

**VTS**

**WING**

Air curtain



*VTS*



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## VTS GROUP

- 1.1 VTS: Manufacturer No. 1 in the world
- 1.2 3 constituents of success



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**VTS GROUP** – The manufacturer of technologically advanced devices for the HVAC industry by applying innovative technologies in the field of design research, production, and logistics.



**24/7**  
**IMMEDIATE**

AVAILABILITY

\*-Logistics center

# OUR MISSION

# NO. 1 IN THE WORLD





## 3 CONSTITUENTS OF SUCCESS

The highest quality of products. The best prices on the market. The shortest delivery times. These three pillars of our market policy are why VTS is always one step ahead worldwide.

Following the best world practices from the automotive industry, VTS has created a network of 6 efficient production & logistics centers (**Atlanta, Dubai, Moscow, Shanghai, Warsaw, Bangalore**) to guarantee the shortest delivery times on the market, regardless of your location.

Mass production scale of universally repeatable devices allows VTS to offer them in **the most competitive price, while maintaining the highest quality.**

A multi-level control system allows VTS to offer **a 3-year warranty for devices as a standard.**

**24/7** AVAILABILITY  
**IMMEDIATE**

**6** CENTERS  
  
LOGISTICS

**\$** competitive  
**PRICE**

**100 000**  
SOLD EQUIPMENT  
UNITS ANNUALLY

 **THE HIGHEST  
QUALITY**

**3** YEAR **GUARANTEE**  
FOR EACH  
DEVICE



# WING by VTS

WING is the new generation device created from a passion for a light and modern design representing characteristics of gliders. A minimal casing with a streamlined form of a wing that seems to float in the air. The diamond style side panels hide the excellent components in an innovative curtain body to set new standards for air curtains. WING combines the unique design and excellent efficiency to redefine the air curtain image.



QUIET OPERATION



EFFICIENT AND RELIABLE  
EC MOTORS



BIM COMPATIBLE  
REVIT® FILES

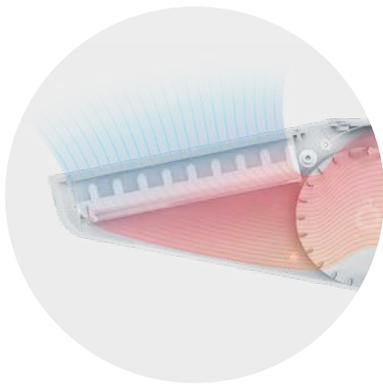
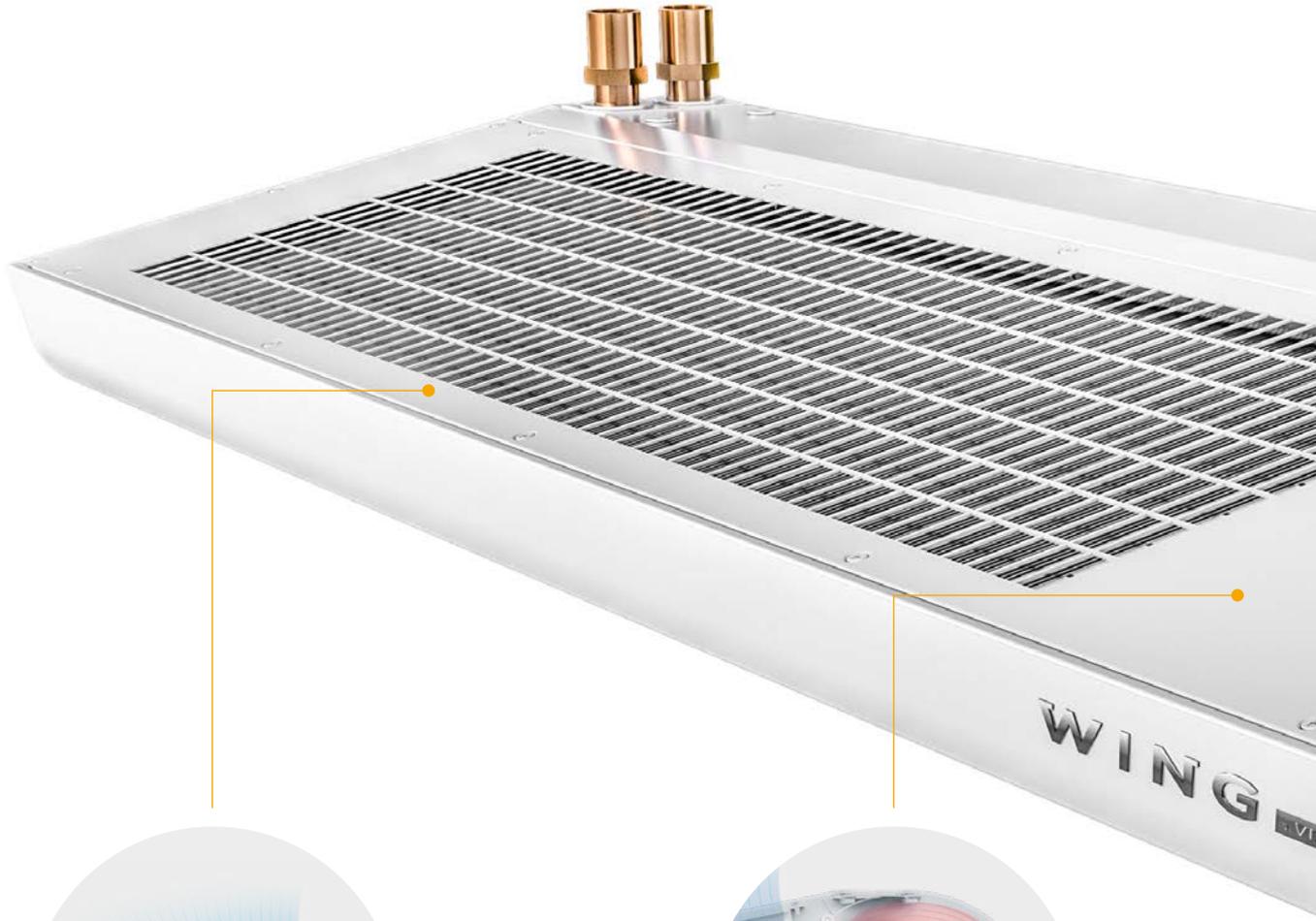


AVAILABLE ONLINE  
24/7

[www.eshop.vtsgroup.com](http://www.eshop.vtsgroup.com)

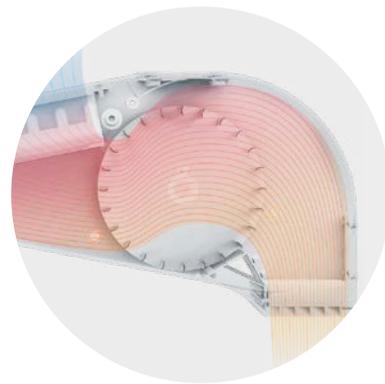


# | Silent and powerful



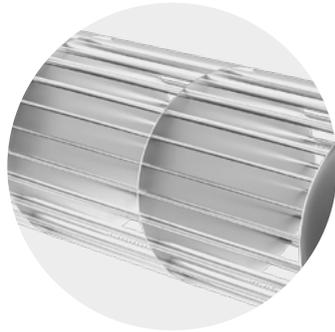
## LOW RESISTANCE OF THE AIR INLET

A larger surface of the air inlet allows the heat exchanger to be fully utilized.



## OPTIMAL AIR FLOW RATE

The special design of the blades ensures an increase in the air stream range by 20% compared to conventional approaches. Larger air intake area makes it possible to take full advantage of heat exchanger power.



## QUIET OPERATION

The device design supports the air flow and effectively reduces the level of sound emitted to the environment.



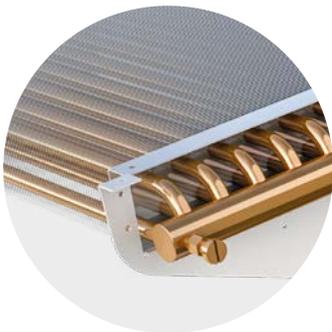
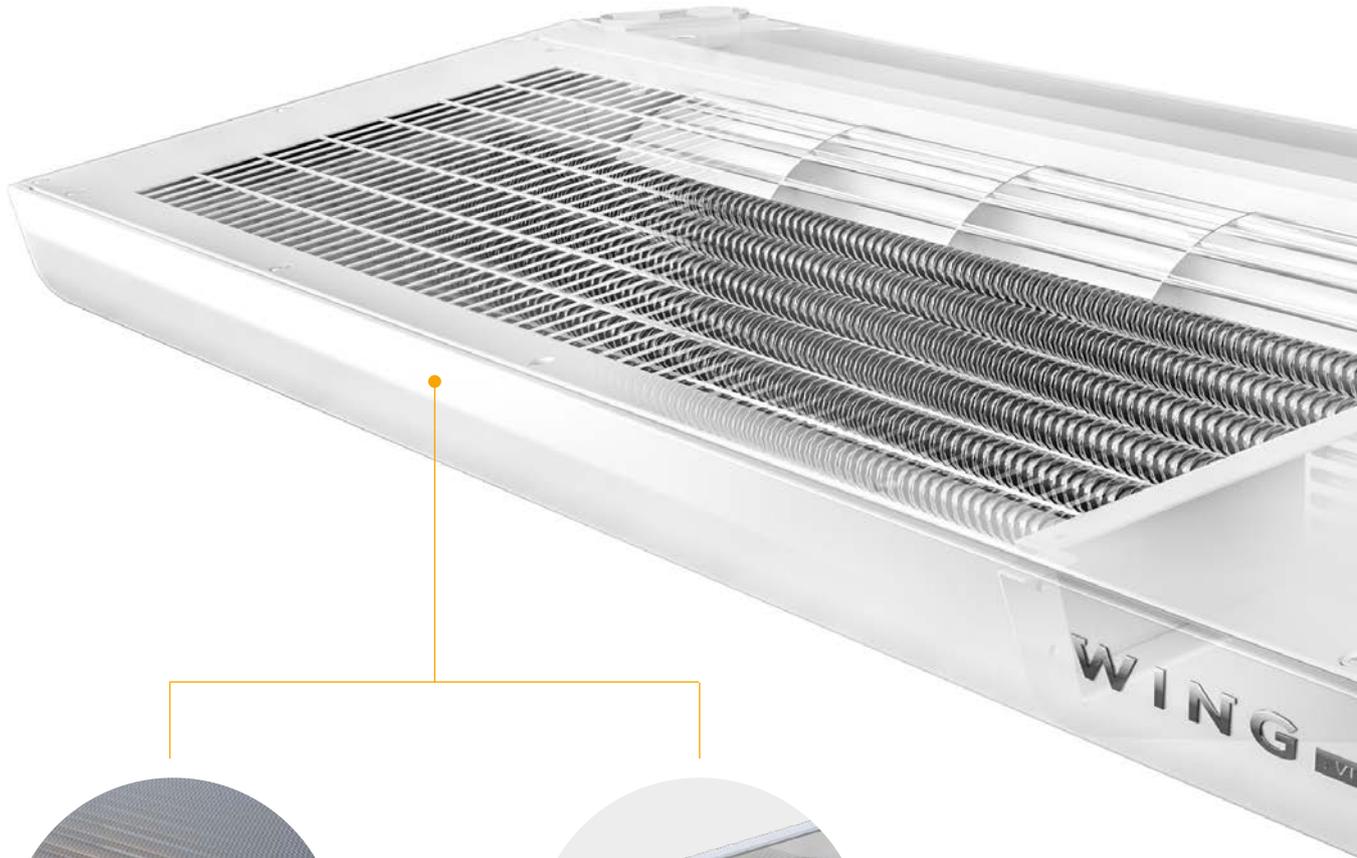
## CONFIGURED TO BUILDING SPECIFICATIONS

The Electronically Controlled motor allows an easy adjustment of the Wing to any protected entryway requirements.





# | Design and Performance



## WATER HEATER

The high-performance, two-row water heater is adapted to operate with low parametric factors.



## ELECTRIC HEATER

The low-temperature, high-power heater ensures safe operation without a fan overrun. The asymmetrical distribution of the heating power provides the best adjustment to individual customer needs.



## COMBINATION OF FUNCTIONALITY AND DESIGN

A characteristic diamond-shaped element of the side cover not only protects the inlet of the engine cooling system but also fulfills an inspective function.





# | Quality and Design



## SIMPLE CLEANING

Thanks to the optimized construction of the covers, cleaning the curtain is comfortable and does not require the disassembly of any part, always ensuring hygienic operation.

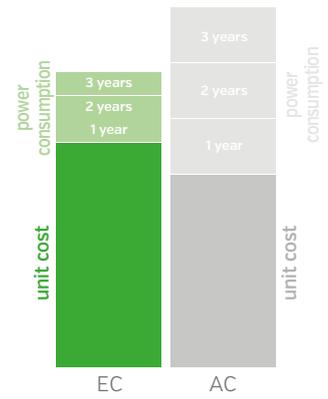
## GALVANIZED STEEL CASING

Double coating (galvanization + powder paint) provides long-term protection against corrosion and consistent aesthetic qualities.



## ELECTRICITY SAVINGS

Modern design of the engine and fan saves up to 60% of energy compared to conventional solutions.



## HIGH EFFICIENCY

High power output is a result of applying a heater with large heat exchange surface arranged in a uniform air stream.

# WING Curtain with EC motor



## ENERGY EFFICIENCY

- Higher efficiency throughout the adjustment range in comparison to regular motors
- Excellent durability
- Low maintenance costs
- Possibility of connecting directly to BMS system
- Silent with considerable rates of rotation
- Adjustment of fan rates rotation with 0-10V DC signal

## COMFORT AND FLEXIBILITY



### Microprocessor controller of EC curtain

- Cooperation with door sensor
- Air curtains working time calendar for workdays and weekends
- Working in BMS systems
- Possibility of working in 3-level mode of speed control and 2-level mode of heating power
- Up to 8 air curtains can be connected to one controller!

### Door Optimum function

Door Optimum function allows to maintain full protection of the door opening and at the same time optimize costs associated with its operation. It keeps the air curtain operating on minimum speed, and when the door are going to be open protect the door opening from the first second, against access to outside air. Opening the door increases also the speed of air by +1 or +2 levels, depending on user's preferences.



# Technical parameters

## WING W

### WATER HEAT EXCHANGER

HEATING POWER RANGE:  
4 – 47 kW

EXHAUST FLOW RATE:  
1850-4400 m<sup>3</sup>/h

MAXIMUM AIR COVERAGE:  
3,7 m

## WING E

### ELECTRIC HEATING COIL

HEATING POWER RANGE:  
2 – 15 kW

EXHAUST FLOW RATE:  
1850-4500 m<sup>3</sup>/h

MAXIMUM AIR COVERAGE:  
3,7 m

## WING C

### WITHOUT HEAT EXCHANGER (COLD)

MAXIMUM AIR COVERAGE:  
4 m

EXHAUST FLOW RATE:  
1950-4600 m<sup>3</sup>/h

200 W/E/C



150 W/E/C



100 W/E/C

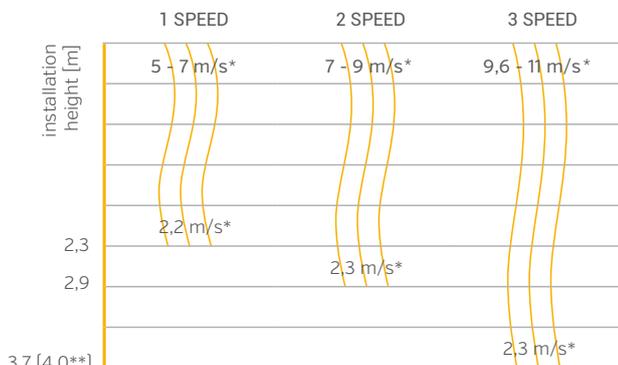


\* - width does not include side covers

## STREAM RANGE

### Vertical air stream range

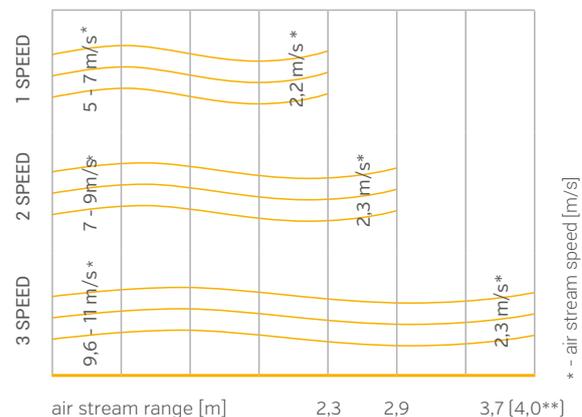
(maximum installation height)



\* - air flow rate [m/s]  
\*\* - cold curtain

### Horizontal air stream range

(for vertical installation)



\* - air stream speed [m/s]  
\*\* - cold curtain

# Installation

Dedicated brackets and fixing points enable immediate installation of the curtain.

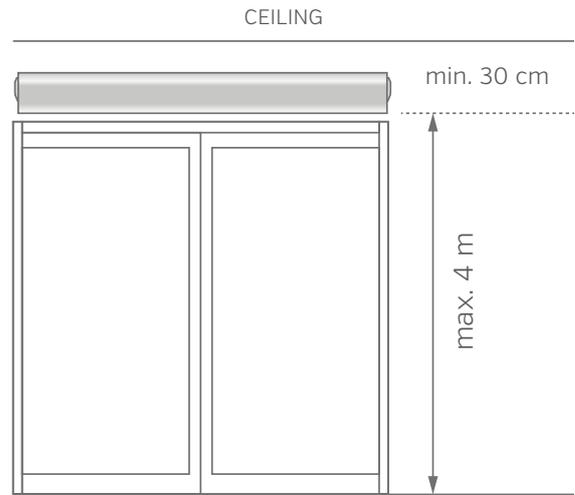
The maximum mounting height is 4m.  
The minimum distance between the air outlet of the curtain and the ceiling is only 30 cm.



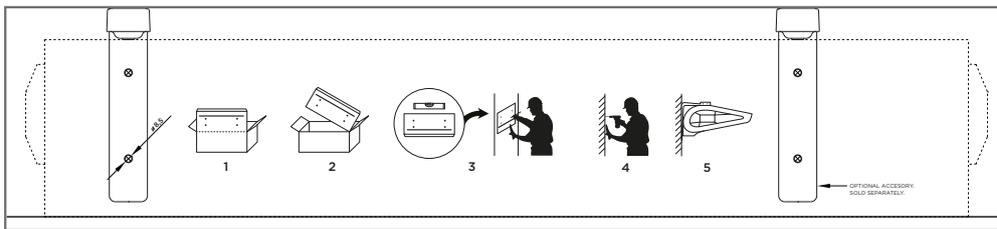
DEDICATED BRACKETS



FASTENING PINS



## INSTALLATION TEMPLATE



Each package of the WING Air Curtain comes with a template containing hole spacing and line levelling. All you need to do is to cut the template out of the cardboard lid and you are ready for the assembly.





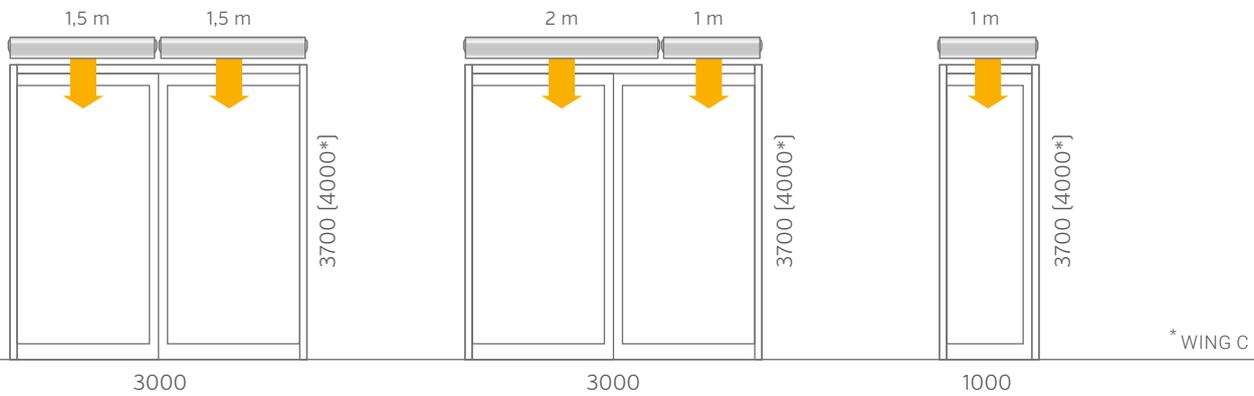
## INSTALLATION EXAMPLE

Every WING Air Curtain can be mounted horizontally and vertically, except for electric. Electric is the only air curtain that cannot be mounted vertically. Due to the slim design, very small height of the housing and the inclined air inlet, the device may be mounted in a limited space above the door, without any effect on performance.

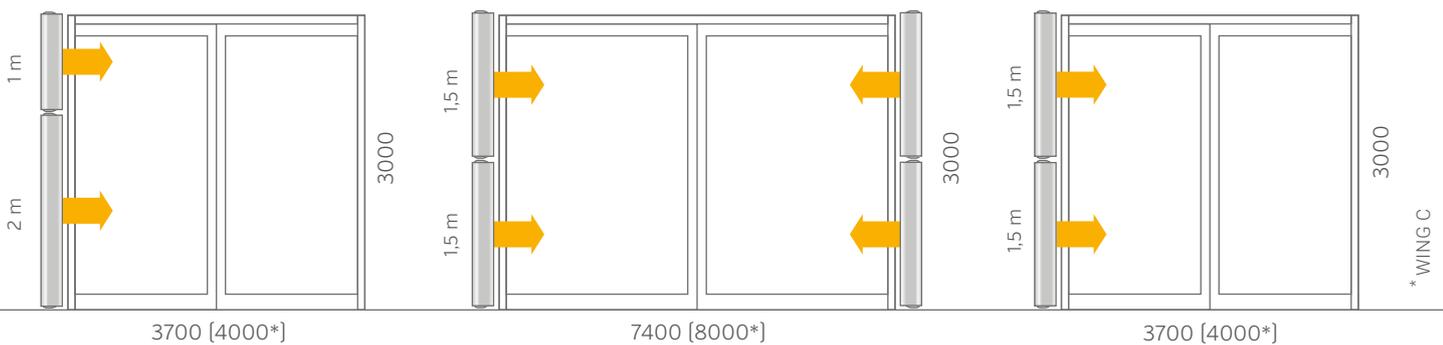
\* WING W, WING C



### HORIZONTAL INSTALLATION



### VERTICAL INSTALLATION



Electric curtain **cannot** be mounted vertically!



## TECHNICAL PARAMETERS

Parameters	Unit	WATER AIR CURTAIN			ELECTRIC AIR CURTAIN			COLD AIR CURTAIN		
		WING W100	WING W150	WING W200	WING E100	WING E150	WING E200	WING C100	WING C150	WING C200
		EC	EC	EC	EC	EC	EC	EC	EC	EC
VTS article No.		1-4-2801-0055	1-4-2801-0056	1-4-2801-0057	1-4-2801-0058	1-4-2801-0059	1-4-2801-0060	1-4-2801-0061	1-4-2801-0062	1-4-2801-0063
maximum door width (1 device)	m	1	1,5	2	1	1,5	2	1	1,5	2
maximum door height (vertical stream range)**	m	3,7			3,7			4		
maximum exhaust flow rate***	m³/h	1850	3100	4400	1850	3150	4500	1950	3200	4600
heating power range*	kW	4-17	10-32	17-47	2/6 or 4/6	4/12 or 8/12	6/15 or 9/15	-		
maximum temperature of heating agent	°C	95			-			-		
maximum operating pressure	MPa	1,6			-			-		
water volume	dm³	1,6	2,6	3,6	-			-		
number of heat exchanger rows	pcs	2			-			-		
supply voltage	V/ph/Hz	~ 230/1/50			~230/1/50 for 2kW ~400/3/50 for 2/4/6kW	~400/3/50		~230/1/50		
electric heating coil power	kW	-			2 i 4	4 i 8	6 i 9	-		
electric heating coil current draw	A	-			3/6/ max 9	6/11,3/ max 17,3	8,5/12,9/ max 21,4	-		
motor power (EC motor)	kW	0,15	0,18	0,26	0,15	0,18	0,26	0,15	0,18	0,26
rated current (EC motor)	A	1,1	1,3	1,9	1,1	1,3	1,9	1,1	1,3	1,9
weight (without water) EC	kg	21,5	29	37,5	22	30,5	39	19	25,5	32,5
protection rating	IP	20								
casing colour		RAL 9016, outlet grid: RAL 9022								

FAN SPEED	NOISE LEVEL	WING W100-200			WING E100-200			WING C100-200		
		1m	1,5m	2m	1m	1,5m	2m	1m	1,5m	2m
III	dB(A)***	61	63	66	62	62	64	66	67	67
II		59	62	65	55	60	63	63	66	65
I		56	57	60	53	55	59	57	58	61

\* available heating power in the control option configuration: Wing E100 2/6 kW or 4/6 kW, for Wing E150 4/12kW or 8/12kW, for Wing E200 6/15 kW or 9/15 kW

\*\* air stream range depends on curtain operation speed

\*\*\* measurement conditions: semi-open space, horizontal installation on the wall, measurement performed 3 m away from the device



WING



## WATER HEATERS - PARAMETERS

### WING W100 (WATER AIR CURTAIN)

		Parameter $T_z/T_p$ [°C]															
		90/70 [°C]				80/60 [°C]				70/50 [°C]				60/40 [°C]			
$T_{p1}$	$Q_p$ [m³/h]	$P_g$ [kW]	$T_{p2}$ [°C]	$Q_w$ [m³/h]	$\Delta p$ [kPa]	$P_g$ [kW]	$T_{p2}$ [°C]	$Q_w$ [m³/h]	$\Delta p$ [kPa]	$P_g$ [kW]	$T_{p2}$ [°C]	$Q_w$ [m³/h]	$\Delta p$ [kPa]	$P_g$ [kW]	$T_{p2}$ [°C]	$Q_w$ [m³/h]	$\Delta p$ [kPa]
5	1850	17,7	32	0,78	0,5	14,8	28	0,65	0,4	11,6	22,8	0,51	0,2	8,0	17	0,35	0,1
	1350	15,0	35	0,66	0,4	12,5	30	0,55	0,3	9,8	24,4	0,43	0,2	5,4	16	0,23	0,1
	880	11,9	38	0,52	0,2	9,8	33	0,43	0,2	7,6	26,5	0,33	0,1	4,6	18	0,20	0,1
10	1850	16,2	35	0,72	0,4	13,3	31	0,59	0,3	10,2	25,8	0,45	0,2	5,0	18	0,22	0,1
	1350	13,8	38	0,61	0,3	11,3	33	0,50	0,2	8,5	27,2	0,37	0,1	4,6	19	0,20	0,1
	880	10,9	41	0,48	0,2	8,9	35	0,39	0,1	6,5	28,8	0,29	0,1	4,0	22	0,17	0,04
15	1850	14,9	39	0,66	0,4	11,9	34	0,52	0,2	8,7	28,7	0,38	0,1	4,3	22	0,19	0,04
	1350	12,6	41	0,56	0,3	10,1	36	0,44	0,2	7,2	29,7	0,32	0,1	3,9	23	0,17	0,04
	880	9,9	44	0,44	0,2	7,9	38	0,35	0,1	4,6	28,6	0,20	0,1	3,4	25	0,15	0,03
20	1850	13,5	42	0,59	0,3	10,5	37	0,46	0,2	7,0	31,3	0,31	0,1	3,5	26	0,15	0,03
	1350	11,4	44	0,50	0,2	8,8	38	0,90	0,1	4,7	29,7	0,20	0,1	3,2	27	0,14	0,03
	880	9,0	47	0,40	0,1	6,9	40	0,30	0,1	4,0	31,9	0,18	0,04	2,8	28	0,12	0,02

### WING W150 (WATER AIR CURTAIN)

		Parameter $T_z/T_p$ [°C]															
		90/70 [°C]				80/60 [°C]				70/50 [°C]				60/40 [°C]			
$T_{p1}$	$Q_p$ [m³/h]	$P_g$ [kW]	$T_{p2}$ [°C]	$Q_w$ [m³/h]	$\Delta p$ [kPa]	$P_g$ [kW]	$T_{p2}$ [°C]	$Q_w$ [m³/h]	$\Delta p$ [kPa]	$P_g$ [kW]	$T_{p2}$ [°C]	$Q_w$ [m³/h]	$\Delta p$ [kPa]	$P_g$ [kW]	$T_{p2}$ [°C]	$Q_w$ [m³/h]	$\Delta p$ [kPa]
5	3100	31,7	34	1,40	2,1	26,9	30	1,18	1,6	22,0	25	0,97	1,2	17,0	20	0,74	0,8
	2050	26,5	37	1,17	1,5	22,5	32	0,99	1,2	18,5	27	0,81	0,9	14,2	22	0,62	0,6
	1420	21,6	40	0,95	1,1	18,3	35	0,81	0,8	15,0	30	0,66	0,6	11,5	24	0,50	0,4
10	3100	29,3	37	1,29	1,8	24,5	33	1,08	1,4	19,6	28	0,86	1,0	14,5	23	0,64	0,6
	2050	24,5	40	1,08	1,3	20,5	35	0,90	1,0	16,5	30	0,72	0,7	12,1	25	0,53	0,4
	1420	19,9	43	0,88	0,9	16,7	38	0,73	0,7	13,4	32	0,59	0,5	9,8	26	0,43	0,3
15	3100	26,9	40	1,19	1,6	22,1	36	0,97	1,2	17,3	31	0,76	0,8	12,1	26	0,53	0,4
	2050	22,5	43	0,99	1,2	18,5	38	0,82	0,8	14,4	33	0,63	0,6	10,0	27	0,44	0,3
	1420	18,3	46	0,81	0,8	15,1	41	0,66	0,6	11,7	35	0,51	0,4	8,0	29	0,35	0,2
20	3100	24,5	44	1,08	1,3	19,8	39	0,87	0,9	14,9	34	0,65	0,6	9,5	29	0,41	0,3
	2050	20,5	46	0,91	1,0	16,6	41	0,73	0,7	12,4	36	0,54	0,4	7,7	30	0,34	0,2
	1420	16,7	49	0,74	0,7	13,5	43	0,59	0,5	10,1	37	0,44	0,3	4,8	28	0,21	0,1



## WING W200 (WATER AIR CURTAIN)

		Parameter $T_z/T_p$ [°C]															
		90/70 [°C]				80/60 [°C]				70/50 [°C]				60/40 [°C]			
$T_{p1}$	$Q_p$ [m <sup>3</sup> /h]	$P_g$ [kW]	$T_{p2}$ [°C]	$Q_w$ [m <sup>3</sup> /h]	$\Delta p$ [kPa]	$P_g$ [kW]	$T_{p2}$ [°C]	$Q_w$ [m <sup>3</sup> /h]	$\Delta p$ [kPa]	$P_g$ [kW]	$T_{p2}$ [°C]	$Q_w$ [m <sup>3</sup> /h]	$\Delta p$ [kPa]	$P_g$ [kW]	$T_{p2}$ [°C]	$Q_w$ [m <sup>3</sup> /h]	$\Delta p$ [kPa]
5	4400	46,9	35	2,04	5,6	39,4	30	1,73	4,3	32,6	26	1,43	3,2	25,7	21	1,12	2,2
	3150	40,9	37	1,81	4,5	35,0	32	1,54	3,5	28,9	27	1,27	2,6	22,8	23	1,00	1,8
	2050	34,0	40	1,50	3,2	29,0	35	1,28	2,5	24,1	30	1,05	1,9	19,0	24	0,83	1,3
10	4400	42,7	38	1,89	4,9	36,0	34	1,58	3,7	29,2	29	1,28	2,6	22,3	25	0,97	1,7
	3150	37,9	40	1,67	3,9	31,9	35	1,41	3,0	25,9	30	1,14	2,1	19,8	26	0,86	1,4
	2050	31,4	43	1,39	2,8	26,5	38	1,17	2,2	21,6	33	0,95	1,6	16,4	27	0,72	1,0
15	4400	39,3	41	1,73	4,2	32,6	37	1,43	3,1	25,8	32	1,13	2,1	18,9	28	0,82	1,3
	3150	34,8	43	1,54	3,4	28,9	38	1,27	2,5	22,9	33	1,01	1,7	16,7	28	0,73	1,0
	2050	28,9	46	1,28	2,4	24,0	41	1,06	1,8	19,1	35	0,84	1,2	13,9	30	0,61	0,7
20	4400	35,9	44	1,59	3,6	29,3	40	1,29	2,6	22,5	35	0,99	1,7	15,4	30	0,67	0,9
	3150	31,9	46	1,41	2,9	26,0	41	1,14	2,1	20,0	36	0,87	1,4	13,7	31	0,60	0,7
	2050	26,4	49	1,17	2,1	21,6	43	0,95	1,5	16,6	38	0,73	1,0	11,3	32	0,49	0,5

## COLD AIR CURTAINS - PARAMETERS

### WING C100, C150, C200 (COLD AIR CURTAINS)

Parameter	WING C100			WING C150			WING C200		
Fan speed	III	II	I	III	II	I	III	II	I
$Q_p$ [m <sup>3</sup> /h]	1950	1500	1050	3200	2250	1500	4600	3400	2340
[dB(A)]*	66	63	57	67	66	58	67	65	61

\* measuring conditions: semi-open space, horizontal mounting on the wall, the measurement performed at the distance of 3m from the device

#### LEGEND

- $T_z$  - water temperature at the inlet to the device
- $T_p$  - water temperature at the outlet from the device
- $T_{p1}$  - air temperature at the inlet to the device
- $T_{p2}$  - air temperature at the outlet from the device
- $P_g$  - heating power of the device
- $Q_p$  - air flow
- $Q_w$  - water flow
- $\Delta p$  - pressure drop in the heat exchanger



## ELECTRIC AIR CURTAINS - PARAMETERS

### WING E100 (ELECTRIC AIR CURTAIN)

$T_{p1}$	$Q_p$ [m <sup>3</sup> /h]	$P_g^*$ [kW]	$T_{p2}$ [°C]
5	1850	2/4/6	8/11/15
	1400	2/4/6	9/12/16
	920	2/4/6	11/16/21
10	1850	2/4/6	13/16/20
	1400	2/4/6	14/17/21
	920	2/4/6	16/21/26
15	1850	2/4/6	18/21/25
	1400	2/4/6	19/22/26
	920	2/4/6	21/26/31
20	1850	2/4/6	23/26/30
	1400	2/4/6	24/27/31
	920	2/4/6	26/31/36

### WING E150 (ELECTRIC AIR CURTAIN)

$T_{p1}$	$Q_p$ [m <sup>3</sup> /h]	$P_g^*$ [kW]	$T_{p2}$ [°C]
5	3150	4/8/12	9/12/15
	2050	4/8/12	10/14/19
	1450	4/8/12	13/19/26
10	3150	4/8/12	14/17/20
	2050	4/8/12	15/19/24
	1450	4/8/12	18/24/31
15	3150	4/8/12	19/22/25
	2050	4/8/12	20/24/29
	1450	4/8/12	23/29/36
20	3150	4/8/12	24/27/30
	2050	4/8/12	25/29/34
	1450	4/8/12	28/34/41

### WING E200 (ELECTRIC AIR CURTAIN)

$T_{p1}$	$Q_p$ [m <sup>3</sup> /h]	$P_g^*$ [kW]	$T_{p2}$ [°C]
5	4500	6/9/15	9/10/14
	3200	6/9/15	10/12/16
	2150	6/9/15	12/15/21
10	4500	6/9/15	14/15/19
	3200	6/9/15	15/17/21
	2150	6/9/15	17/20/26
15	4500	6/9/15	19/20/24
	3200	6/9/15	20/22/26
	2150	6/9/15	22/25/31
20	4500	6/9/15	24/25/29
	3200	6/9/15	25/27/31
	2150	6/9/15	27/30/36

#### LEGEND

$T_{p1}$	- air temperature at the inlet to the device
$T_{p2}$	- air temperature at the outlet from the device
$P_g$	- heating power of the device
$Q_p$	- air flow

\* available heating capacities in the configuration of control options: Wing E100 2/6kW or 4/6kW, for Wing E150 4/12kW or 8/12kW. For Wing E200 6/15kW or 9/15kW





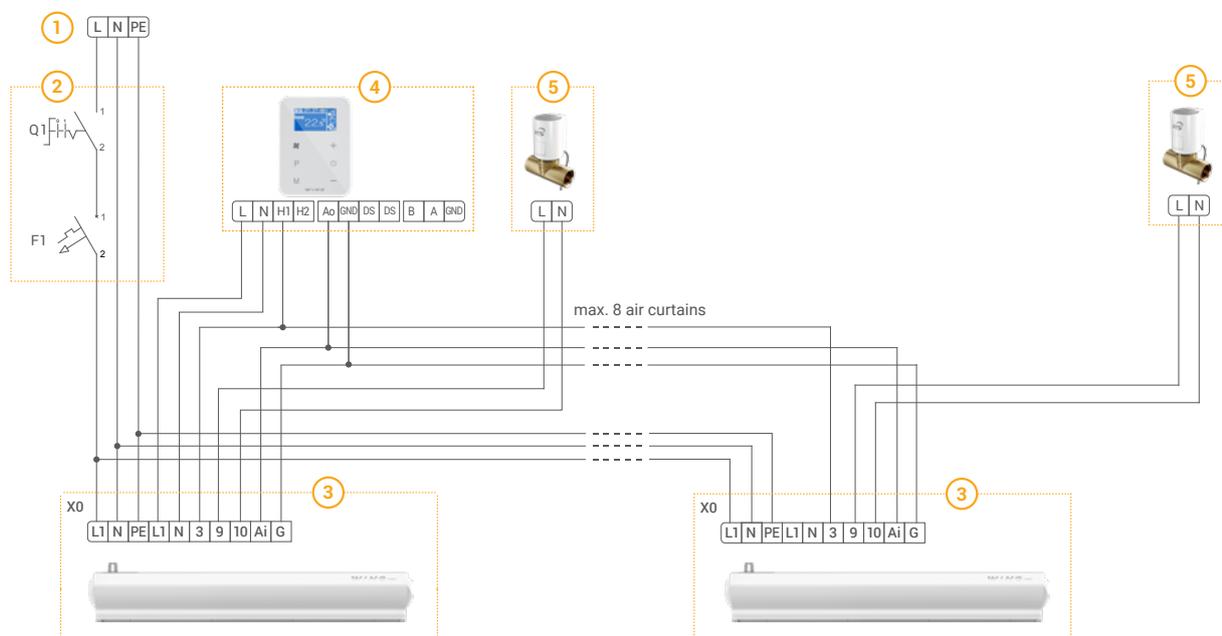


# Accessories

Controller WING EC			Valve with actuator (VA-VEH202TA)			Door sensor (reed switch)*	
VTS product number	1-4-0101-0451		VTS product number	1-2-1204-2019		VTS product number	1-4-0101-0454
Power supply voltage	V/ph/Hz	~230/1/50	Power supply voltage	V/ph/Hz	~230/1/50	Contact configuration	NO
Permissible load	A	1A for 230VAC 0,02A for 0-10V	Opening/ closing time	min	3/3	Switching current	500 mA
Setting range	°C	5...40	Kvs	-	4,5	Switching voltage	max 200 V
Protection rating	IP	30	Protection rating	IP	54	Connection	screw

\* Works only with EC motor equipped curtains

## SAMPLE CONNECTION DIAGRAM FOR THE AIR CURTAIN



1. Power supply 230V/50 Hz
2. Main switch, fuses
3. Wing EC controller

4. WING EC controller
5. Valve with actuator

ALL EC AIR CURTAINS ARE CHARACTERIZED BY EASE AND SIMPLICITY OF CONNECTION



## FAQ

### 1. HOW TO CHOOSE A PROPER AIR CURTAIN?

The width of the air outlet from the air curtain should be wider than or equal to the width of the door opening. In order to ensure effective protection, set the fan speed to such a level that regardless of the mounting height, the air speed near the floor is not less than 2 m/s.

### 2. WHAT AIR CURTAINS ARE THERE IN THE VTS EUROHEAT'S PRODUCT RANGE?

VTS offers curtains in the height of 1 m, 1.5 m and 2 m. All curtain sizes come in the configuration with the water heat exchanger (WING W), electric heaters (WING E) and without heating function, the so-called cold air curtain (WING C).

### 3. CAN ALL KINDS OF WING AIR CURTAINS BE MOUNTED IN A VERTICAL AND HORIZONTAL POSITION?

All devices, regardless of the length, are designed to be installed both ways: horizontally (WING W/E/C) and vertically (WING W/C). In the case of vertical installation it is possible to mount the motor pointing upwards or downwards. The mounting method does not affect system stability in any way. Please note that the air curtains with electrical heaters (WING E100-E200) are not suitable for vertical mounting.

### 4. WHAT IS THE FUNCTION OF LOUVERS IN THE HEAT EXCHANGER?

The use of louvers increases the heat exchange surface which results directly in the efficiency increase of transferring the heat from the heating medium to the air.

### 5. CAN THE AIR CURTAINS BE BUILT INTO A SUSPENDED CEILING?

The WING air curtain is not suitable for installation in suspended ceilings, as this could restrict the air flow in front of the individual components. The minimum distance that must be maintained between the device and the ceiling is 10 cm.

### 6. HOW TO ADJUST THE ROTATIONAL SPEED OF THE WING CURTAIN DEPENDING ON THE EXPECTED MOUNTING HEIGHT?

Each model of WING curtains has three stages of fan speed forced by the controller.

### 7. WHAT ARE COLD CURTAINS?

WING cold curtains are air curtains without any function of air heating. Such curtains are not equipped with a water or electric heater. From the user's point of view this means that the temperature of the air stream at the curtain's outlet is equal to the temperature of the air drawn from the environment.

### 8. WHAT TEMPERATURE OF THE AIR AT THE INLET SHOULD BE TAKEN INTO ACCOUNT FOR CALCULATING THE HEATING POWER?

The air temperature prevailing in the room or the temperature to be set and maintained by other heating systems.

### 9. DO THE CONTROLLER WING EC HAVE THE POSSIBILITY OF ADJUSTING THE LEVEL OF THE CURTAIN'S HEATING POWER?

Yes. The controller Wing EC allows adjustment of heating power of the WING E. For WING W equipped with a valve it is possible to enable or disable function of heating. Without a valve, the heat exchanger remains in the free flow of the heating agent.

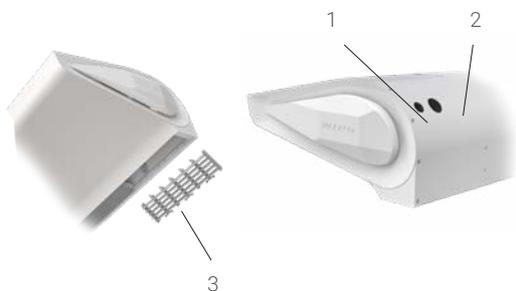
### 10. WHY IS IT NOT RECOMMENDED TO CONNECT THE DOOR SWITCH ALONG WITH THE VALVE AND ACTUATOR IN THE WING W CURTAIN?

When connecting a door sensor it is not recommended to use a valve with an actuator due to increased inertia of the system i.e. the heating time of the heat exchanger and the time it takes for the actuator to open the valve.



### 11. WHERE IN THE CASING OF THE WING CURTAIN ARE THE ELECTRIC CABLE GLANDS LOCATED?

The glands are located on the right side of the curtain behind the motor. The picture shows the placement of the cable grommets: no. 1 - grommet of the control cables, no. 2 - grommet of the supply lines, no. 3 - outlet grill of the motor.



### 12. WHAT IS THE RANGE OF AIR STREAM FOR THE WING CURTAINS?

The maximum range of air stream for the WING curtains with the water or electric heaters is 3.7 m. For cold curtains the maximum range is 4 m.

### 13. CAN THE CONTROLLER WING EC BE CONNECTED TO ANY AMOUNT OF AIR CURTAINS?

Due to the contact load, the wall-mounted WING controller can be used to supply only one WING curtain. In order to control more curtains with a single controller, use an additional contactor in the power supply circuit of the curtains. For more detailed information, please consult VTS technical support department.

### 14. WHAT IS THE DIFFERENCE BETWEEN THE VALVES WITH ACTUATORS USED IN THE VOLCANO AND WING AIR CURTAINS?

There is no difference. These are the same valves with identical specifications.

### 15. CAN THE AIR CURTAINS BE MOUNTED IN GROUPS?

Yes, it is possible to mount the curtains in groups, which enables the security of the door opening of any length (eg. 3 m, 3.5 m, 4 m, etc.).

### 16. WHAT ARE THE BENEFITS OF AIR CURTAINS?

Using air curtains prevents warm air from escaping the room and the cold air entering the room in winter. In addition, curtains protect the room from migration of the contaminants, i.e. flue gases, dust, leaves, etc. The air curtains are also used in the summer to secure the room cooled by AC against the loss of cold air or inflow of warm air from the outside. The barrier produced during the period that does not require heating function is based only on the use of air stream generated in the curtain without its heating fan operation only.

### 17. CAN THE DOOR SENSOR OFFERED BY VTS BE CONNECTED TO ANY TYPE OF THE AIR CURTAIN?

The reed switch offered by VTS will be able to serve air curtains with EC motors only. There is possibility to connect one reed switch to one controller WING EC. Controller can control up to 8 air curtains WING EC.

### 18. ARE THE WING CURTAINS WITH EC MOTORS QUIETER THAN THOSE WITH AC MOTORS?

The noise generated by the air curtain is the result of the fan impeller operation and expeditious flow of air within the device. The motor itself, regardless of the type, generates very little noise, which is incomparably quieter than the noise of the impeller. Therefore, regardless of the motor type the difference in the noise generated by the entire device will be indistinguishable by the human ear.

# FAQ

## 19. HOW TO PERFORM A PROPER VERTICAL MOUNTING OF THE DEVICE?

For vertical mounting use screws M8x70. Screw 2 or 3 handles through the flat washers to the threaded sleeves mounted at the top section of the housing. Keep a minimum distance of 10 cm from the floor in order to provide access to the water drain nozzles from the heat exchanger and the terminal strip.



## 20. WHAT IS THE MOUNTING HOLE SPACING?



Curtain type	W1 [mm]	W2 [mm]
WING 100	772	-
WING 150	507	772
WING 200	921	910

## 21. WHAT ARE THE DIMENSIONS OF THE DEVICE PACKAGE?

Curtain type	LxWxH [mm]
WING 100	1157 x 520 x 310
WING 150	1675 x 520 x 310
WING 200	2194 x 520 x 310

## 22. WHAT TYPE OF WING CURTAINS ARE PACKED INTO THE PALLETS?

Curtain type	Pallet dimensions [mm]	Number of curtains on the pallet [pcs]
WING 100	1160x1040	10
WING 150	1680x1040	10
WING 200	2200x1040	8

## 23. CAN I FEED WING AIR CURTAIN WITH A NON-FREEZE MEDIUM?

Yes, you can. The most frequently used non-freeze medium is a water solution of ethylene glycol. The heaters mounted in WING can support up to 50% mixtures. Make sure to check, however, if other elements of the technological heat installation (valves, pump, etc.) are adapted to work on glycol mix. To do this, check the recommendations of the manufacturers of particular components used. Remember that the use of glycol mixes, which are usually characterized by higher viscosity and lower thermal capacity, compared to water, increases the resistance of heating medium flow and reduces the heating power of the device.

**WING** EX



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