-09	1800	1700	1700	80	161x90	80x80	30.000	380	50	7,5	1450	500

*The values given in the table above are written with reference to the external static pressure of 300Pa.
** Dimensions differ according to pressure values and suction and discharge directions of Cell Aspirator or Ventilator.

VENSAART®
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Applicable environmental solutions for different industries

V-M-HA

Cell Kitchen Aspirator with Metal Oil Filter

TECHNICIAL SPECIFICATIONS

Production Quality
Body Strength, Air Tightness, Filter By-Pass and Body Sound Insulation Complies with TSE Standard

Structure and Panel
Self Supporting Frame and Double Sheet Sandwich Panels

Profile
Aluminum alloy (Almgsi0.5)

Sheet Material
Galvanized Steel

Panel Thickness
40 mm - 50 mm

Air Sealing
EPDM Sealing Gaskets are Used to Provide Full Airtightness on Panel Surfaces

Heat and Sound Proofing
Stone Wool / Glass Wool

Fan
Backward curved / head fan Forward curved / Plug-in fan / EC motor Fan

Power and Regulation
Built-in Power and Electrical Regulation Board

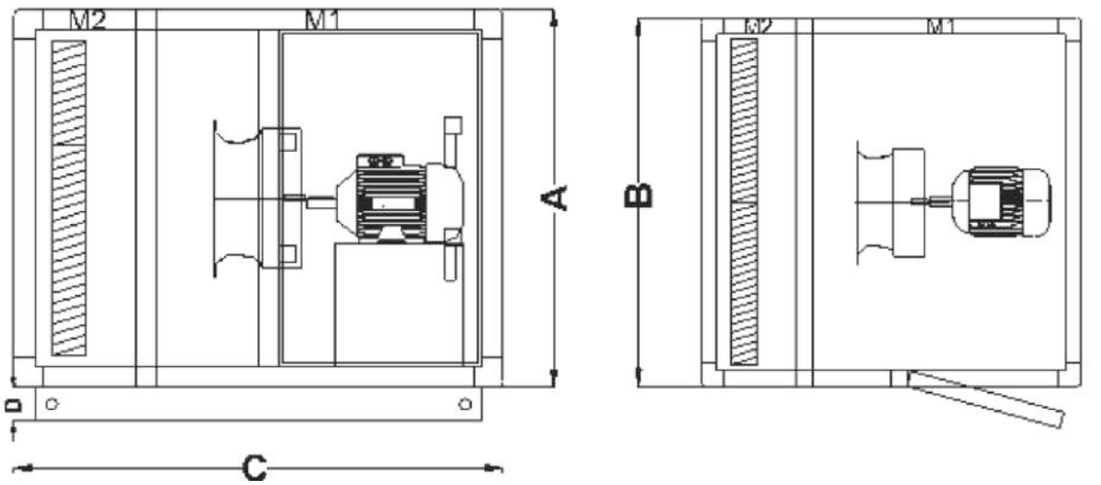
Monitoring / Management
BSM Management

Improved Indoor and Air Quality
Unlimited Modular, Flexible and Energy Efficient Cell Fans
Cell Fans Produced in Different Cross Sections Up to 100,000 m³/s Air Flow Have TSE and CE Certificates.

Realize Modularity and Compactness
Optimal Energy Efficiency, Air Quality and Comfort
Wide and Versatile Product Range
Integrated Electronic Regulation
Energy Saving Special Solutions for All Commercial Buildings

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

DEVICE DESCRIPTION



	A	B	C	Suction Mouth Size W1xH1	Blow Mouth Size W2xH2	FLOW	VOLTAGE	FREQUENCY	POWER	CYCLE	WEIGHT
MODEL	mm	mm	mm	mm	mm	m³/h	V	Hz	kW	RPM	kg
V-M-HA-01	700	700	1000	610x300	610x300	3000	380	50	1,5	2830	60
V-M-HA-02	800	800	1100	710x350	710x350	5500	380	50	2,2	2840	72
V-M-HA-03	900	900	1100	810x400	810x400	7500	380	50	3	2840	98
V-M-HA-04	1000	1000	1200	910x400	910x400	10.000	380	50	4	2840	128
V-M-HA-05	1150	1150	1300	1060x450	1060x450	12.500	380	50	5,5	2840	145
V-M-HA-06	1270	1270	1400	1180x500	1060x450	15.000	380	50	7,5	2840	180
V-M-HA-07	1350	1350	1500	1260x600	1260x600	18.000	380	50	11	2840	240

VENSAART®
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Applicable environmental solutions for different industries

V-SHS

Duct Type Shelter Ventilation Device

VENSAART® İKLİMLENDİRME | HVAC SYSTEMS

▶ TECHNICIAL SPECIFICATIONS

Production Quality
Body Strength, Air Tightness, Filter By-Pass and Body
Sound Insulation Complies with TSE Standard

Structure and Panel
Self Supporting Frame and Double Sheet Sandwich Panels

Profile
Aluminum alloy (Almgsi0.5)

Sheet Material
Galvanized Steel

Panel Thickness
40 mm

Air Sealing
EPDM Sealing Gaskets are Used to Provide
Full Airtightness on Panel Surfaces

Heat and Sound Proofing
Stone Wool / Glass Wool

Fan
Backward curved / Aerofil Fan /
Plug-in fan / EC motor Fan

Filters
Radioactive Hepa - EU4 Filter - Activated Carbon

Optional
Lead Separator - Lead Coating

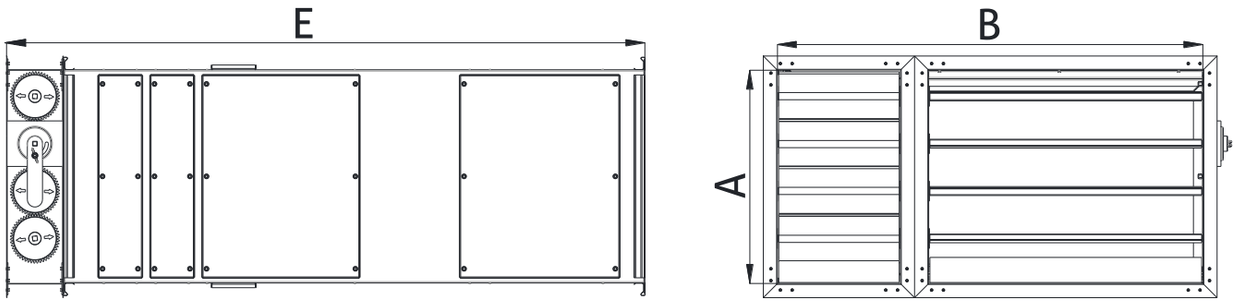
Power and Regulation
Built-in Power and Electrical Regulation Board

Shelter Ventilation Safe Air

Wars have been among the realities of the world since the beginning of human history. People have entered into a constant conflict environment by segregating according to religion, language, race and ethnic origins. This is a fact of humanity. In order to inflict more casualties on the enemy, many different weapons have been invented and countries have allocated astronomical budgets for these activities. The 1750 industrial revolution turned the war industry into a giant industry. Biological weapons have emerged as a waste material of medical and medical technology. After the discovery of the power of atomic energy, nuclear weapons began to be produced rapidly. Chemical weapons have also become the nightmare of humanity. Various laws and regulations have been enacted to eliminate all these negative situations. In accordance with the zoning law numbered 3194, there is an obligation to build a shelter area of a certain size under the ground level of the buildings. The air blown into the shelter area should be purified from nuclear, biological and chemical effects. Shelter ventilation units are products designed in line with these needs. It has TSE and CE Certificates.

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

DEVICE DESCRIPTION



MODEL	A	B	E	FLOW	PRESSURE	VOLTAGE	FREQUENCY	POWER	CURRENT	CYCLE	SOUND LEVEL
	mm	mm	mm	m³/h	Pa	V	Hz	W	A	RPM	dBA
V-SHS-1	320	530	1000	700	830	380	50	750	2	2820	60
V-SHS-2	320	830	1000	1300	800	380	50	1100	2,9	2830	62
V-SHS-3	320	880	1000	1800	790	380	50	1500	3,95	2830	59
V-SHS-4	650	950	1250	3000	900	380	50	2200	5,8	2830	65

TECHNICIAL SPECIFICATIONS

SHELTER CAPACITY	PROTECTION VENTILATION	HIGH FIRE HAZARD	LOW AND MEDIUM FIRE HAZARD
up to 0-50 people	1.8 m³/h - person	Sand filter, G4 dust filter, activated carbon filter	G4 dust filter, radioactive filter and active carbon filter
up to 51-150 people	3 m³/h - person	Sand filter, G4 dust filter, activated carbon filter	G4 dust filter, radioactive filter and active carbon filter
more than 150 people	4.5 m³/h - person	Sand filter, G4 dust filter, activated carbon filter	G4 dust filter, radioactive filter and active carbon filter

Law no. 3194 shelter regulation principles ventilation calculation table

CALCULATION EXAMPLE

Total construction area A=3000 m²
Number of people to be sheltered in the shelter: N=A/2=3000/2=150 Persons
Normal and protected air requirement per person: Q=3m³/h Person
Total air requirement: V=QxN, V=150 Personx3m³/h- Person=450 m³/h

OPTIONAL FEATURES

- Lead plated
- Lead separator

- Radioactive Nuclear Fallout Trap Filter
- Activated Carbon Filter
- G4 Coarse Filter
- Backward Curved Sparse Blade Plug Fan
- High Efficiency Low Noise
- By-Pass Damper
- Channel Type
- Ergonomic Assembly
- Compliant with the Manufacturing Regulation

TECHNICIAL SPECIFICATIONS

PLUG FAN

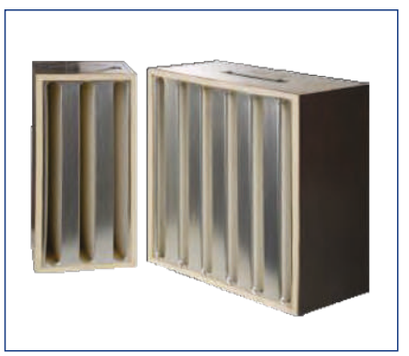
- Backward-curved sparse wing structure
- high efficiency
- low sound level
- high static pressure
  Thermo-protective element against
- engine overheating
- Easy disassembly and service
- possibility with cable connection with service cover connector

G4 DUST FILTER

Media: High quality glass fiber H13 (En1822)
Frame Material: K2/F2 (K1/F1 available)
Maximum Continuous Operating Temperature: 120°C
Design: V-Module
Gasket: Silicone

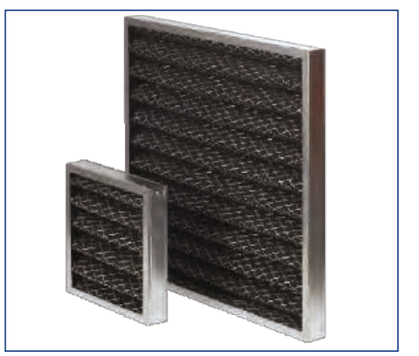
NUCLEAR HEPA FILTER

Media: High quality glass fiber H13 (En1822)
Frame Material: K2/F2 (K1/F1 available)
Maximum Continuous Operating Temperature: 120°C
Design: V-Module
Gasket: Silicone



NUCLEAR HEPA FILTER

Media: Synthetic fiber impregnated with activated carbon
Media weight: 400g
Maximum Continuous Operating Temperature: 75°C
Frame Type: Galvanized sheet
Gasket: K2/F2 at normal temperature



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Applicable environmental solutions for different industries

V-THF

Axial Fresh Air and Pressurization Fans

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TECHNICIAL SPECIFICATIONS

Structure and Panel
Galvanized steel sheet

Fan
Axial Aluminum Alloy
Aerodynamic Profile Wings

Engine Speed
1500 - 3000RPM

External Static Pressure
1000 Pa

Accessories
Suppressor
Counter Flange
Mounting Feet
Vibration Absorber Wedge
One Way Valve

Motor
80°C Heat Resistant

Power and Regulation
Built-in Power and Electrical Regulation Board

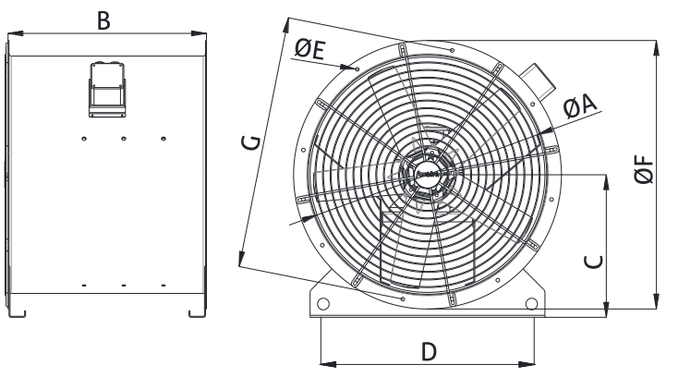
Monitoring / Management
BSM Management

MODEL	A	B	C	D	E	F	G	VOLTAGE	FREQUENCY
	mm	mm	mm	mm	mm	mm	mm	V	Hz
V-THF400	400	500	275	335	Ø9x8	500	450	380	50
V-THF450	450	500	300	385	Ø9x8	550	500	380	50
V-THF500	500	600	325	435	Ø9x8	600	550	380	50
V-THF560	560	600	355	495	Ø9x8	660	610	380	50
V-THF630	630	600	390	565	Ø9x8	730	680	380	50
V-THF710	710	600	430	645	Ø11x16	810	760	380	50
V-THF800	800	600	475	735	Ø11x16	900	850	380	50
V-THF900	900	750	525	735	Ø11x16	1000	950	380	50
V-THF1000	1000	800	595	835	Ø11x16	1100	1050	380	50
V-THF1120	1120	1000	655	935	Ø11x16	1220	1170	380	50
V-THF1250	1250	1000	720	1035	Ø11x16	1330	1280	380	50

Usage areas
- For the cooling of industrial machines
- Hot air discharge in places where the air temperature is high
- General and industrial buildings, • arehouse, warehouse and warehouse areas,
- Garage and public buildings, agricultural buildings
- Commercial greenhouses, • Large workshops, • Paint shops, • Factories
- Environments with dust and steam

Safe Air in All Areas

Heat resistance is generally not requested in fans used in stair and elevator pressurization systems. Demands are met by being manufactured as axial fan, cell fan or axial fan with cabin.



Energy-saving, Low Cost of Use
Strong Carcass Structure
Smart Control
Safe Working
In Different Environmental Conditions Working Opportunity
Low Noise
Sealed Structure
Easy setup
Low Maintenance Cost

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Applicable environmental solutions for different industries

V-DTF
Axial Smoke Evacuation Fan

TECHNICIAL SPECIFICATIONS

Structure and Panel
Galvanized steel sheet

Fan
Axial Aluminum Alloy
Aerodynamic Profile Wings

Engine Speed
1500 - 3000RPM

External Static Pressure
1000 Pa

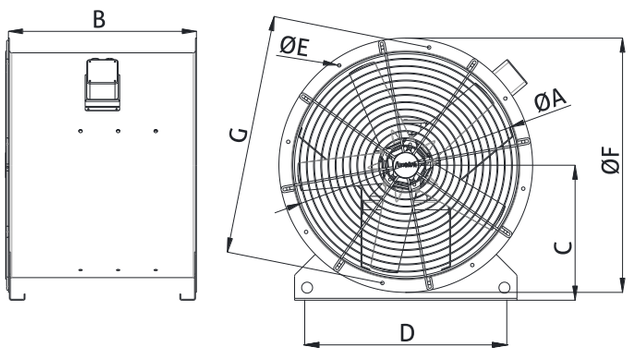
Accessories
Suppressor
Counter Flange
Mounting Feet
Vibration Absorber Wedge
One Way Valve

Motor
2-3 Hours Resistant to 200°C - 300°C Heat

Power and Regulation
Built-in Power and Electrical Regulation Board

Monitoring / Management
BSM Management

MODEL	A	B	C	D	E	F	G	VOLTAGE	FREQUENCY	Working Environment
	mm	mm	mm	mm	mm	mm	mm	V	Hz	
V-DTF400	400	500	275	335	Ø9x8	500	450	380	50	300 °C / 2 Saat
V-DTF450	450	500	300	385	Ø9x8	550	500	380	50	300 °C / 2 Saat
V-DTF500	500	600	325	435	Ø9x8	600	550	380	50	300 °C / 2 Saat
V-DTF560	560	600	355	495	Ø9x8	660	610	380	50	300 °C / 2 Saat
V-DTF630	630	600	390	565	Ø9x8	730	680	380	50	300 °C / 2 Saat
V-DTF710	710	600	430	645	Ø11x16	810	760	380	50	300 °C / 2 Saat
V-DTF800	800	600	475	735	Ø11x16	900	850	380	50	300 °C / 2 Saat
V-DTF900	900	750	525	735	Ø11x16	1000	950	380	50	300 °C / 2 Saat
V-DTF1000	1000	800	595	835	Ø11x16	1100	1050	380	50	300 °C / 2 Saat
V-DTF1120	1120	1000	655	935	Ø11x16	1220	1170	380	50	300 °C / 2 Saat
V-DTF1250	1250	1000	720	1035	Ø11x16	1330	1280	380	50	300 °C / 2 Saat



Safe Air in All Areas

The smoke formed in the fires threatens human life due to its breathing and poisoning effect. These high-temperature harmful gases formed during the fire must be evacuated as soon as possible. For this purpose, fire smoke exhaust fans have advantages such as fast delivery and service since they are domestic production. It provides smoke evacuation in residences, shopping malls, parking lots and industrial areas.

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Applicable environmental solutions for different industries

V-HAF

Cell Axial Fan

TECHNICIAL SPECIFICATIONS

Production Quality
Body Strength, Air Tightness, Filter By-Pass and Body
Sound Insulation Complies with TSE Standard

Structure and Panel
Self Supporting Frame and Double Sheet Sandwich Panels

Profile
Aluminum alloy (Almgsi0.5)

Sheet Material
Galvanized Steel

Panel Thickness
40 mm - 50mm

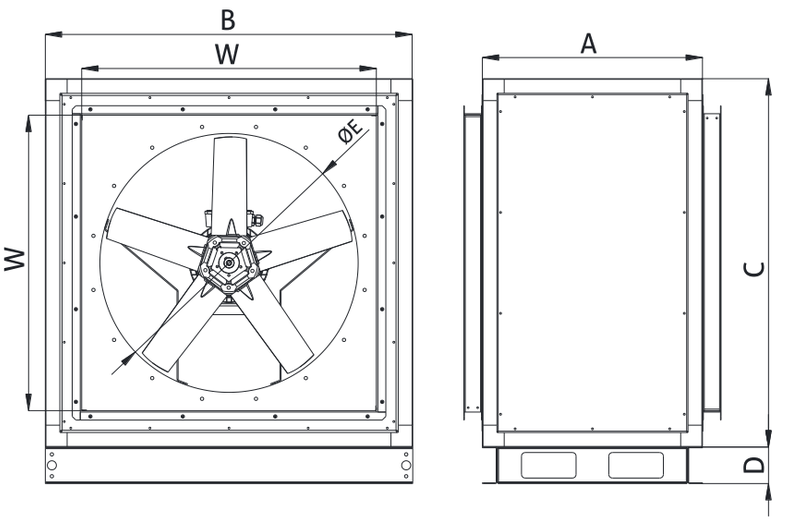
Air Sealing
EPDM Sealing Gaskets are Used to Provide
Full Airtightness on Panel Surfaces

Heat and Sound Proofing
Stone Wool / Glass Wool

Fan
Backward curved / Aerofil Fan /
Plug-in fan / EC motor Fan

Power and Regulation
Built-in Power and Electrical Regulation Board

Monitoring / Management
BSM Management



Safe Air in All Areas
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Usage areas
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Energy-saving, Low Cost of Use
Strong Carcass Structure
Smart Control
Safe Working
In Different Environmental Conditions Working Opportunity
Low Noise
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Easy setup
Low Maintenance Cost

TECHNICIAL SPECIFICATIONS

MODEL	A	B	C	D	E	W	VOLTAGE	FREQUENCY
	mm	mm	mm	mm	mm	mm	V	Hz
V-HAF-400	505	700	700	100	400	500	380	50
V-HAF-450	505	750	750	100	450	550	380	50
V-HAF-500	605	800	800	100	500	600	380	50
V-HAF-560	605	860	860	100	560	600	380	50
V-HAF-630	605	930	930	100	630	730	380	50
V-HAF-710	605	1010	1010	100	710	810	380	50
V-HAF-800	605	1100	1100	100	800	900	380	50
V-HAF-900	755	1200	1200	100	900	1000	380	50
V-HAF-1000	805	1300	1300	100	1000	1100	380	50
V-HAF-1120	1005	1420	1420	100	1120	1220	380	50
V-HAF-1250	1005	1550	1550	100	1250	1350	380	50

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Applicable environmental solutions for different industries

V-JF
Axial Jet Fan

TECHNICIAL SPECIFICATIONS

Structure and Panel
Galvanized steel sheet

Fan
Axial Aluminum Alloy
Aerodynamically Profile Wings

Motor Speed
1500 - 3000 RPM

Thrust Force
24 N - 390 N

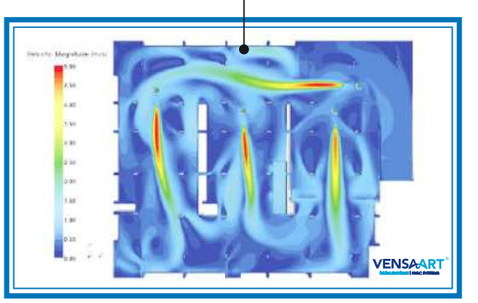
Accessories
Suppressor
Mounting Feet
Vibration Absorber Wedge
One Way Valve

Optional
80°C Heat Resistant
300°C - 400°C Heat Resistant for 2-3 Hours

Power and Regulation
Built-in Power and Electrical Regulation Board

Monitoring / Management
BSM Management

AUTOMATION CONTROL PANEL



SIMULATION TEST REPORT

Safe Air in All Areas

The smoke formed in the fires threatens human life due to its breathing and poisoning effect. These high-temperature harmful gases formed during the fire must be evacuated as soon as possible. For this purpose, fire smoke exhaust fans have advantages such as fast delivery and service since they are domestic production. It provides smoke evacuation in residences, shopping malls, parking lots and industrial areas.

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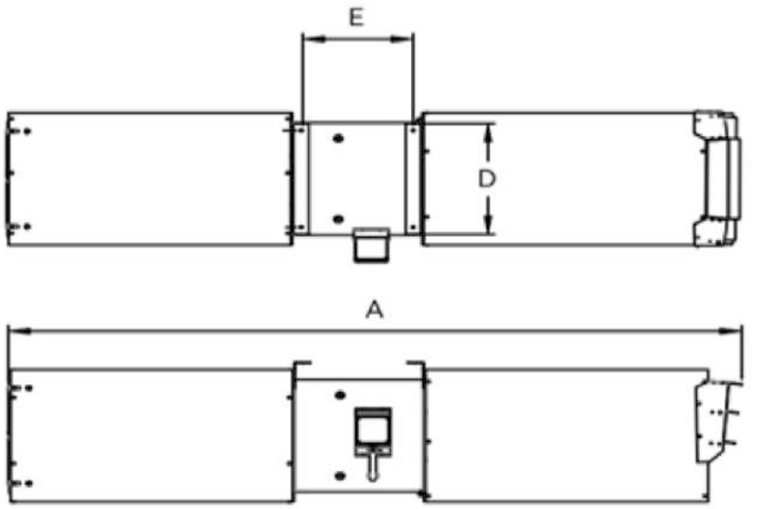
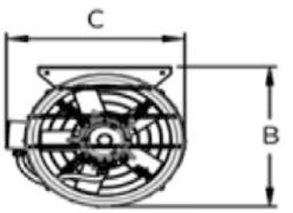
DEVICE DESCRIPTION





F300 2h

F400 2h

MODEL	A	B	C	D	E	H	L	THRUST	MAX. FLOW	POWER	CYCLE	MAX. AIR SPEED	SOUND LEVEL	WEIGHT
	mm	mm	mm	mm	mm	mm	mm	N	m³/h	kW	RPM	m/s	dBA	kg
V-JF- 315	380	445	250	335	495	395	1615	24	4500	0,75/0,17	3000/1500	16	69/54	65
V-JF- 355	380	485	270	375	535	435	1625	40	6500	1/0,25	3000/1500	18	74/59	85
V-JF- 400	380	530	290	420	580	480	1635	60	9000	1,3/0,33	3000/1500	20	75/60	100
V-JF- 450	380	580	320	470	630	530	1845	85	12000	2/0,5	3000/1500	21	82/67	140

GENERAL FEATURES

The equipment of J-FWA Axial Jet Fan models are certified to EN 12101-3 fire resistant to 400 degrees for 2 hours and to 300 degrees for 2 hours by internationally recognized accreditation organizations.
It is manufactured between Ø315 mm and Ø 630 mm diameters.
According to the project used, there are two-way, one-way, double-speed and single-speed options.

Fan Body
The body of J-FWA Axial Jet Fan models is manufactured from high quality galvanized steel.

Propeller
The blade angles of the propellers used in J-FWA Axial Jet Fan Models are adjustable, and the body and blades are made of special alloy aluminum. According to the project, it can operate with the same performance in both blowing directions, thanks to its reversible blade structure. It complies with international standards.

Electric motor
It is manufactured as a standard (380 V - 50 Hz) or on request in accordance with other voltages and frequencies (400/415/440V - 50Hz). As a standard, Class H, S1+S2, IP55 single-speed or double-speed motors are used, which can withstand 400 degrees for 2 hours or 300 degrees for 2 hours, depending on demand.

Accessories
In these series, the sound intensity increases due to the high air outlet velocities, and for this reason, jet fans are used as standard.

Slide System
Thanks to the specially designed skid system in J-FWA models, the engine is easily intervened and disassembly and maintenance times are minimized.

AUTOMATION PANEL AND CONTROL SYSTEMS

Automation panel, according to the signals coming from the carbon monoxide detection system and/or fire/smoke detection system that analyzes the situation in the parking lot, all mechanical devices in the system are axial fans, jet fans, air/smoke dampers, doors, etc.) is responsible for operating the PLC (Programmable Logic Card) it carries in accordance with the ventilation scenarios processed.

The floor dampers are closed and opened according to the scenario written so that the harmful gas and smoke that needs to be exhausted does not reach the other floors in the event of a fire.

Jet fans operate in 1st cycle for daily ventilation according to signals from gas sensors or 2nd cycle according to signals from fire/smoke detection system.each the other floors in the event of a fire.

Fresh air and smoke exhaust fans are activated according to the signals from the gas and fire/smoke detection systems and the harmful gas is exhausted.

It works in full harmony with gas sensors and smoke/fire detection systems used in the parking lot.

CFD (HAD) ANALYSIS

Jet fan parking garage ventilation projects should be supported by computational fluid dynamics analysis. CFD (HAD) analyzes to be carried out are very important in terms of the accuracy of the project work, the precise determination of jet fan placements, and the control of the position of the exhaust and fresh air shafts.

The analysis to be made should be prepared with the fire simulation and boundary conditions prepared in accordance with the BS 7346-7 standard after the 3D modeling of the relevant car park. The condition of the parking lot in case of a possible fire or in the evacuation of the exhaust gases formed in the building is examined as a result of the analysis with this simulation.

In this way, preliminary information is obtained about how the air flow and smoke extraction will behave in the real situation.

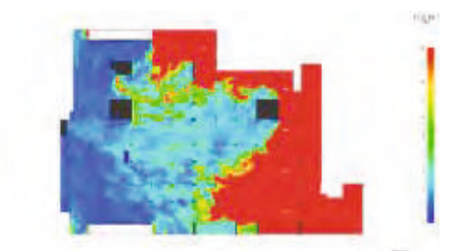
These analyzes should be performed using CFX, Flow Simulation, PyroSim or similar internationally recognized software. According to the simulation result, the number and placement of jet fans should be optimized.

With CFD (HAD) Analysis;

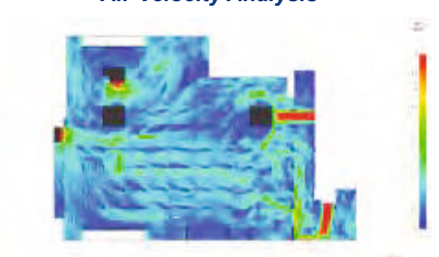
- Smoke density, visibility and air movements at 1.7m above the ground
- Temperature distribution in the parking lot at the time of fire,
- Air flow details that will occur in the parking lot,
- Air velocity profiles are examined.

Smoke Analysis

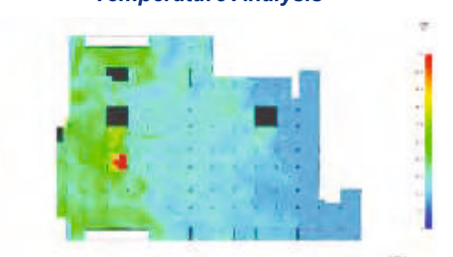
View Range Analysis



Air Velocity Analysis



Temperature Analysis



The analyzes are examined according to ASHRAE, BS 7346-7, NFPA 130 standards.

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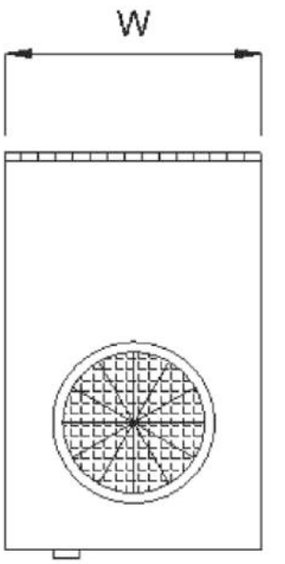
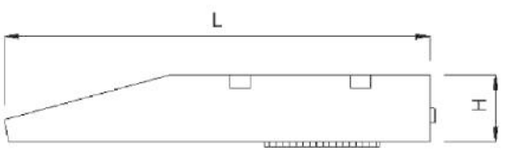
V-R-JF
Radial Jet Fan

TECHNICIAL SPECIFICATIONS

JET FAN - SINGLE SPEED - HEAT RESISTANT (F200-F300)								
MODEL	FLOW m³/h	ENGINE POWER (kW)	RMP	THRUST POWER (N)	SOUND LEVEL (Db)	L(mm)	H(mm)	W(mm)
V-R-JF 6	6.000 m³/h	1,62	1500	50	72	1300	350	800
V-R-JF 9	8.800 m³/h	2,44	1500	98	77	1800	400	1050
JET FAN - SINGLE SPEED - WITHOUT HEAT RESISTANCE (F80)								
MODEL	FLOW m³/h	ENGINE POWER (kW)	RMP	THRUST POWER (N)	SOUND LEVEL (Db)	L(mm)	H(mm)	W(mm)
V-R-JF 6	6.000 m³/h	1,62	1500	50	72	1300	350	800
V-R-JF 9	8.800 m³/h	2,44	1500	98	77	1800	400	1050
JET FAN - DOUBLE SPEED - HEAT RESISTANT (F200- F300)								
MODEL	FLOW m³/h	ENGINE POWER (kW)	RMP	THRUST POWER (N)	SOUND LEVEL (Db)	L(mm)	H(mm)	W(mm)
V-R-JF 6	6.000 m³/h	1,62/0,38	1500/750	50/14	72/59	1300	350	800
V-R-JF 9	8.800 m³/h	2,44/0,69	1500/750	98/22	77/61	1800	400	1050
JET FAN - DOUBLE SPEED - WITHOUT HEAT RESISTANCE (F80)								
MODEL	FLOW m³/h	ENGINE POWER (kW)	RMP	THRUST POWER (N)	SOUND LEVEL (Db)	L(mm)	H(mm)	W(mm)
V-R-JF 6	6.000 m³/h	1,62/0,38	1500/750	50/14	72/59	1300	350	800
V-R-JF 9	8.800 m³/h	2,44/0,69	1500/750	98/22	77/61	1800	400	1050

SOUND LEVEL MEASURED FROM 1.5 m DISTANCE





Safe Air in All Areas

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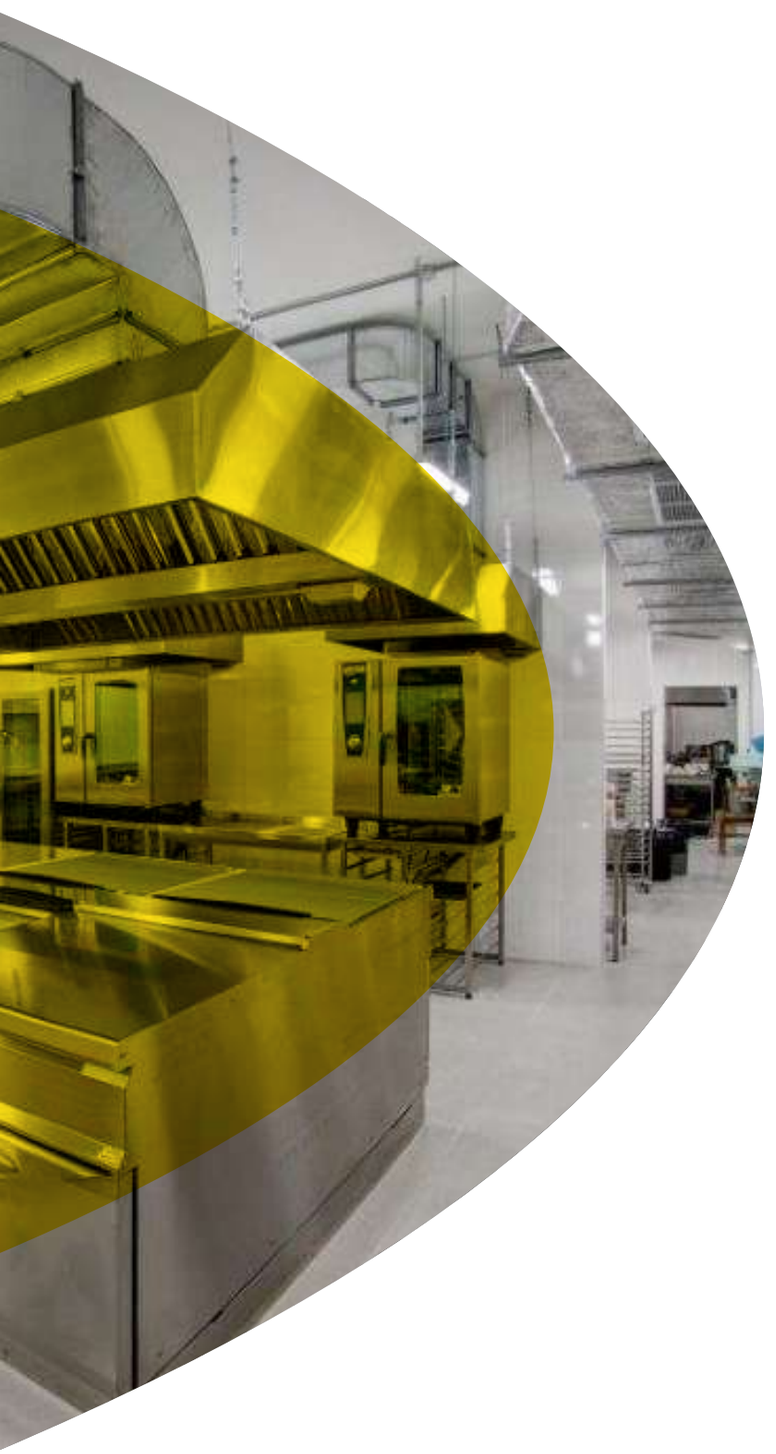
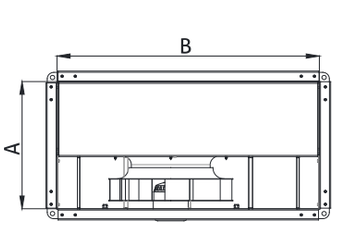
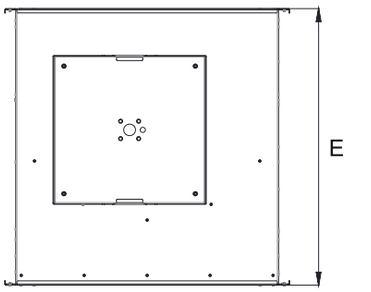


VD-KTA
Rectangular Duct Type Fan

TECHNICIAL SPECIFICATIONS





Kumanda Paneli

Structure
Galvanized Steel

Fan
Single Inlet Centrifugal Fan

External Static Pressure
up to 500 Pa

Power
220-1-50 / 380-3-50

Protection classification
Ip55

Control
Speed Switch / Optional

	A	B	E	VOLTAGE	FREQUENCY	POWER	CURRENT	CYCLE	FLOW	SOUND LEVEL	WEIGHT
MODEL	mm	mm	mm	V	Hz	W	A	RPM	m³/h	dBA	kg
VD-KTA-190	200	300	400	230	50	60	0,27	2500	540	48	7
VD-KTA-225	250	350	400	230	50	135	0·47	2600	1100	53	11
VD-KTA-250	250	350	500	230	50	230	0·7	2700	1480	55	12
VD-KTA-280	250	400	500	230	50	230	0·9	2450	1800	56	16
VD-KTA-355	350	500	600	230	50	240	1·1	1400	2520	50	26
VD-KTA-400	400	550	650	230	50	430	1	1380	4100	53	35
VD-KTA-450	450	600	800	230	50	800	1·8	1350	6290	60	38
VD-KTA-500	500	700	900	380	50	1500	2·2	1400	9500	64	61
VD-KTA-560	550	750	950	380	50	2740	4·1	1351	12·450	69	80
VD-KTA-630	650	850	1000	380	50	4313	8·4	1334	17·890	74	102

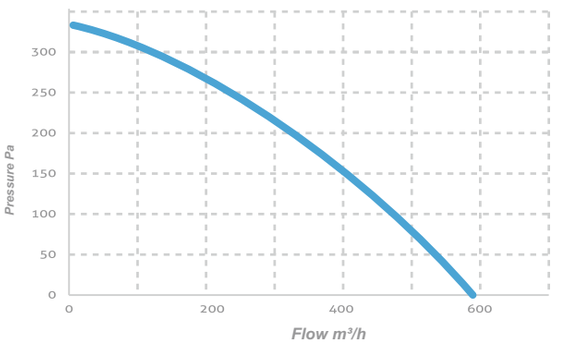
Farewell to Bad Odors
Specially Designed to Remove Undesirable Odors from the System High Pressure and Air Flow Up to 18.000 m3/h Easy Installation

Energy-saving, Low Cost of Use
Strong Carcass Structure
Smart Control
Safe Working
In Different Environmental Conditions Working Opportunity
Low Noise
Sealed Structure
Easy setup
Low Maintenance Cost

PERFORMANCE CURVES

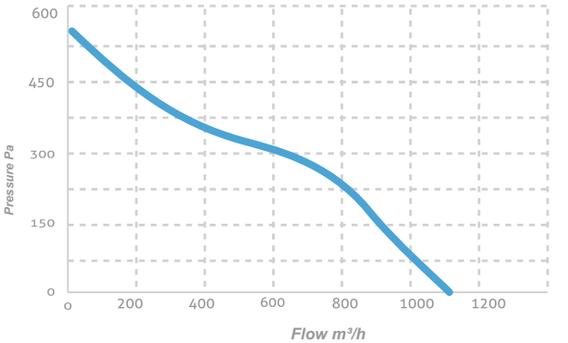
VD-KTA-190

Voltage 230 V
Frequency 50 Hz
Power 60 W
Current 0,27 A
Cycle 2500 rpm
Flow 540 m³/h
Sound Level 48 dBA
Weight 7 kg



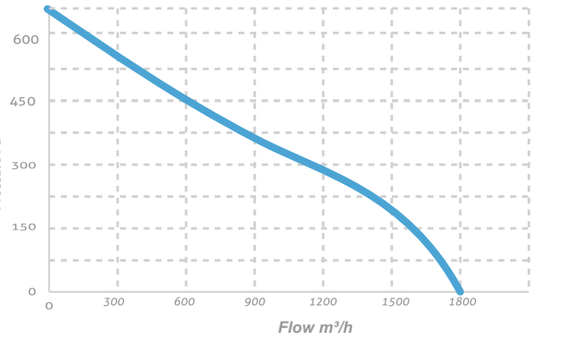
VD-KTA-225

Voltage 230 V
Frequency 50 Hz
Power 135 W
Current 0,27 A
Cycle 2600 rpm
Flow 1100 m³/h
Sound Level 35 dBA
Weight 11 kg



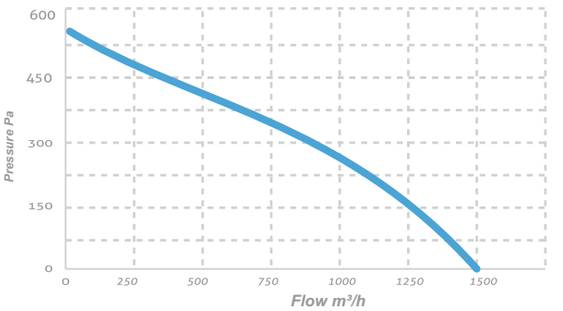
VD-KTA-250

Voltage 230 V
Frequency 50 Hz
Power 230 W
Current 0,27 A
Cycle 2700 rpm
Flow 1480 m³/h
Sound Level 55 dBA
Weight 12 kg



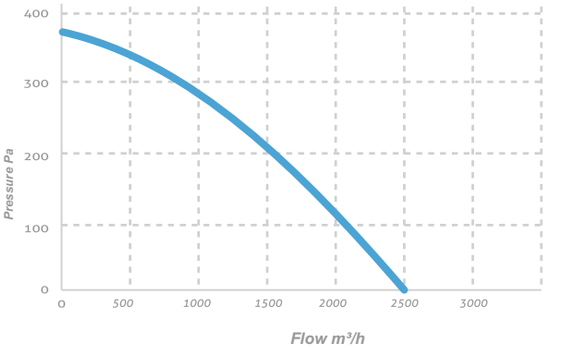
VD-KTA-280

Voltage 230 V
Frequency 50 Hz
Power 230 W
Current 0,9 A
Cycle 2450 rpm
Flow 1800 m³/h
Sound Level 56 dBA
Weight 16 kg



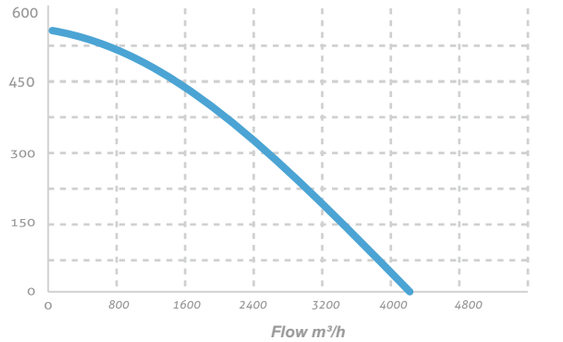
VD-KTA-355

Voltage 230 V
Frequency 50 Hz
Power 240 W
Current 1,1 A
Cycle 1400 rpm
Flow 2520 m³/h
Sound Level 50 dBA
Weight 26 kg



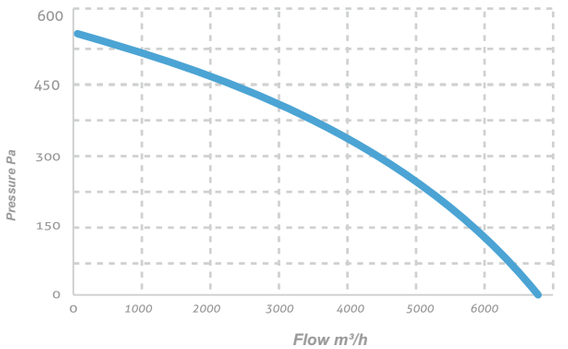
VD-KTA-400

Voltage 230 V
Frequency 50 Hz
Power 430 W
Current 1 A
Cycle 1380 rpm
Flow 4100 m³/h
Sound Level 53 dBA
Weight 35 kg



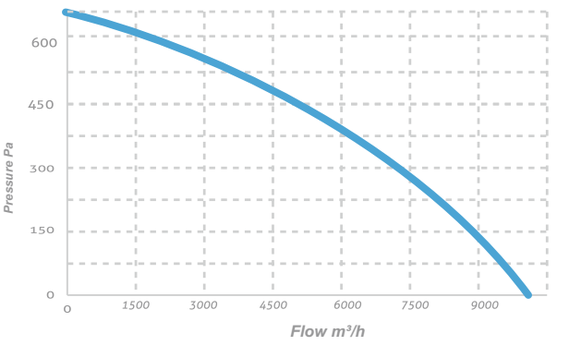
VD-KTA-450

Voltage 230 V
Frequency 50 Hz
Power 800 W
Current 1,8 A
Cycle 1350 rpm
Flow 6290 m³/h
Sound Level 60 dBA
Weight 38 kg



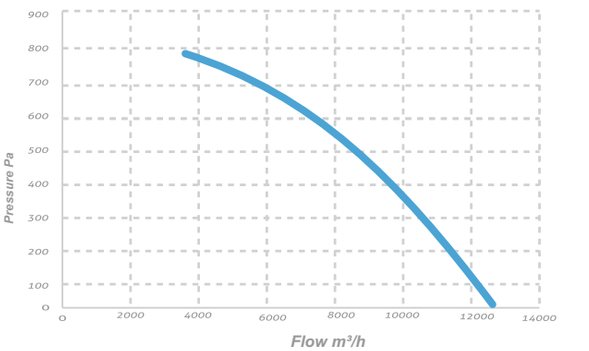
VD-KTA-500

Voltage 380 V
Frequency 50 Hz
Power 1500 W
Current 2,2 A
Cycle 1400 rpm
Flow 9500 m³/h
Sound Level 64 dBA
Weight 61 kg



VD-KTA-560

Voltage 380 V
Frequency 50 Hz
Power 2740 W
Current 4,1 A
Cycle 1351 rpm
Flow 12400 m³/h
Sound Level 69 dBA
Weight 80 kg

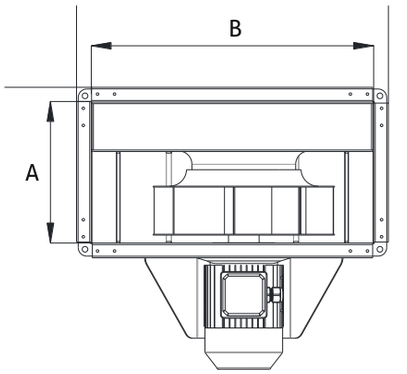


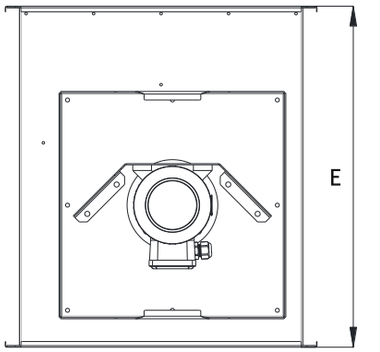
VENSAART®
İKLİMLENDİRME | HVAC SYSTEMS

Applicable environmental solutions for different industries

V-D-KTAD
Rectangular Duct Type Fan with External Motor

TECHNICIAL SPECIFICATIONS





Structure
Galvanized Steel

Fan
Single Inlet Centrifugal Fan

Engine Speed
1.500 - 3000 rpm

External Static Pressure
up to 500 Pa

Power
220-1-50 / 380-3-50

Protection classification
Ip55

Control
Speed Switch

	A	B	E	VOLTAGE	FREQUENCY	POWER	CURRENT	CYCLE	FLOW	SOUND LEVEL	WEIGHT
MODEL	mm	mm	mm	V	Hz	kW	A	RPM	m³/h	dBA	kg
VD-KTAD-0,5	250	350	450	380	50	0,37	1,2	1390	1000	58	28
VD-KTAD-1,0	300	400	550	380	50	0,55	1,6	1385	2000	60	32
VD-KTAD-1,5	350	450	600	380	50	0,75	2	1370	3000	62	34
VD-KTAD-2	350	500	600	380	50	1,1	2,6	1380	4000	62	38
VD-KTAD-3	400	500	650	380	50	1,5	3	1400	5000	64	49
VD-KTAD-4	400	550	650	380	50	2,2	3,4	1420	6000	68	63

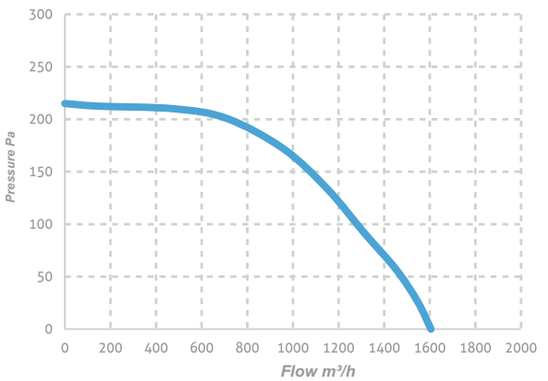
Farewell to Bad Odors
Special Design for Removal of Undesirable Odors from the System

Energy-saving, Low Cost of Use
Low Noise
Strong Carcass Structure
Sealed Structure
Smart Control
Easy setup
Safe Working
Low Maintenance Cost
In Different Environmental Conditions Working Opportunity

PERFORMANCE CURVES

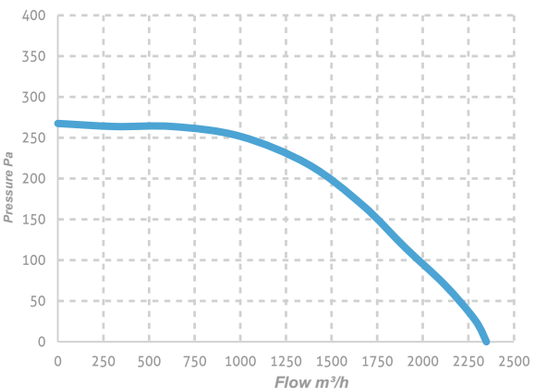
VD-KTAD-0,5

Voltage 380 V
Frequency 50 Hz
Power 0,37 kW
Cycle 1390 rpm
Sound Level 58 dBA
Weight 28 kg



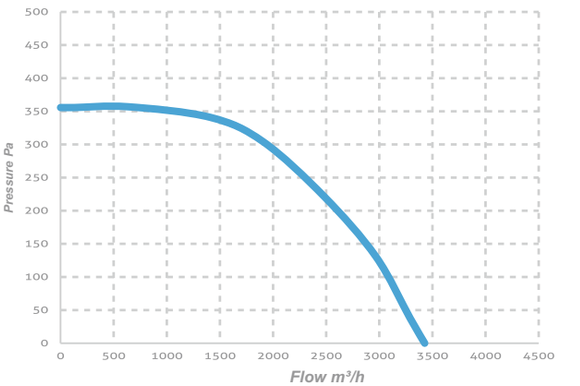
VD-KTAD-1,0

Voltage 380 V
Frequency 50 Hz
Power 0,55 kW
Cycle 1385 rpm
Sound Level 60 dBA
Weight 32 kg



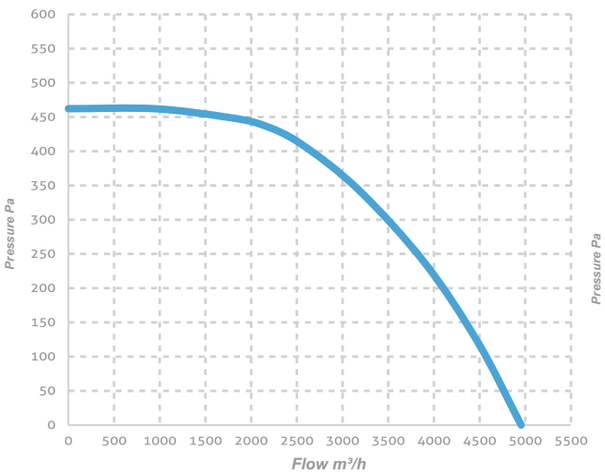
VD-KTAD-1,5

Voltage 380 V
Frequency 50 Hz
Power 0,75 kW
Cycle 1370 rpm
Sound Level 62 dBA
Weight 34 kg



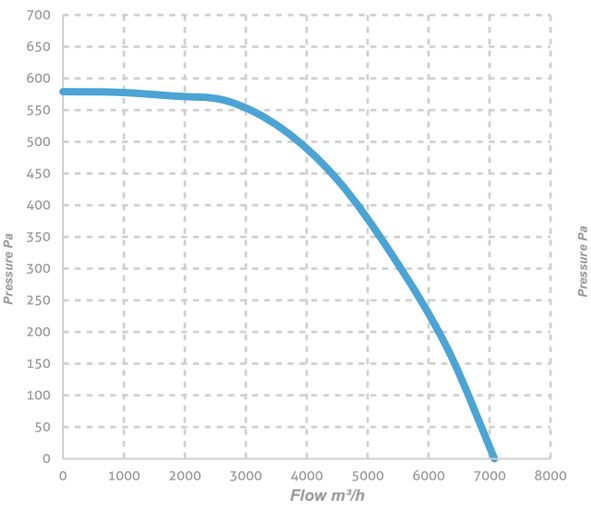
VD-KTAD-2

Voltage 380 V
Frequency 50 Hz
Power 1,1 kW
Cycle 1380 rpm
Sound Level 62 dBA
Weight 38 kg



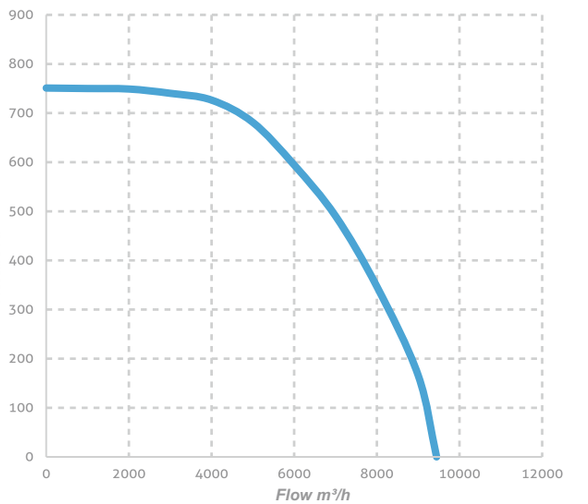
VD-KTAD-3

Voltage 380 V
Frequency 50 Hz
Power 1,5 kW
Cycle 1380 rpm
Sound Level 64 dBA
Weight 49 kg



VD-KTAD-4

Voltage 380 V
Frequency 50 Hz
Power 2,2 kW
Cycle 1400 rpm
Sound Level 68 dBA
Weight 63 kg



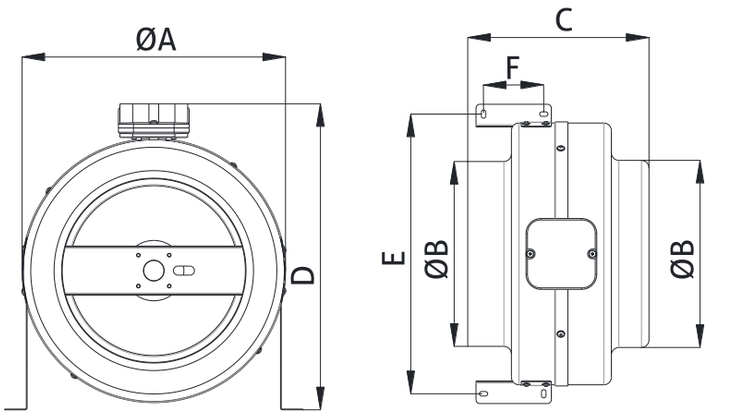
VENSAART®

İKLİMLENDİRME | HVAC SYSTEMS

Applicable environmental solutions for different industries

V-YKTF
Round Duct Type Fan

TECHNICIAL SPECIFICATIONS



Structure
Galvanized Steel

Fan
Single Inlet Centrifugal Fan

Engine Speed
1.500 - 3000 rpm

External Static Pressure
up to 500 Pa

Power
220-1-50 / 380-3-50

Protection classification
Ip55

Control
Speed Switch

MODEL	A	B	C	D	E	F	VOLTAGE	FREQUENCY	POWER	CURRENT	CYCLE	FLOW	SOUND LEVEL	WEIGHT
	mm	mm	mm	mm	mm	mm	V	Hz	W	A	RPM	m³/h	dBA	kg
V-YKTF-160	278	155	210	349	296	80	230	50	66	0,3	2300	540	48	3,5
V-YKTF-200	321	195	234	381	341	80	230	50	100	0,47	2580	800	53	4,25
V-YKTF-250	350	245	241	406	371	80	230	50	150	0,7	2600	1020	55	5
V-YKTF-315	396	310	237	449	417	80	230	50	250	1,1	2500	1840	58	6,1

Farewell to Bad Odors
Special Design for Removal of Undesirable Odors from the System

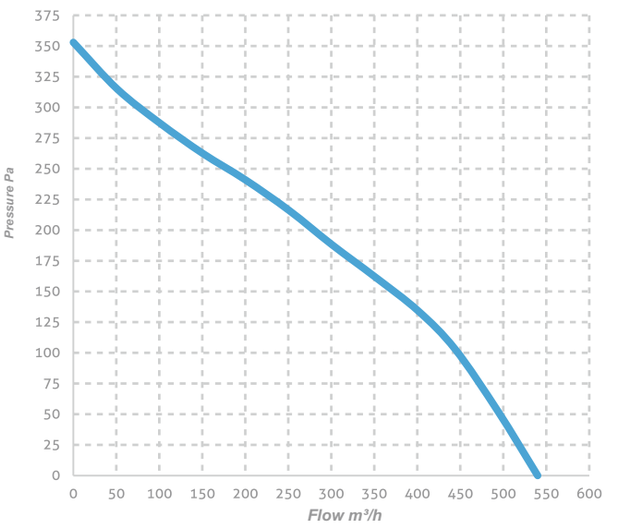
Energy-saving, Low Cost of Use
Low Noise
Strong Carcass Structure
Sealed Structure
Smart Control
Easy setup
Safe Working
Low Maintenance Cost
In Different Environmental Conditions Working Opportunity

PERFORMANCE CURVES

V-YKTF 160

Voltage 230 V
Frequency 50 Hz
Power 66 W
Current 0,3 A

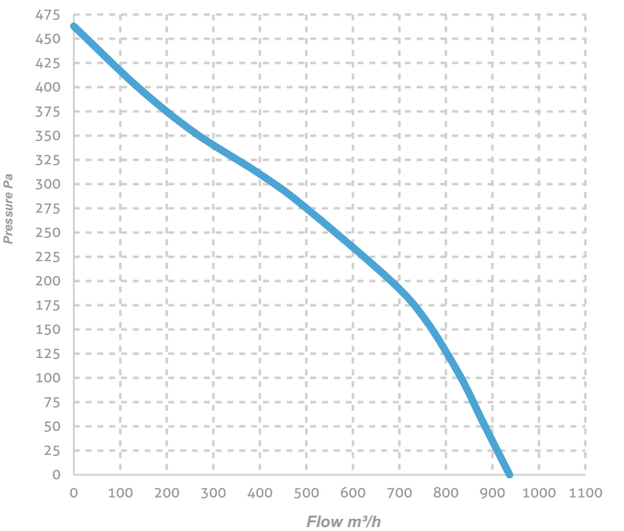
Cycle 2300 rpm
Flow 540 m³/h
Sound Level 48 dBA
Weight 3,5 kg



V-YKTF 200

Voltage 230 V
Frequency 50 Hz
Power 100 W
Current 0,47 A

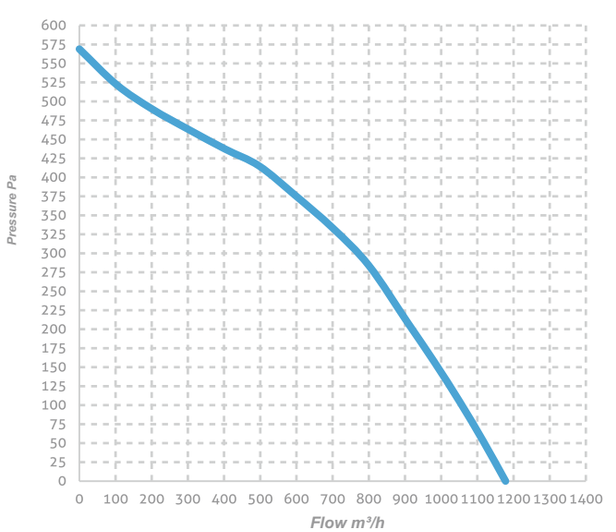
Cycle 2580 rpm
Flow 800 m³/h
Sound Level 53 dBA
Weight 4,25 kg



V-YKTF 250

Voltage 230 V
Frequency 50 Hz
Power 150 W
Current 0,7 A

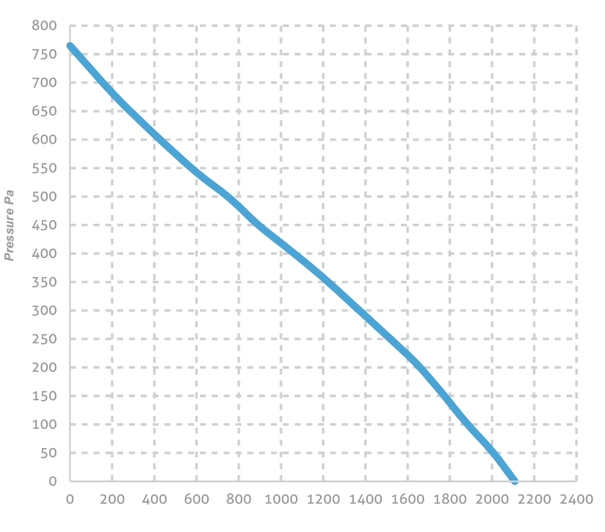
Cycle 2600 rpm
Flow 1020 m³/h
Sound Level 55 dBA
Weight 5 kg



V-YKTF 315

Voltage 230 V
Frequency 50 Hz
Power 250 W
Current 1,1 A

Cycle 2500 rpm
Flow 1840 m³/h
Sound Level 58 dBA
Weight 6,1 kg

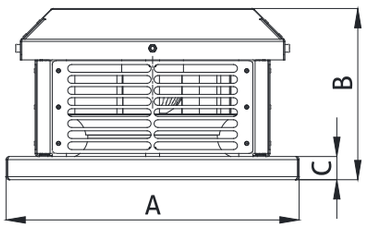


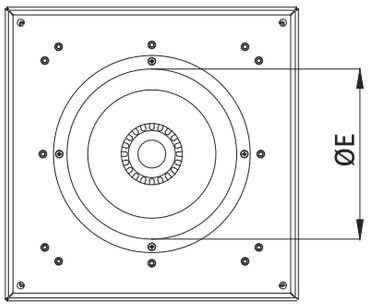
VENSAART®
İKLİMLENDİRME | HVAC SYSTEMS

Applicable environmental solutions for different industries

V-ÇTA
Self-powered Roof Type Fan

TECHNICIAL SPECIFICATIONS





MODEL	A mm	B mm	C mm	E mm	VOLTAGE V	FREQUENCY Hz	POWER W	CURRENT A	CYCLE RPM	FLOW m³/h	SOUND LEVEL dBA	WEIGHT kg
V-ÇTA-190	320	250	50	133	540	50	66	0,27	2500	530	52	6,5
V-ÇTA-225	350	300	30	153	230	50	135	0,47	2600	1400	56	8,3
V-ÇTA-250	360	300	30	190	230	50	230	0,7	2700	1500	58	8,5
V-ÇTA-280	380	300	30	250	230	50	230	0,9	2450	1800	58	9,7
V-ÇTA-355	450	350	30	250	230	50	210	1,1	1400	2500	60	26
V-ÇTA-400	500	400	50	280	230	50	430	1	1390	4000	62	35
V-ÇTA-450	570	450	50	310	230	50	800	1,8	1350	6000	64	38
V-ÇTA-500	600	500	50	320	380	50	1500	2,2	1400	9400	64	61
V-ÇTA-560	650	500	50	340	380	50	2740	4,1	1351	12.000	69	80

Structure
Galvanized Steel

Fan
Single Inlet Centrifugal Fan

Engine Speed
1.500 - 3000 rpm

External Static Pressure
up to 1500 Pa

Power
220-1-50 / 380-3-50

Protection classification
Ip55

Control
Speed Switch

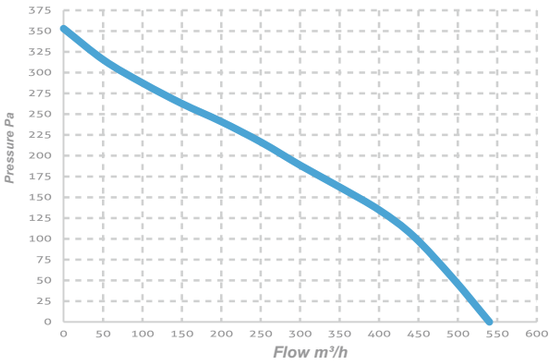
Farewell to Bad Odors
Specially Designed to Remove Undesirable Odors from the System High Pressure and Air Flow Up to 18.000 m3/h Easy Installation

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

PERFORMANCE CURVES

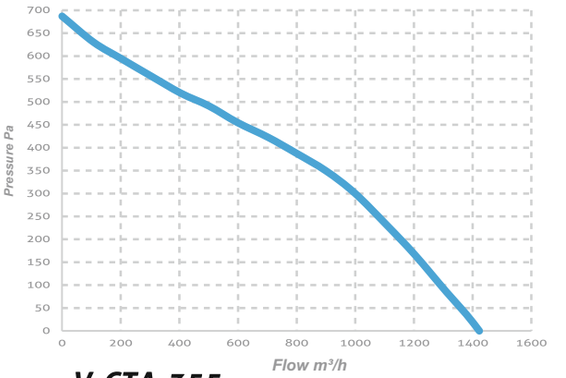
V-ÇTA-190

Voltage 230 V
Frequency 50 Hz
Power 66 W
Current 0,27 A
Cycle 2500 rpm
Flow 540 m³/h
Sound Level 52 dBA
Weight 6,5 kg



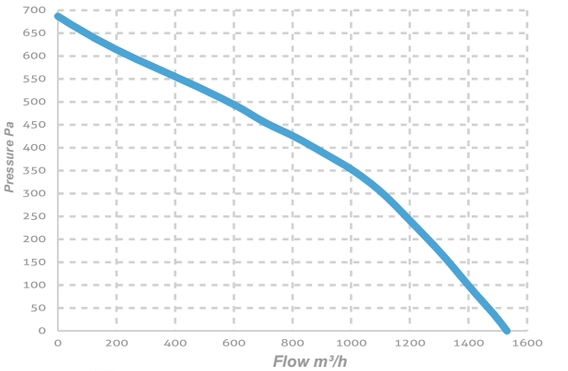
V-ÇTA-225

Voltage 230 V
Frequency 50 Hz
Power 135 W
Current 0,47 A
Cycle 2600 rpm
Flow 1400 m³/h
Sound Level 56 dBA
Weight 8,3 kg



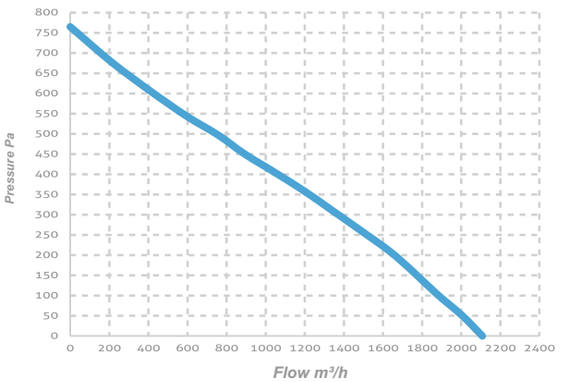
V-ÇTA-250

Voltage 230 V
Frequency 50 Hz
Power 230 W
Current 0,7 A
Cycle 2700 rpm
Flow 1500 m³/h
Sound Level 58 dBA
Weight 8,5 kg



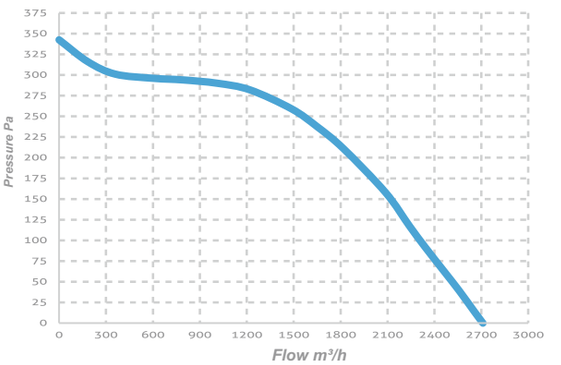
V-ÇTA-280

Voltage 230 V
Frequency 50 Hz
Power 250 W
Current 0,9 A
Cycle 2450 rpm
Flow 1800 m³/h
Sound Level 58 dBA
Weight 9,7 kg



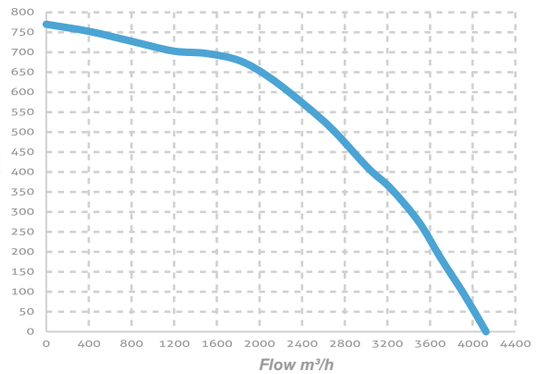
V-ÇTA-355

Voltage 230 V
Frequency 50 Hz
Power 210 W
Current 1,1 A
Cycle 1400 rpm
Flow 2500 m³/h
Sound Level 60 dBA
Weight 26 kg



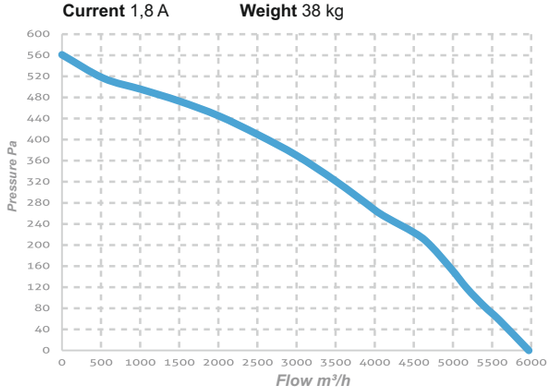
V-ÇTA-400

Voltage 230 V
Frequency 50 Hz
Power 430 W
Current 1 A
Cycle 1390 rpm
Flow 4000 m³/h
Sound Level 62 dBA
Weight 35 kg



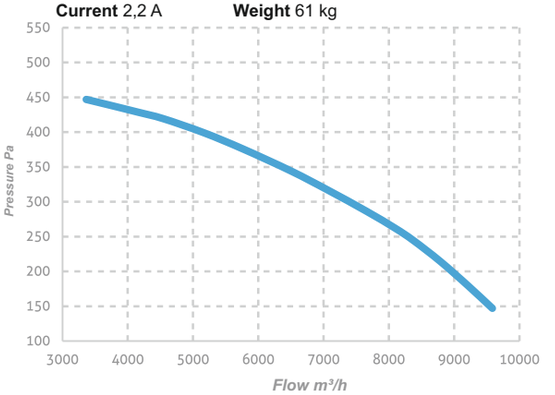
V-ÇTA-450

Voltage 230 V
Frequency 50 Hz
Power 800 W
Current 1,8 A
Cycle 1350 rpm
Flow 6000 m³/h
Sound Level 64 dBA
Weight 38 kg



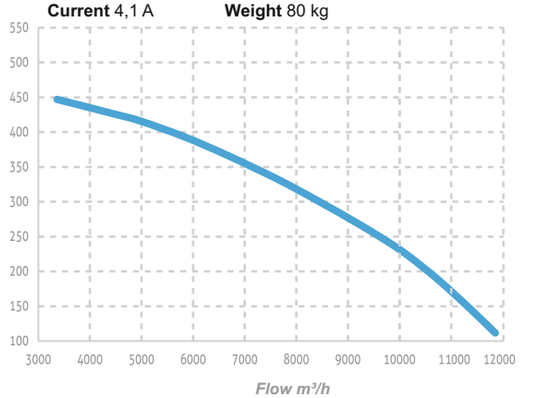
V-ÇTA-500

Voltage 280 V
Frequency 50 Hz
Power 1500 W
Current 2,2 A
Cycle 1400 rpm
Flow 9400 m³/h
Sound Level 64 dBA
Weight 61 kg



V-ÇTA-560

Voltage 380 V
Frequency 50 Hz
Power 2740 W
Current 4,1 A
Cycle 1351 rpm
Flow 12000 m³/h
Sound Level 69 dBA
Weight 80 kg



VENSAART®

İKLİMLENDİRME | HVAC SYSTEMS

Applicable environmental solutions for different industries

V-M-ÇTA

ROOF TYPE FAN EXTERNAL MOTOR

TECHNICIAL SPECIFICATIONS

Structure
Galvanized Steel

Fan
Single Inlet Centrifugal Fan

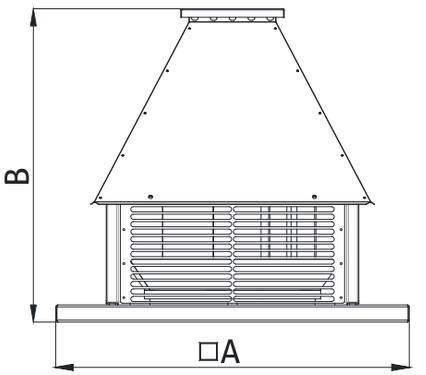
Engine Speed
1.500 - 3000 rpm

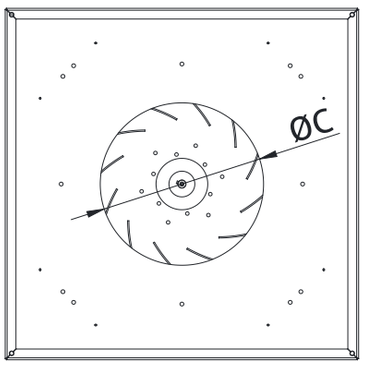
External Static Pressure
up to 1500 Pa

Power
220-1-50 / 380-3-50

Protection classification
Ip55

Control
Speed Switch





MODEL	A	B	C	VOLTAGE	FREQUENCY	POWER	CYCLE	FLOW	PRESSURE	SOUND LEVEL	WEIGHT
	mm	mm	mm	V	Hz	kW	RPM	m³/h	Pa	dBA	kg
V-M-ÇTA-0,5	500	583	180	380	50	0,37	1390	1000	250	58	28
V-M-ÇTA-1	500	603	224	380	50	0,55	1385	2000	250	60	32
V-M-ÇTA-1,5	550	642	280	380	50	0,75	1370	3000	250	62	34
V-M-ÇTA-2	550	751	280	380	50	1,1	1380	4000	250	62	38
V-M-ÇTA-3	600	761	305	380	50	1,5	1400	5000	250	64	49
V-M-ÇTA-4	600	761	330	380	50	2,2	1420	6000	250	68	63
V-M-ÇTA-5,5	600	936	330	380	50	3	1450	7000	250	72	68
V-M-ÇTA-7,5	650	975	380	380	50	4	1450	8500	250	75	80
V-M-ÇTA-10	700	1000	420	380	50	5,5	1500	10000	250	78	99

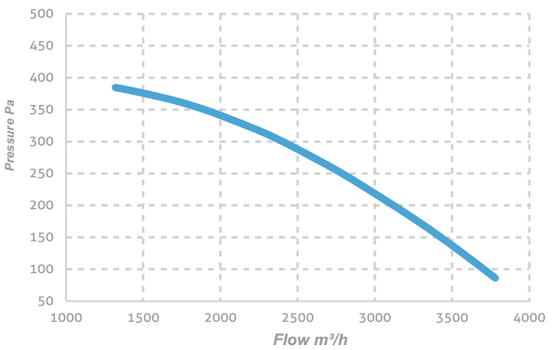
Farewell to Bad Odors
Specially Designed to Remove Undesirable Odors from the System High Pressure and Air Flow Up to 18.000 m3/h Easy Installation

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

PERFORMANCE CURVES

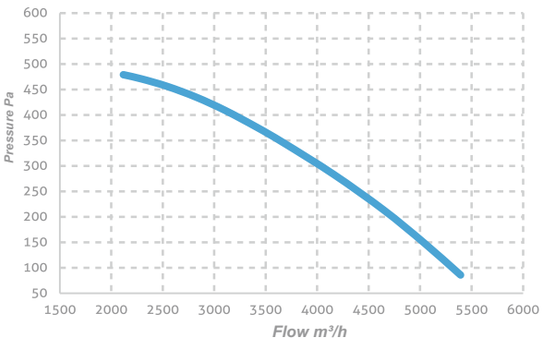
V-M-ÇTA-0,5

Voltage 380 V
Frequency 50 Hz
Power 0,37 kW
Cycle 1390 rpm
Sound Level 58 dBA
Weight 28 kg



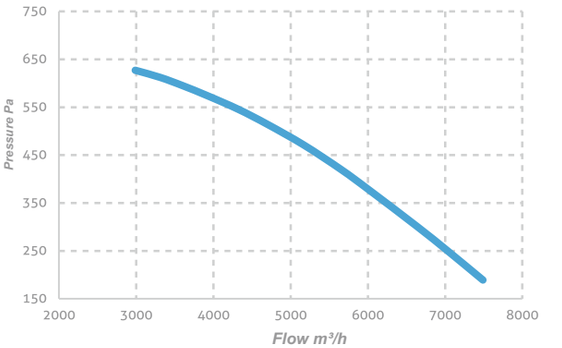
V-M-ÇTA-1

Voltage 380 V
Frequency 50 Hz
Power 0,55 kW
Cycle 1385 rpm
Sound Level 60 dBA
Weight 32 kg



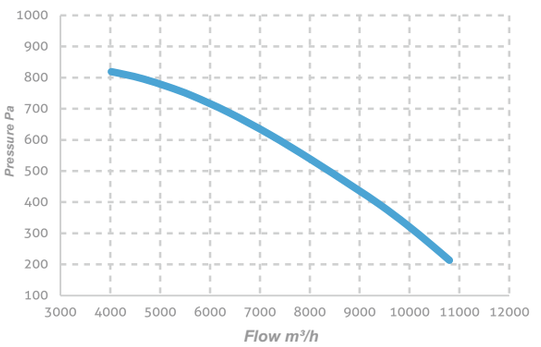
V-M-ÇTA-1,5

Voltage 380 V
Frequency 50 Hz
Power 0,75 kW
Cycle 1370 rpm
Sound Level 62 dBA
Weight 34 kg



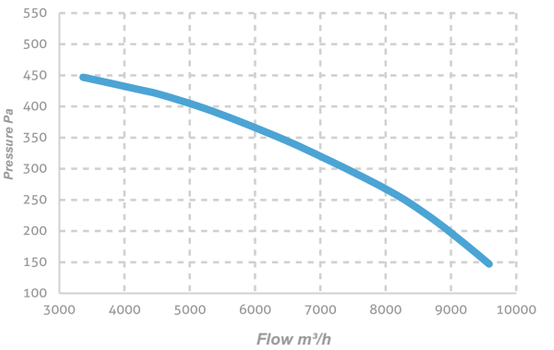
V-M-ÇTA-2

Voltage 380 V
Frequency 50 Hz
Power 1,1 kW
Cycle 1380 rpm
Sound Level 62 dBA
Weight 38 kg



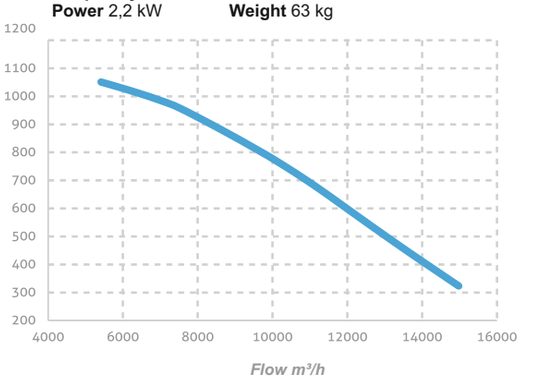
V-M-ÇTA-3

Voltage 380 V
Frequency 50 Hz
Power 1,5 kW
Cycle 1400 rpm
Sound Level 64 dBA
Weight 49 kg



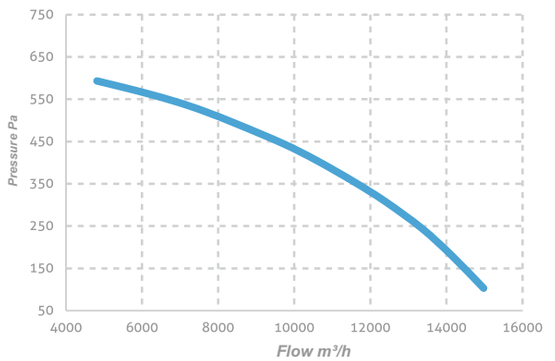
V-M-ÇTA-4

Voltage 380 V
Frequency 50 Hz
Power 2,2 kW
Cycle 1420 rpm
Sound Level 68 dBA
Weight 63 kg



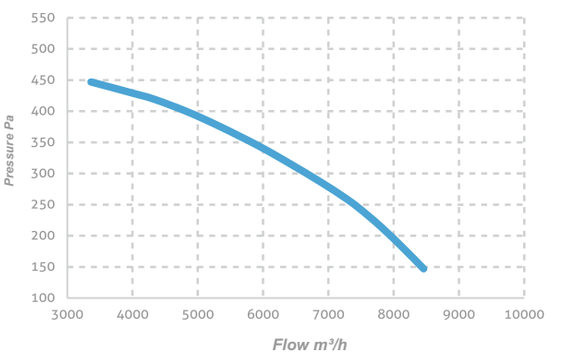
VD-ÇTA-5,5

Voltage 380 V
Frequency 50 Hz
Power 3 kW
Cycle 1450 rpm
Sound Level 72 dBA
Weight 68 kg



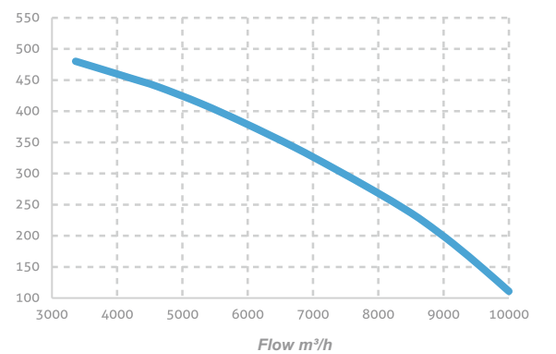
VD-ÇTA-7,5

Voltage 380 V
Frequency 50 Hz
Power 4 kW
Cycle 1450 rpm
Sound Level 75 dBA
Weight 80 kg



VD-ÇTA-10

Voltage 380 V
Frequency 50 Hz
Power 5,5 kW
Cycle 1500 rpm
Sound Level 78 dBA
Weight 99 kg



VENSAART®
İKLİMLENDİRME | HVAC SYSTEMS

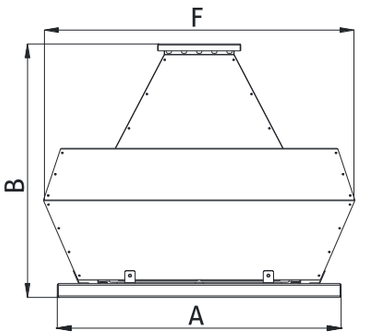
Applicable environmental solutions for different industries

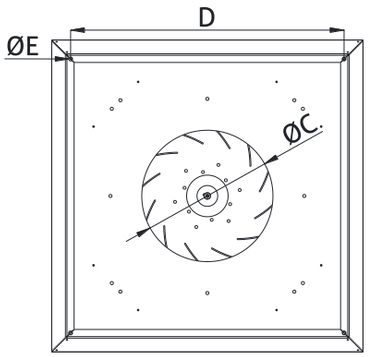
V-MD-ÇTA

Vertical Throw Roof Type Fan

TECHNICIAL SPECIFICATIONS

Control panel





Structure
Galvanized Steel

Fan
Single Inlet Centrifugal Fan

Engine Speed
1.500 - 3000 rpm

External Static Pressure
up to 1500 Pa

Power
220-1-50 / 380-3-50

Protection classification
Ip55

Control
Speed Switch

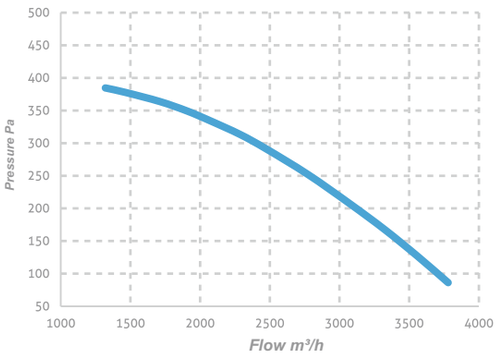
MODEL	A mm	B mm	C mm	D mm	E mm	F mm	VOLTAGE V	FREQUENCY Hz	POWER kW	CYCLE RPM	FLOW m³/h	PRESSURE Pa	SOUND LEVEL dBA	WEIGHT kg
V-MD-ÇTA-0,5	500	583	180	590	9	800	380	50	0,37	1390	1000	250	58	28
V-MD-ÇTA-1	500	603	224	640	9	800	380	50	0,55	1370	2000	250	60	32
V-MD-ÇTA-1,5	550	642	280	690	9	850	380	50	0,75	1390	3000	250	62	34
V-MD-ÇTA-2	550	751	280	790	9	900	380	50	1,1	1420	4000	250	62	38
V-MD-ÇTA-3	600	761	305	840	9	950	380	50	1,5	930	5000	250	64	49
V-MD-ÇTA-4	600	761	330	840	9	950	380	50	2,2	1430	6000	250	68	63
V-MD-ÇTA-5,5	600	936	330	920	9	1150	380	50	3	950	7000	250	72	68
V-M-ÇTA-7,5	650	975	380	920	9	1350	380	50	4	1450	8500	250	75	80
V-M-ÇTA-10	700	1000	420	920	9	1500	380	50	5,5	1500	10.000	250	78	90

- Energy-saving, Low Cost of Use
- Low Noise
- Strong Carcass Structure
- Sealed Structure
- Smart Control
- Easy setup
- Safe Working
- Low Maintenance Cost
- In Different Environmental Conditions Working Opportunity

PERFORMANCE CURVES

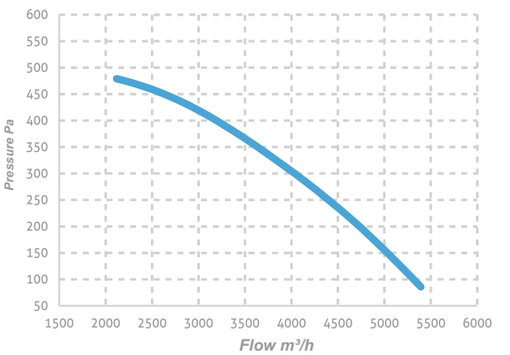
V-MD-ÇTA-0,5

Voltage 380 V
Frequency 50 Hz
Power 0,37 kW
Cycle 1390 rpm
Sound Level 58 dBA
Weight 28 kg



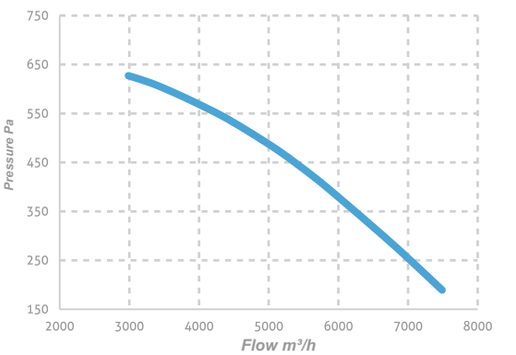
V-MD-ÇTA-1

Voltage 380 V
Frequency 50 Hz
Power 0,55 kW
Cycle 1370 rpm
Sound Level 60 dBA
Weight 32 kg



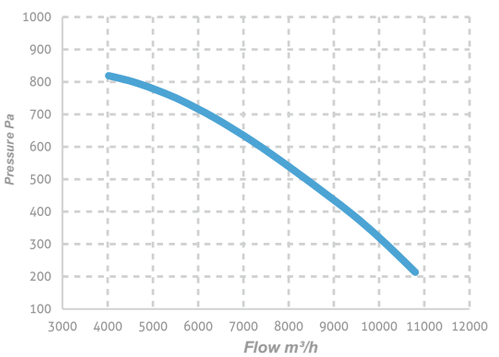
V-MD-ÇTA-1,5

Voltage 380 V
Frequency 50 Hz
Power 0,75 kW
Cycle 1390 rpm
Sound Level 62 dBA
Weight 34 kg



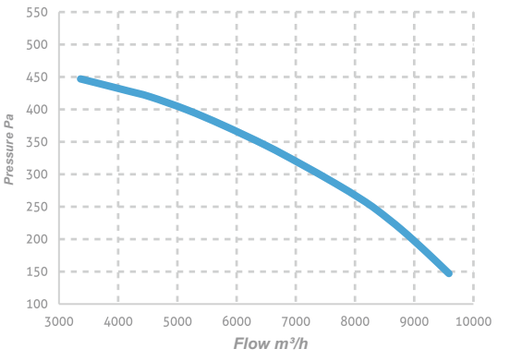
V-MD-ÇTA-2

Voltage 380 V
Frequency 50 Hz
Power 1,1 kW
Cycle 1420 rpm
Sound Level 62 dBA
Weight 38 kg



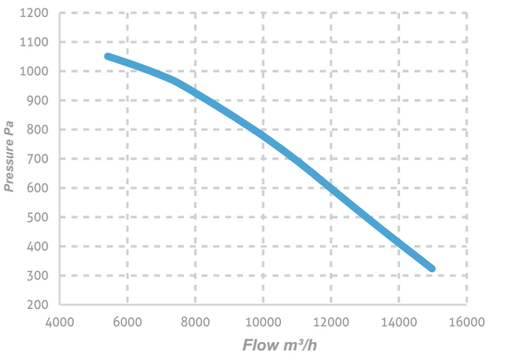
V-MD-ÇTA-3

Voltage 380 V
Frequency 50 Hz
Power 1,5 kW
Cycle 930 rpm
Sound Level 64 dBA
Weight 49 kg



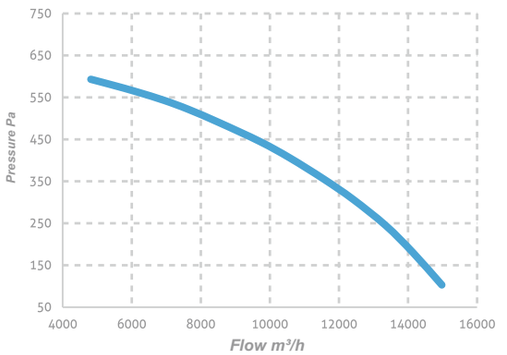
V-MD-ÇTA-4

Voltage 380 V
Frequency 50 Hz
Power 2,2 kW
Cycle 1430 rpm
Sound Level 68 dBA
Weight 63 kg



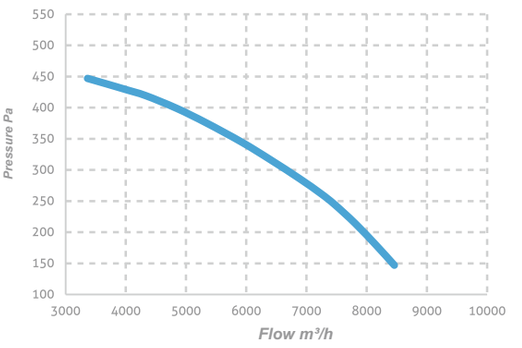
V-MD-ÇTA-5,5

Voltage 380 V
Frequency 50 Hz
Power 3 kW
Cycle 950 rpm
Sound Level 72 dBA
Weight 68 kg



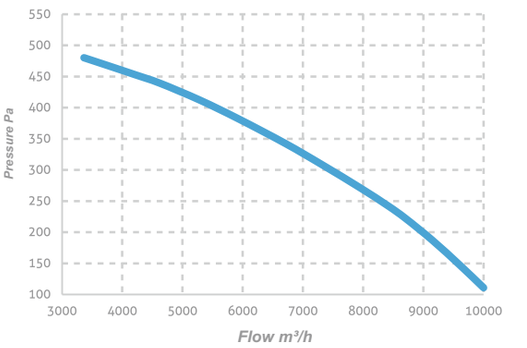
V-MD-ÇTA-7,5

Voltage 380 V
Frequency 50 Hz
Power 4 kW
Cycle 1450 rpm
Sound Level 75 dBA
Weight 80 kg



V-MD-ÇTA-10

Voltage 380 V
Frequency 50 Hz
Power 5,5 kW
Cycle 1500 rpm
Sound Level 78 dBA
Weight 99 kg



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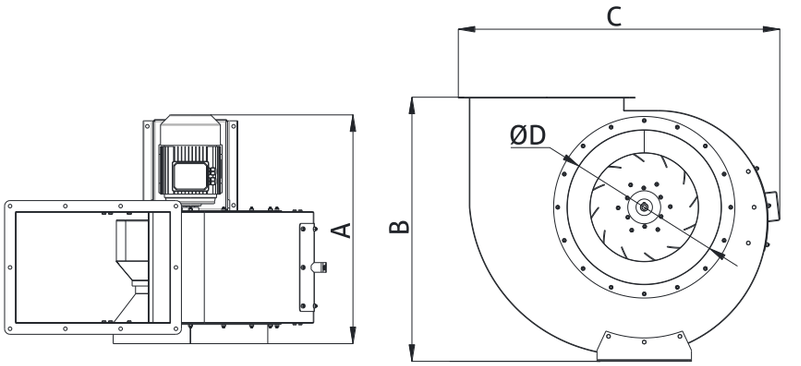
Applicable environmental solutions for different industries

V-SF
Snail Fan

TECHNICIAL SPECIFICATIONS



Structure
Galvanized Steel

Fan
Single Inlet Centrifugal Fan

Engine Speed
1.500 - 3000 rpm

External Static Pressure
up to 1500 Pa

Power
220-1-50 / 380-3-50

Protection classification
Ip55

Control
Speed Switch

MODEL	A	B	C	Suction Mouth Size ØD	FLOW	VOLTAGE	FREQUENCY	POWER	CURRENT	CYCLE	SOUND LEVEL	WEIGHT
	mm	mm	mm	mm	m³/h	V	Hz	kW	A	RPM	dBA	kg
V-SA-280	415	405	405	200	3500	380	50	0,75	0,8	2820	62	19
V-SA-315	520	515	515	245	5500	380	50	1,1	1,2	2800	65	27
V-SA-355	520	580	580	285	8000	380	50	1,5	1,6	2780	68	31
V-SA-400	580	640	640	330	10.000	380	50	2,2	2,8	2900	72	46
V-SA-450	640	700	700	370	12.000	380	50	3,2	4	2900	78	62
V-SA-500	700	750	750	410	15.000	380	50	3,7	5,5	2900	85	78

Improved Indoor and Air Quality

Unlimited Modular, Flexible and Energy Efficient Cell Fans
Cell Fans Produced in Different Cross Sections Up to 100,000 m³/s Air Flow Have TSE and CE Certificates.

Realize Modularity and Compactness

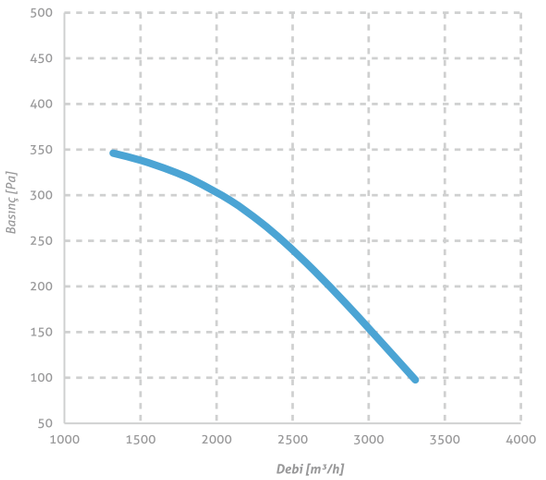
Optimal Energy Efficiency, Air Quality and Comfort
Wide and Versatile Product Range
Integrated Electronic Regulation
Energy Saving Special Solutions for All Commercial Buildings

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

PERFORMANCE CURVES

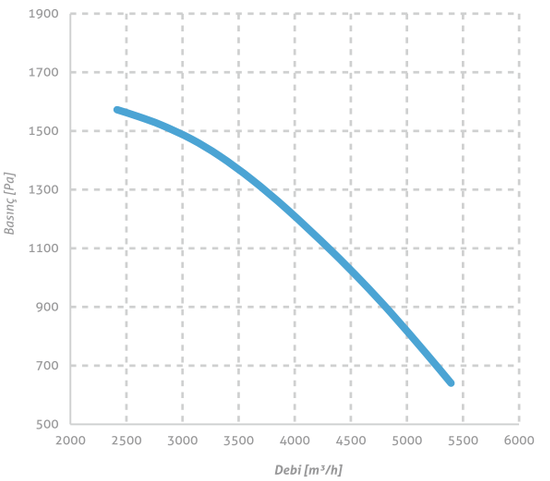
V-SA-280

Voltage 380 V
Frequency 50 Hz
Power 0,75 kW
Cycle 2820 rpm
Sound Level 62 dBA
Weight 19 kg



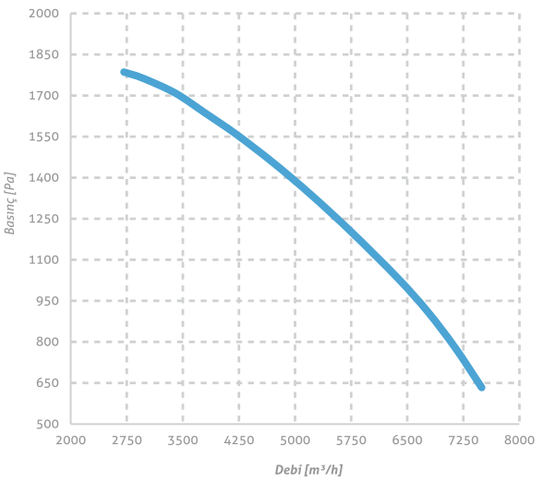
V-SA-315

Voltage 380 V
Frequency 50 Hz
Power 1,1 kW
Cycle 2800 rpm
Sound Level 65 dBA
Weight 27 kg



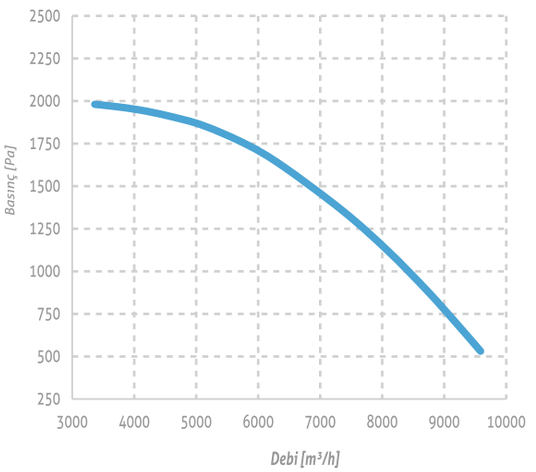
V-SA-355

Voltage 380 V
Frequency 50 Hz
Power 1,5 kW
Cycle 2780 rpm
Sound Level 68 dBA
Weight 31 kg



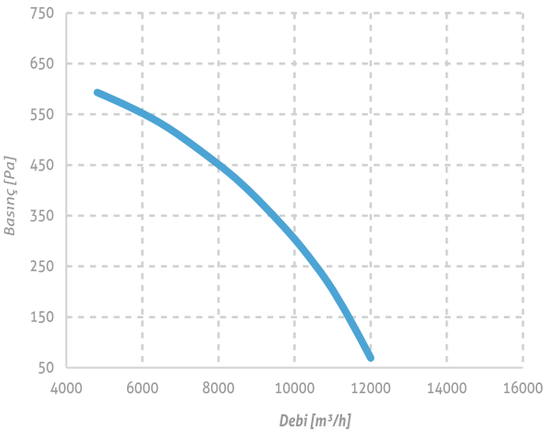
V-SA-400

Voltage 380 V
Frequency 50 Hz
Power 2,2 kW
Cycle 2900 rpm
Sound Level 72 dBA
Weight 46 kg



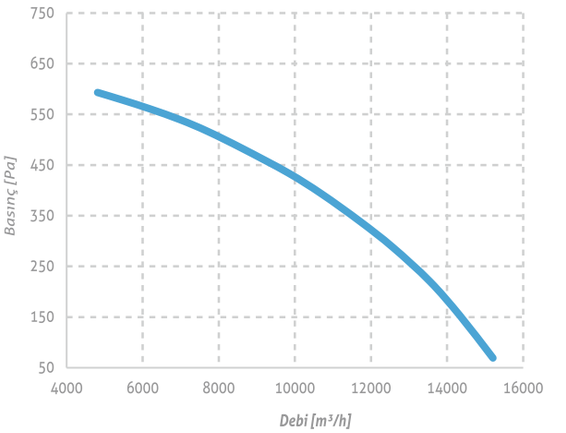
V-SA-450

Voltage 380 V
Frequency 50 Hz
Power 3,2 kW
Cycle 2900 rpm
Sound Level 78 dBA
Weight 62 kg



V-SA-500

Voltage 380 V
Frequency 50 Hz
Power 3,7 kW
Cycle 2900 rpm
Sound Level 85 dBA
Weight 78 kg



VENSAART®
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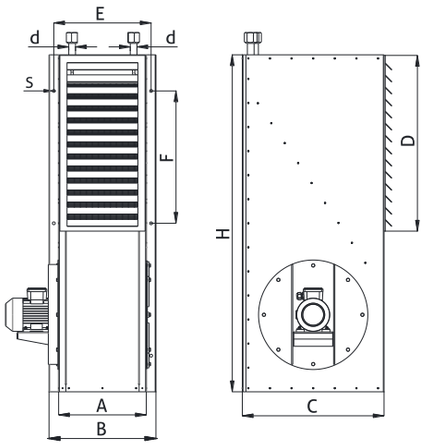
Applicable environmental solutions for different industries

V-R-SHA
Air Heater with Radial Fan

TECHNICIAL SPECIFICATIONS



	A	B	C	D	E	F	H	S	d	VOLTAGE	FREQUENCY	POWER	CYCLE	FLOW	Heater Capacity		SOUND LEVEL	WEIGHT
	mm	mm	mm	mm	mm	mm	mm	mm	mm	V	Hz	kW	RPM	m³/h	kcal/h	kW	dBA	kg
V-R-SHA-5	260	340	520	510	300	320	940	12	¾"	380	50	0,25	1380	1300	5000	5,8	72	66
V-R-SHA-6	260	340	520	510	300	320	940	12	¾"	380	50	0,25	1380	1300	6000	7,0	72	66
V-R-SHA-8	260	340	520	510	300	320	940	12	¾"	380	50	0,25	1380	1300	8000	9,3	72	78
V-R-SHA-10	260	340	520	510	300	320	940	12	¾"	380	50	0,25	1380	1300	10000	11,6	72	78
V-R-SHA-12	350	430	520	590	390	420	1135	12	1"	380	50	0,25	1380	2200	12000	14,0	74	96
V-R-SHA-15	350	430	520	590	390	420	1135	12	1"	380	50	0,25	1380	2200	16000	18,6	74	116
V-R-SHA-20	350	430	520	590	390	420	1135	12	1"	380	50	0,25	1380	2200	20000	23,3	74	133
V-R-SHA-24	465	445	590	730	405	550	1400	12	1"	380	50	0,37	1390	3300	24000	27,9	75	149
V-R-SHA-28	465	445	590	730	405	550	1400	12	1"	380	50	0,37	1390	3300	28000	32,6	75	149
V-R-SHA-32	465	445	590	730	405	550	1400	12	1"	380	50	0,37	1390	3300	32000	37,2	75	172
V-R-SHA-40	455	530	640	1010	490	690	1680	12	1 ¼"	380	50	0,75	1370	5300	40000	46,5	76	223
V-R-SHA-50	455	530	640	1010	490	690	1680	12	1 ¼"	380	50	0,75	1370	5300	50000	58,1	76	261
V-R-SHA-60	455	530	640	1010	490	690	1680	12	1 ¼"	380	50	0,75	1370	5300	60000	69,8	76	265

Structure
Corrosion Resistant Sheet

Fan
Axial Fan / Plug Fan

Protection classification
Ip55

Connection
Left / Right Connection

Battery
High Efficiency Steel Pipe / Steel Fin,
Copper Tube / Aluminum Fin

Application
Hot Water / Steam

Easy Solution in Industry

Effective Heating for Manufacturing Facilities, Gyms and Warehouses
4.000 - 60.000 kcal/h Heating Capacity (Hot Water)
7.000 - 80.000 kcal/h Heating Capacity (Hot Water)
Working with Hot / Hot Water

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

VENSAART®

İKLİMLENDİRME | HVAC SYSTEMS

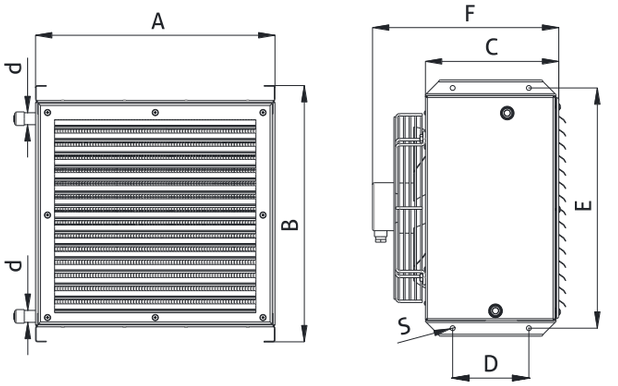
Applicable environmental solutions for different industries

V-E-SHA

Air Heater with Axial Fan

VENSAART®
İKLİMLENDİRME | HVAC SYSTEMS

TECHNICIAL SPECIFICATIONS



MODEL	A	B	C	D	E	F	S	d	VOLTAGE	FREQUENCY	POWER	FLOW	Heater Capacity		SOUND LEVEL	WEIGHT
	mm	mm	mm	mm	mm	mm	mm	inç	V	Hz	W	m³/h	kcal/h	kW	dBA	kg
V-R-SHA-6	460	475	230	140	443	325	4,5	¾"	230	50	50	800	4100	4,8	55	17
V-R-SHA-10	460	475	230	140	443	325	4,5	¾"	230	50	90	1200	6000	7,0	60	19
V-R-SHA-12	460	475	230	140	443	325	4,5	¾"	230	50	90	1400	8600	10,0	52	20
V-R-SHA-16	460	475	230	140	443	325	4,5	¾"	230	50	138	1600	11000	12,8	53	22
V-R-SHA-20	460	475	230	140	443	325	4,5	¾"	230	50	138	1725	12700	14,8	60	22
V-R-SHA-24	555	565	300	160	535	425	4,5	1"	230	50	138	1800	16400	19,1	62	27
V-R-SHA-32	555	565	300	160	535	425	4,5	1"	230	50	138	1900	20600	24,0	64	28
V-R-SHA-40	555	565	300	160	535	425	4,5	1"	230	50	180	2450	24200	28,1	65	29

Structure
Corrosion Resistant Sheet
Fan
Axial Fan / Plug Fan
Protection classification
Ip55
Connection
Left / Right Connection
Battery
High Efficiency Steel Pipe / Steel Fin,
Copper Tube / Aluminum Fin
Application
Hot Water / Steam

Easy Solution in Industry
Effective Heating for Manufacturing Facilities, Gyms and Warehouses
4.000 - 60.000 kcal/h Heating Capacity (Hot Water)
7.000 - 80.000 kcal/h Heating Capacity (Hot Water)
Working with Hot / Hot Water

- Energy-saving, Low Cost of Use
- Strong Carcass Structure
- Smart Control
- Safe Working
- In Different Environmental Conditions Working Opportunity
- Low Noise
- Sealed Structure
- Easy setup
- Low Maintenance Cost

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