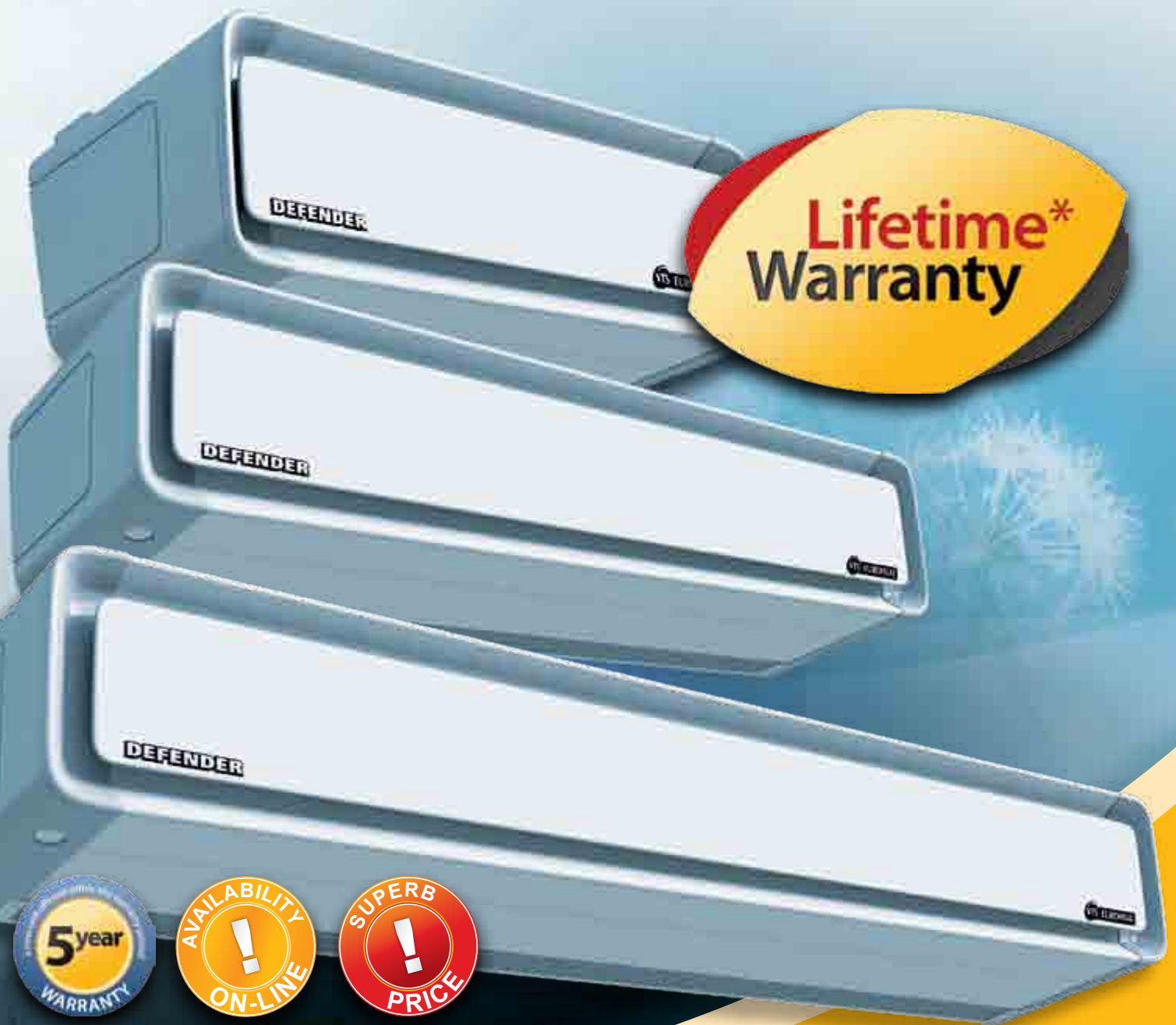


DEFENDER

WHN / EHN

air curtain



DEFENDER

Air curtain that protects against uncontrolled air infiltration all year round.

It allows to leave the room door open and maintain the thermal comfort inside the building regardless of the atmospheric conditions.

- Modern design
- Available in three dimensions
- With either water or electric heater

DEFENDER ensures reduced heating and cooling costs compared to other typical solutions. DEFENDER curtain is available in three dimensions (1 m; 1.5 m; 2 m) and two versions - the curtain with either water or electric heater.



DEFENDER^{WHN} with water heater

- a highly efficient cross-flow fan
- safe and maintenance-free operation
- wide range of heating power

DEFENDER^{EHN} with electric heater

- safe and maintenance-free operation
- protection against overheating
- self-regulating heater with high heating capacity

- RELIABLE EUROPEAN QUALITY AND ATTRACTIVE PRICE
- BROAD APPLICATION - MAINTAINING SPECIFIC INDOOR CLIMATE CONDITIONS
- REDUCED HEATING AND COOLING COSTS COMPARED TO TYPICAL SOLUTIONS
- FAN MADE OF PLASTIC INJECTION MOLDING TECHNOLOGY
- INNOVATIVE COMBINATION OF METAL AND PLASTIC ELEMENTS
- VERTICAL AND HORIZONTAL ASSEMBLY OF WATER AND ELECTRIC CURTAIN



DESCRIPTION

- full range of sizes (1 m, 1.5 m, 2 m) of all types (WHN, EHN)
- three degrees of fan speed control
- very good technical parameters
- low noise level
- reliable construction
- competitive price

ADVANTAGES

Advantages

- the unique housing design
- fan made of plastic injection molding
- plastic profiles
- innovative combination of metal and plastic pipes
- vertical and horizontal curtain assembly

Casing

- high quality
- modern design
- resistance to high temperature and corrosive processes

Installation

- the holes in the back of the device enable the user to hang the curtain on the wall
- additional rivet nuts on the top rail of the curtain enable the user to hang the unit under the ceiling, eg. using threaded rods or other construction
- the air curtain installation options on specially designed supports available as option
- the air curtain is possible to be installed in a horizontal position on a rail with holders of adjustable width or vertically on the door right or left side



APPLICATION

Wall mounted controller

- easy and intuitive operations
- integrated thermostat
- full support of all functions
- possibility to work with door switches

- warehouse areas
- wholesales
- sport facilities
- supermarkets
- stores
- sacral buildings
- hotels
- pharmacies
- hospitals
- office buildings
- production plants
- airports
- stations
- gas stations

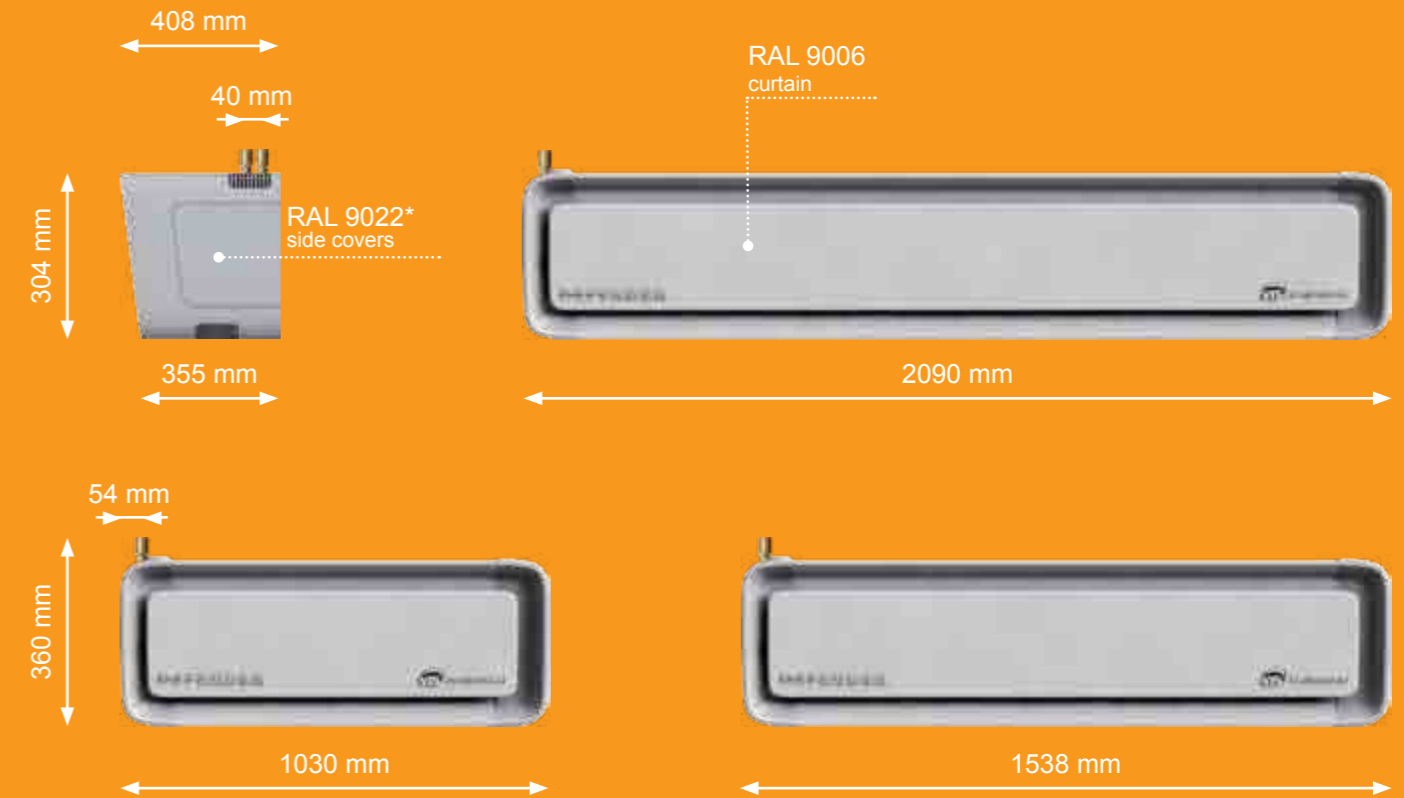
* Lifetime warranty on the casing of all VTS EUROHEAT products. Details in Warranty Conditions in Technical Documentation available on www.vtsgroup.com.

TECHNICAL DATA

Device	Unit	DEFENDER					
		100 WHN	150 WHN	200 WHN	100 EHN	150 EHN	200 EHN
maximum width of a single door for one device	m	1	1.5	2	1	1.5	2
maximum height of door	m	4					
heating output range	kW	7.5-10*	13.5-19.5*	19-28*	6.0	12.0	13.5
maximum flow rate	m³/h	1 880	3 570	4 890	2 150	3 500	5 000
maximum temperature of heating medium	°C	95			-		
maximum working pressure	MPa	1.6			-		
water volume	dm³	0.5	0.85	1.2	-		
diameter of stub pipe	"	3/4			-		
supply voltage	V/Hz	1 ~ 230/50			1 ~ 230/50 or 3 ~ 400/50	3 ~ 400/50	
power of the electric heater	kW	-			6.0	12.0	13.5
rated current of the electric heater	A	-			27/8.7	17.4	19.5
engine power	kW	0.4					
rated current of the motor	A	2.8					
weight with/without water	kg	27.4/26.9	37.4/36.6	48.4/47.2	-/25.7	-/35.4	-/45.6
engine	-	20					

* Heating output at the opening of the valve, water temperature of 90°C and temperature of inlet air 15°C.

Data concerning the working parameters of DEFENDER in case of using a different temperature of the heating medium can be obtained on request. Due to the maximum pressure of the heating medium, amounting 1.6 MPa, the installation of the heating agent should be protected against the increase of pressure above the limit. There is a possibility of frost (cracks) of exchanger if the room temperature drops below 0°C and the temperature of the heating medium lowers at the same time.

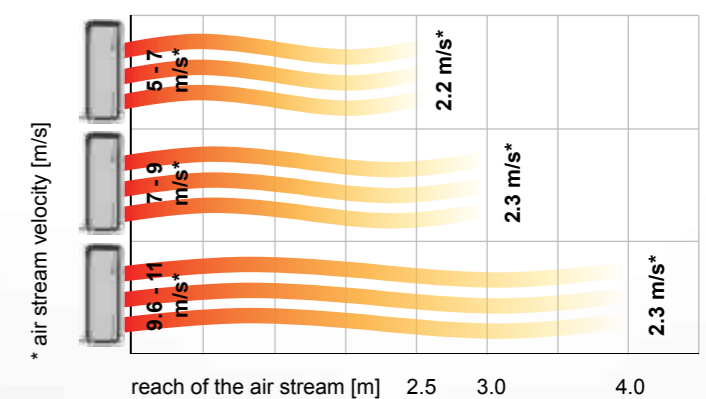
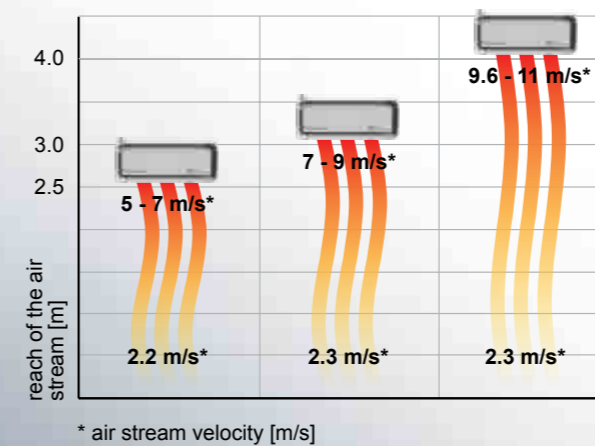


* metallic gray



DESIGN ADVICES

the range of the air jet - assembly height



DEFENDER 100 WHN

T _{in} [°C]	Q _a [m³/h]	T ₂ /T ₁ [°C]															
		90/70 [°C]				80/60 [°C]				70/50 [°C]				60/40 [°C]			
		P _h [kW]	T _{out} [°C]	Q _w [m³/h]	Δp [kPa]	P _h [kW]	T _{out} [°C]	Q _w [m³/h]	Δp [kPa]	P _h [kW]	T _{out} [°C]	Q _w [m³/h]	Δp [kPa]	P _h [kW]	T _{out} [°C]	Q _w [m³/h]	Δp [kPa]
5	1 880	11.9	23	0.53	2.38	9.9	20	0.44	1.73	8.9	17	0.34	1.15	5.6	14	0.24	0.63
	1 470	10.3	25	0.46	1.82	8.6	22	0.38	1.32	6.8	18	0.30	0.88	4.8	14	0.21	0.47
	1 120	8.7	27	0.39	1.35	7.3	24	0.32	0.98	5.7	20	0.25	0.65	3.9	15	0.17	0.33
10	1 880	11.0	27	0.49	2.04	9.0	24	0.39	1.44	7.9	21	0.30	0.91	4.5	17	0.20	0.43
	1 470	9.5	29	0.42	1.56	7.7	25	0.34	1.10	6.0	22	0.26	0.69	3.7	18	0.16	0.31
	1 120	8.0	31	0.36	1.16	6.6	27	0.29	0.81	5.0	23	0.22	0.51	2.4	16	0.11	0.14
15	1 880	10.0	31	0.44	1.73	8.0	28	0.35	1.17	5.9	24	0.26	0.69	2.4	19	0.10	0.13
	1 470	8.7	33	0.38	1.33	6.9	29	0.30	0.90	5.1	25	0.22	0.52	2.2	20	0.10	0.12
	1 120	7.3	35	0.32	0.98	5.9	31	0.26	0.66	4.3	26	0.19	0.38	2.0	20	0.09	0.10
20	1 880	9.1	35	0.40	1.45	7.1	31	0.31	0.93	4.9	28	0.22	0.49	1.9	23	0.08	0.09
	1 470	7.9	36	0.35	1.11	6.1	33	0.27	0.71	4.2	29	0.19	0.37	1.8	24	0.08	0.08
	1 120	6.7	38	0.29	0.82	5.2	34	0.23	0.52	3.5	30	0.15	0.26	1.7	25	0.07	0.07

DEFENDER 150 WHN

T _{in} [°C]	Q _a [m³/h]	T ₂ /T ₁ [°C]															
		90/70 [°C]				80/60 [°C]				70/50 [°C]				60/40 [°C]			
		P _h [kW]	T _{out} [°C]	Q _w [m³/h]	Δp [kPa]	P _h [kW]	T _{out} [°C]	Q _w [m³/h]	Δp [kPa]	P _h [kW]	T _{out} [°C]	Q _w [m³/h]	Δp [kPa]	P _h [kW]	T _{out} [°C]	Q _w [m³/h]	Δp [kPa]
5	3 570	23.0	24	1.02	10.10	19.5	21	0.86	7.60	15.9	18	0.70	5.37	12.2	15	0.53	3.42
	2 400	18.2	27	0.80	6.57	15.4	24	0.68	4.96	12.6	20	0.55	3.51	9.7	17	0.42	2.24
	1 880	15.7	29	0.69	5.00	13.3	25	0.58	3.78	10.9	22	0.48	2.68	8.3	18	0.36	1.70
10	3 570	21.3	28	0.94	8.74	17.8	25	0.78	6.41	14.2	22	0.62	4.35	10.5	19	0.46	2.59
	2 400	16.8	31	0.74	5.69	14.1	27	0.62	4.18	11.3	24	0.49	2.85	8.3	20	0.36	1.69
	1 880	14.5	33	0.64	4.33	12.1	29	0.53	3.19	9.7	25	0.42	2.17	7.1	21	0.31	1.28
15	3 570	19.6	31	0.86	7.49	16.0	28	0.71	5.32	12.5	26	0.55	3.44	8.7	22	0.38	1.86
	2 400	15.5	34	0.68	4.87	12.7	31	0.56	3.47	9.9	27	0.43	2.25	6.9	24	0.30	1.21
	1 880	13.3	36	0.59	3.71	10.9	32	0.48	2.65	8.5	29	0.37	1.72	5.9	24	0.26	0.91
20	3 570	17.8	35	0.79	6.33	14.3	32	0.63	4.33	10.8	29	0.47	2.63	7.0	26	0.30	1.23
	2 400	14.1	38	0.62	4.12	11.3	34	0.50	2.83	8.5	31	0.37	1.72	5.4	27	0.24	0.79
	1 880	12.1	40	0.54	3.14	9.8	36	0.43	2.16	7.3	32	0.32	1.31	4.6	28	0.20	0.59

DEFENDER 200 WHN

T _{in} [°C]	Q _a [m³/h]	T ₂ /T ₁ [°C]															
		90/70 [°C]				80/60 [°C]				70/50 [°C]				60/40 [°C]			
		P _h [kW]	T _{out} [°C]	Q _w [m³/h]	Δp [kPa]	P _h [kW]	T _{out} [°C]	Q _w [m³/h]	Δp [kPa]	P _h [kW]	T _{out} [°C]	Q _w [m³/h]	Δp [kPa]	P _h [kW]	T _{out} [°C]	Q _w [m³/h]	Δp [kPa]
5	4 890	32.9	24	1.45	23.20	28.0	21	1.23	17.80	23.1	19	1.01	12.80	18.1	16	0.79	8.49
	3 300	26.0	28	1.15	15.20	22.2	24	0.97	11.60	18.3	21	0.80	8.40	14.4	18	0.63	5.58
	2 550	22.2	30	0.98	11.40	18.9	26	0.83	8.71	15.7	23	0.68	6.31	12.3	19	0.54	4.20
10	4 890	30.4	28	1.35	20.20	25.6	25	1.13	15.10	20.7	22	0.91	10.50	15.7	19	0.68	6.55
	3 300	24.1	31	1.06	13.20	20.3	28	0.89	9.87	16.4	25	0.72	6.88	12.5	21	0.54	4.31
	2 550	20.5	34	0.91	9.87	17.3	30	0.76	7.39	12.2	26	0.61	5.42	10.6	22	0.46	3.24
15	4 890	28.0	32	1.24	17.40	23.2	29	1.02	12.60	18.3	26	0.80	8.38	13.3	23	0.58	4.84
	3 300	22.2	35	0.98	11.30	18.4	32	0.81	8.25	14.5	28	0.64	5.50	10.5	25	0.46	3.19
	2 550	18.9	37	0.83	8.49	15.7	33	0.69	6.18	12.4	30	0.54	4.14	9.0	26	0.39	2.40
20	4 890	25.6	36	1.13	14.80	20.8	33	0.91	10.30	15.9	30	0.69	6.51	10.9	27	0.47	3.36
	3 300	20.3	39	0.90	9.64	16.5	35	0.72	6.78	12.6	32	0.55	4.28	8.6	28	0.38	2.21
	2 550	17.3	41	0.76	7.21	14.0	37	0.62	5.08	10.8	33	0.47	3.21	7.3	29	0.32	1.66

Air curtain with electric heater

DEFENDER 100 EHN

T _{in} [°C]	Q _a [m³/h]	P [kW]	T _{out} [°C]
5	2 150	6.0	13
	1 650	6.0	15
	1 290	6.0	18
10	2 150	6.0	18
	1 650	6.0	20
	1 290	6.0	23
15	2 150	6.0	23
	1 650	6.0	25
	1 290	6.0	28
20	2 150	6.0	28
	1 650	6.0	30
	1 290	6.0	33

DEFENDER 150 EHN

T _{in} [°C]	Q _a [m³/h]	P [kW]	T _{out} [°C]
5	3 500	12.0	15
	2 500	12.0	20
	1 820	12.0	24
	1 290	12.0	29
10	3 500	12.0	20
	2 500	12.0	25
	1 820	12.0	29
	1 290	12.0	34
15	3 500	12.0	25
	2 500	12.0	30
	1 820	12.0	34
	1 290	12.0	39
20	3 500	12.0	30
	2 500	12.0	35
	1 820	12.0	39
	1 290	12.0	43

DEFENDER 200 EHN

T _{in} [°C]	Q _a [m³/h]	P [kW]	T _{out} [°C]
5	5 000	13.5	13
	3 370	13.5	17
	2 500	13.5	20
	1 820	13.5	24
10	5 000	13.5	18
	3 370	13.5	22
	2 500	13.5	25
	1 820	13.5	29
15	5 000	13.5	23
	3 370	13.5	27
	2 500	13.5	30
	1 820	13.5	34
20	5 000	13.5	28
	3 370	13.5	32
	2 500	13.5	35
	1 820	13.5	39

T₁ - inlet water temperature
 T₂ - return water temperature
 T_{in} - inlet air temperature
 T_{out} - outlet air temperature
 P_h - device heating capacity
 Q_a - air flow rate
 Q_w - water flow
 Δp - pressure drop in heat exchanger

WHN noise levels

	Fan speed level [-]	Noise level* [dB(A)]	Outlet air velocity
DEFENDER 100 WHN	III	69	10.2
	II	58	7.6
DEFENDER 150 WHN	I	48	5.8
	III	69	10.9
DEFENDER 200 WHN	II	57	7.6
	I	47	5.7
DEFENDER 200 WHN	III	70	10.4
	II	62	7.2
	I	56	5.5

* The noise level has been measured at 3 m distance from the device; reference conditions: semi-open space - wall-mounted device.

EHN noise levels

	Fan speed level [-]	Noise level* [dB(A)]	Outlet air velocity
DEFENDER 100 EHN	III	69	11.0
	II	64	8.4
DEFENDER 150 EHN	I	52	6.7
	III	70	10.6
DEFENDER 200 EHN	II	64	7.7
	I	56	5.6
DEFENDER 200 EHN	III	71	10.6
	II	62	7.2
	I	54	5.5

* The noise level has been measured at 3 m distance from the device; reference conditions: semi-open space - wall-mounted device.

AUTOMATICS



ACTUATOR

- supply voltage: 230 V AC +/- 10%
- closing/opening time: 5/18 s
- position without supply: closed
- protection degree: IP20
- working environment temperature: 0...60°C + power cable length: 50 cm, 3x0.75 mm²

VALVE

- connection diameter: 3/4"
- operation mode: two positions: close/open
- maximum pressure difference: 100 kPa
- pressure class: PN16
- kvs flow ratio: 6.5 m³/h
- max. heating medium temperature: 93°C
- ambient temperature: 0...60°C

It is recommended to mount a two-way valve on the return pipeline.

WALL-MOUNTED DX CONTROLLER

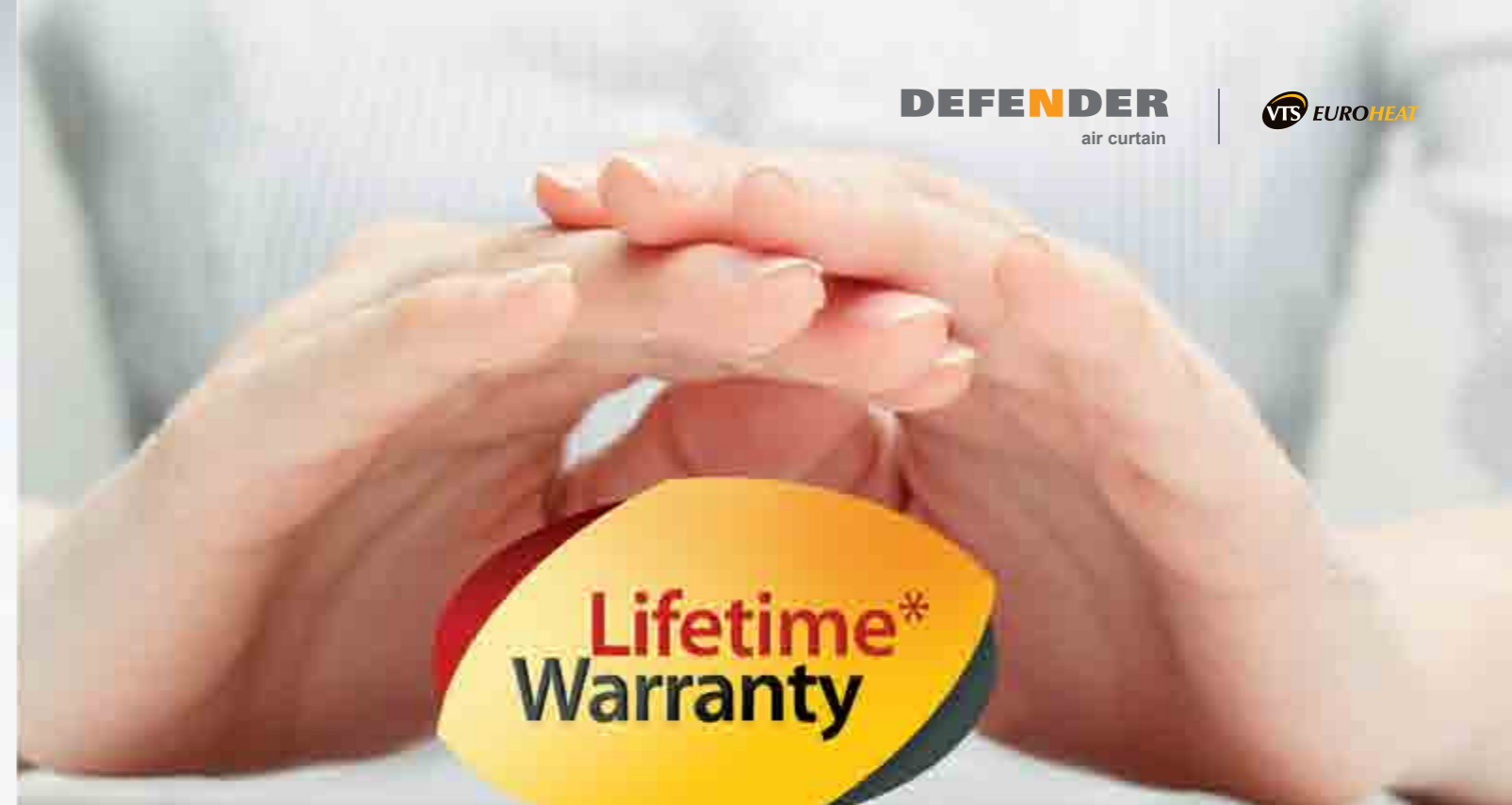


- supply voltage: 220...240 V AC
- admissible load: 6 (3) A
- range of temp. setting: 10...30°C
- adjustment precision: +/- 1°C
- protection degree: IP30
- mounting method: surface mounting
- working environment temperatures: -10...+50°C

IMPORTANT!

One wall-mounted DX controller may operate 1 DEFENDER WHN and EHN curtain. Maximum length of power cable from the curtain to the room unit is 100 m. Minimum suggested cable section is 1 mm². Wall mounted controller can operate in various configurations:

1. Control of the fan and "heating" dependable on the thermostat setting; in such a solution, the thermostat affects the work of the entire system, bridge in the controller 3-5.
2. Control of the fan operation independently from the thermostat setting, in such a solution affects the heating, bridge in the controller 4-5.
3. These two device configurations mentioned above are also possible in cooperation with a door switch.



Lifetime warranty
on casing of
VTS EUROHEAT



VOLCANO
VR1 / VR2 / mini

Details in Warranty Conditions
in Technical Documentation
available on www.vtsgroup.com



DEFENDER
WHN / EHN

FAQ

1. How to select the air curtain for the door opening?

The door frame width cannot be larger than the width of outgoing airflow. The airflow range shall exceed the height of door opening. The curtain selected in this way will ensure a suitable air barrier to cover the door opening.

2. What air curtains are there in VTS EUROHEAT's product range?

VTS EUROHEAT offers 1-meter, 1.5 meter and 2-meter air curtains. All the types of air curtains come with water heat exchanger or electric heater.

3. What is the reference symbol of 1.5 meter air curtain with electrical heaters?

DEFENDER 150 EHN.

4. Can the air curtains DEFENDER EHN with electrical heater be installed in a vertical position and will it not cause preheating of the unit's bottom part?

The unit is constructively adopted for 4 ways of installation: horizontally, vertically, with the motor upwards and with the motor downwards. The units are protected against heating through the thermostats protecting the heaters and through the controlling system.

5. What is the function of louvers in the heat exchanger?

The louver increases the heat exchange area which results directly in the rise in the efficiency of transferring the heat from the heating medium to the air.

6. Can DEFENDER air curtains be inbuilt in the suspended ceiling?

DEFENDER air curtain is not adjusted for being inbuilt in the suspended ceiling. Especially, DEFENDER EHN air curtains are particularly sensitive to throttling the air inlet which may cause preheating the electric heaters and activating the protection system.

7. How can the operation parameters of DEFENDER air curtain be regulated in relation to the expected installation height?

The installation height influences the extent of fan regulation. The higher the curtain is installed, the faster fan rotation is required. Each model of DEFENDER curtain has 3 degrees of fan rotation speed.

8. What temperature of air in the inlet should be considered for calculating the heating power?

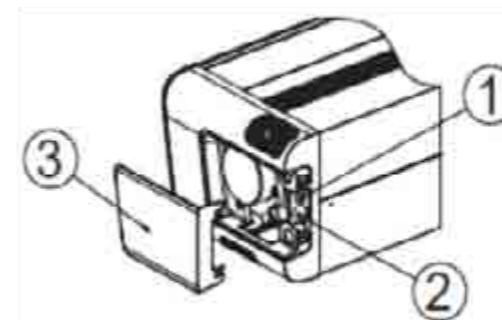
The temperature to be considered in this case is the calculated temperature adopted for a particular room or the temperature which has been set and maintained by the other heating systems.

9. Can the wall-mounted DX controller provide a 3-degree regulation of the air curtain's heating power?

No, it can not. The wall-mounted DX controller can regulate the heating power level only in the on/off mode, which is a 1-degree regulation. In case of DEFENDER WHN water curtains the 1-degree regulation in the on/off mode is possible only if the valve with the actuator is applied. Without the valve the heat agent of the curtain is subject to the free flow of the heating medium and the HEAT switch on the DX control panel is not active. A particular case of activating the air curtain WHN without a valve with the actuator is specified in the point 11.

10. Where are the electric throttles installed in the DEFENDER air curtain casing?

The electric throttles are installed on the right side of the curtain behind the motor. The diagram presents the place for cableway: no.1 the cableway of controlling cables, no.2 - the cableway for supplying cables, no.3 - motor side cover.



11. Why is it not recommended for the versions DEFENDER 100 WHN, 150 WHN or 200 WHN to connect the jamb switch together with the valve and the actuator?

It is not recommended to use the valve with the actuator while connecting the door sensor due to a significant inertia of the system, which means that it takes considerably long time for the heat agent to heat up and for the actuator to open the valve.

12. What is the airflow range of DEFENDER curtains?

The DEFENDER curtains equipped with the water agent as well as the ones equipped with the electric heaters regardless their length reach the airflow range of approximately 3 m achieved on the third gear which is the maximal gear of the fan.

13. Is it possible to control the DEFENDER air curtain with the remote control?

No, it is not. The air curtains DEFENDER 100-200 WHN, 100-200 EHN can be controlled only with the wall-mounted DX control panel.

14. Can the DX control panel be connected to any number of curtains?

No, it can not. Due to the load capacity of the contacts the wall-mounted DX control panel can be connected to maximally one DEFENDER air curtain regardless its length and type. The maximal distance between the control panel and the curtain is 100 m. A possibility to connect a larger number of units to one control panel shall be consulted with the VTS EUROHEAT who will provide information on how such connection should be arranged.

15. What is the difference between the valve with the actuator used for VOLCANO and for DEFENDER?

VOLCANO and DEFENDER are equipped with the same two-way valve with on-off function. The valve actuator for the air curtains and the heaters is also the same. It requires power supply with a 1-phase AC current and the voltage of 230 V.

16. What are the benefits of using air curtains?

The application of air curtains prevents the warm air in the room from flowing out and the cold air from flowing in the winter. The air curtains protect also the room from the in-flow of various types of pollution such as fumes, dust, leaves etc. They can be also used in the summer to prevent the cold air in the air-conditioned room from flowing out and the hot air from flowing in. The barrier created by the water or electric curtain in the summer is based only on the airflow generated in the curtain without its heating, solely by fan operation.

VTS GROUP - THE EUROPEAN LEADER IN HVAC TECHNOLOGIES



4 continents
27 countries
84 offices
350 sales representatives
and technical advisors

VTS - ALWAYS A STEP AHEAD

A global corporation with a European origin

- VTS Group, a European company established in 1989, is a leading supplier of heating, ventilation and air conditioning units - over 500 000 units sold to date.
- The VTS Capital Group comprises several regional companies worldwide, employing over 350 sales representatives and technical advisors.
- VENTUS air handling units are delivered to 27 countries in Europe, Middle East and the Asia Pacific Region. Our units operate failure-free in different climates in temperatures from -40°C to +70°C.
- VTS product range also includes high quality VOLCANO air heaters and DEFENDER air curtains.

Top quality, competitive pricing

- All the manufacturing processes are carried out in three Production-Logistics Centres purpose-built by the Company, located in Poland, China and India. The manufacture of our units conforms to the strict, up-to-date standards developed by VTS Group.
- Development of all the components and semi-finished products delivered to the Centers is based on the company's own patents and standards.
- On-going monitoring of quality at all stages: design, manufacturing and assembly.
- Out consistently high quality is confirmed by certificates from independent bodies. The process of selection of VTS units is certified by Eurovent.

The Ventus Knowledge Centre, situated in the Production-Logistics Centre, is a combination of a modern conference center and a show room where our Customers can see the entire VTS offering with their own eyes.



RELIABLE BRAND

The design and operating specifications of VTS products meet the requirements set out by European standards, which is certified by Eurovent and TÜV.



Eurovent

Certifies the conformity of the parameters of the Ventus units selected, calculated using the ClimaCAD On-Line software, with the actual operating parameters.



PN-EN 1886 standard PN-EN 13053 standard

The two key European standards for ventilation and air conditioning quality and parameters.



ISO 9001 ISO 14001

ISO 0991 ensures fully consistent quality of all VTS units. ISO 14001 ensures effectiveness of the environmental management system.



CE

VTS units conform to the safety standards set out by the European Union.

VENTUS

The VENTUS air handling unit was developed using the latest technology and advanced materials engineering. The design solutions, drawing on the company's knowledge and experience, fully meet the expectations of our Customers and respond to the market demand. As a result, VTS offers versatile, reliable and energy-efficient units.

Ventus N-type belongs to the duct AHUs market and by offering 4 product sizes covers the range of c.a. 2 000 to 8 500 m³/h. The offer includes basic air handling functions provided by an individual sections.

VENTUS

N-TYPE

PRODUCT RANGE

VTS



ADVANTAGES:

AHU silent operation

- the PLUG type fan rotors are fitted with aerodynamic blades bent to the back of the unit
- low dynamic pressure (the fan air flow rate)
- excellent sound absorption properties of the housing
- low flow rates

Energy recovery

- the energy recovery systems are ideally suited to any climate conditions
- recovery efficiency up to 85%
- separation of the air used and supplied
- recovery of sensible and latent heat

Compact size

- low height AHUs - the suspended AHUs are of 36 cm in height, while the standing one are of 53 cm in height
- adaptation to a technical, utility rooms and ventilating ducts.

Energy-saving

- the PLUG fan with blades bent to the back of the unit
- the fan is driven directly
- control of the fan operating point parameters by regulation of the fan speed
- optimum selection of the functional components - ensuring minimising the air and medium flow losses

Frameless housing

- The AHU housing is made of Sandwich-type panels filled with polyurethane foam:
- excellent mechanical and insulation parameters
 - high Ingress Protection Rating
 - reduction of thermal bridges

Optimal selection of the unit size according to a building cubature

- the units are available in 16 sizes
- optimal selection of the heat exchangers and fan assemblies

ADVANTAGES:

Non skeleton Monocoque chassing

- based on Sandwich-type panels, ensures compact and rigid structure
- reduces thermal bridges as well as the condensation

Plug - Fan type fans

- use of plug fans with direct drive and rotor with blades turned outwards
- ensures high performance and trouble-free operation of the air handling unit

Control system

- the controller integrated with the HMI OPTIMA user interface
- provides convenience and simplicity of the air parameters control

NCAD selection program

- provides accurate calculation of the AHU output parameters
- integrated with the program for automatic tender documentation generation

Available for immediate delivery

- we provide full range and uninterrupted delivery of our AHUs

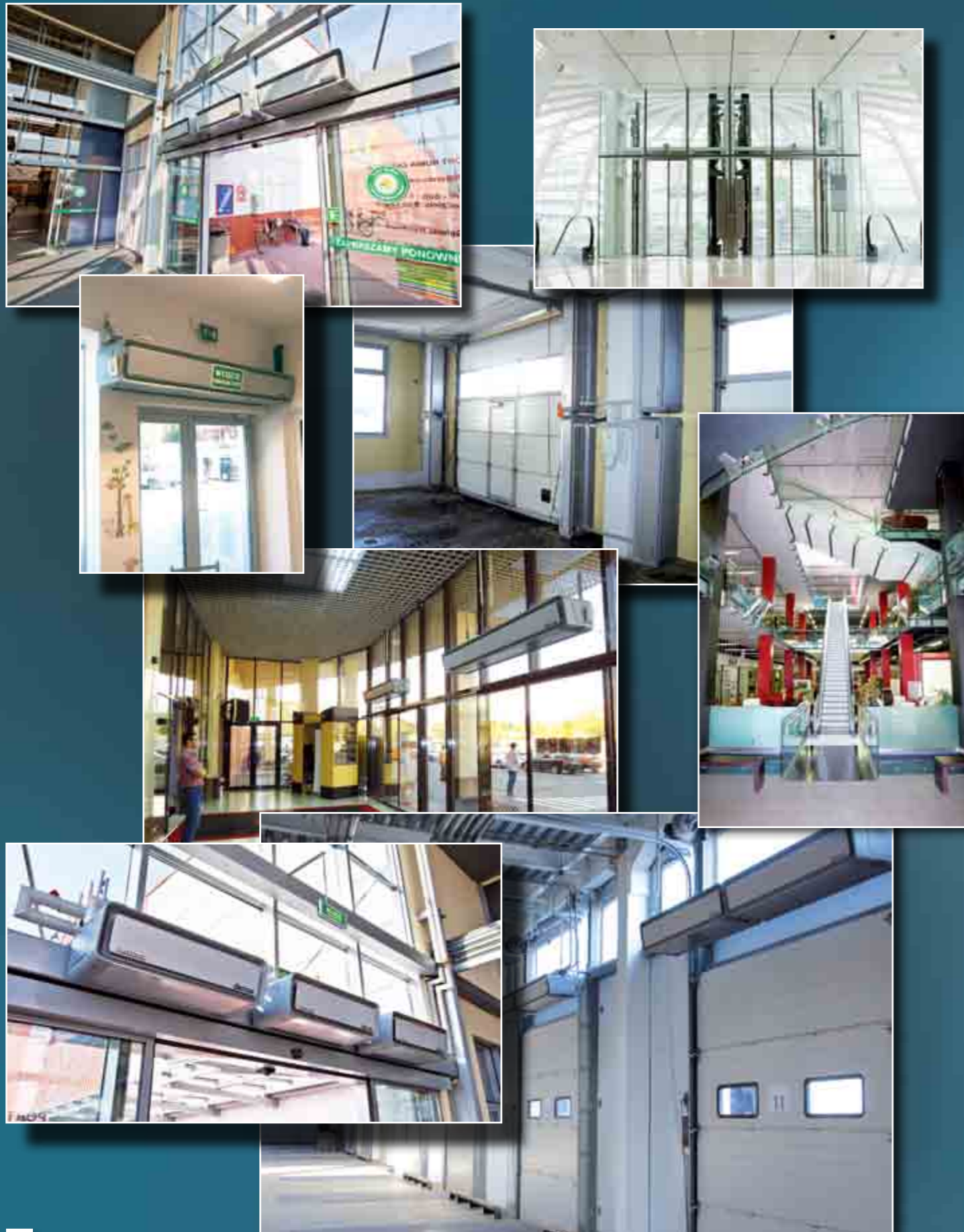
Attractive price

REFERENCES

DEFENDER



DEFENDER
air curtain



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VOLCANO mini

ADVANTAGES:

- immediate availability
- superb price
- low maintenance costs
- durable and aesthetic design made using the latest technology
- small dimensions and low weight
- lifetime warranty on casing

APPLICATION: production halls, workshops, supermarkets, sports facilities, storages, warehouses



VOLCANO VR1 / VR2

ADVANTAGES:

- reliable European quality and attractive price
- versatile application
- high production capacity
- low costs of operation
- low level of noise and light weight of appliance
- quick and easy installation
- lifetime warranty on casing

APPLICATION: production halls, workshops, supermarkets, sports facilities, storages, warehouses

DEFENDER WHN / EHN

ADVANTAGES:

- reliable European quality and attractive price
- protection of climatic conditions in premises
- reduced costs of heating and cooling compared to typical solutions
- fan made in plastic injection technology
- versatile application
- vertical and horizontal installation of water and electric curtain
- lifetime warranty on casing

APPLICATION: warehouse halls, sports facilities, office blocks, department stores, railway stations, hotels, pharmacies, petrol stations, clinics, restaurants

