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OUR MISSION



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



* -Logistics center













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 the longest standard, a 3-year warranty for devices on the market.















W//G by VIS

WING is the new generation device created from a passion for a light and modern design representing characteristics of gliders. A minimal housing 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



UNBEATABLE PRICE

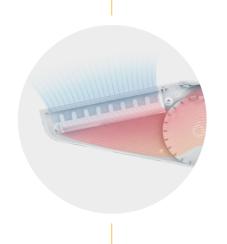




WING

THE MOST SILENT AIR CURTAIN ON THE MARKET

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



LOW RESISTANCE OF THE AIR INLET

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



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.

CONFIGURED TO BUILDING SPECIFICATIONS

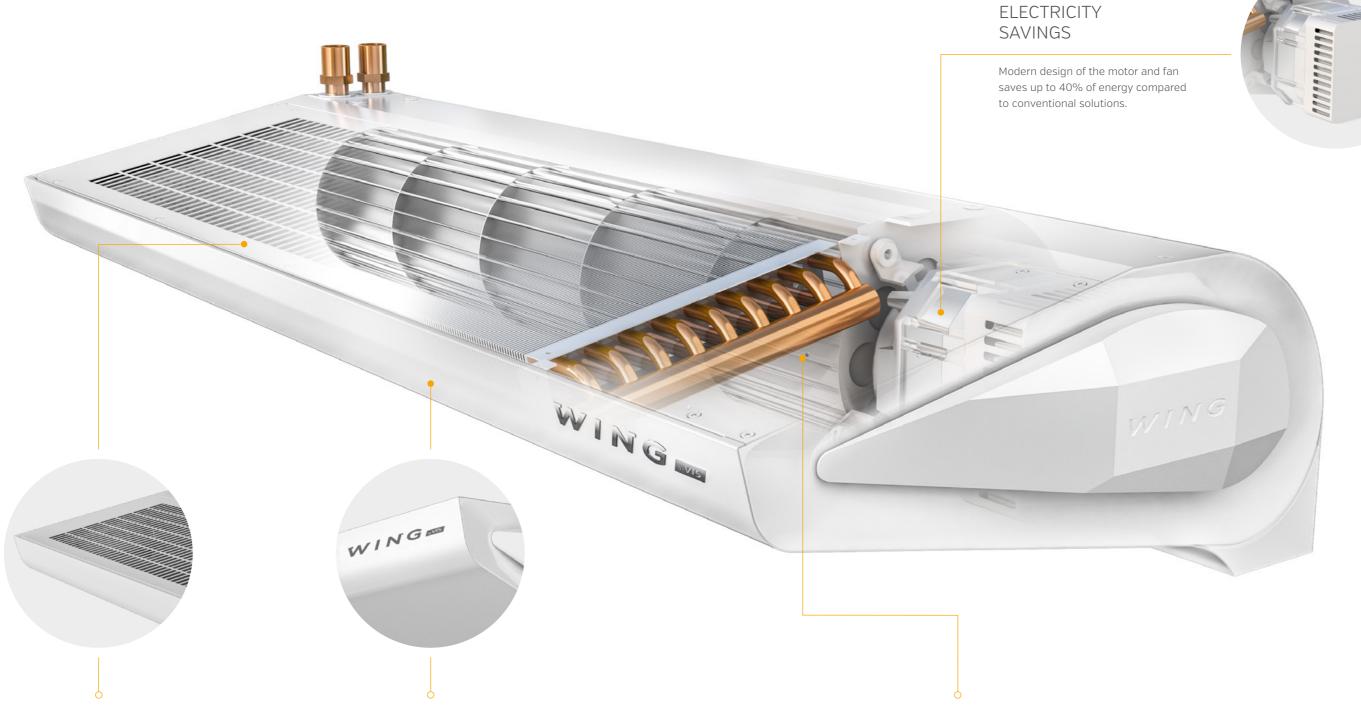
The Electronically Controlled motor allows an easy adjustment of the Wing to any protected entryway requirements.



Design and Performance



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 HOUSING

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

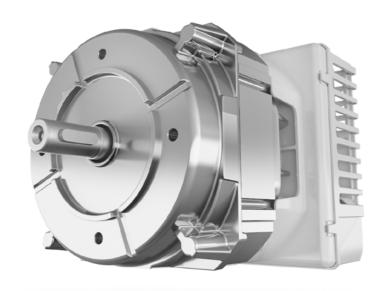
HIGH EFFICIENCY

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

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Technical parameters

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!

I Technical parameters

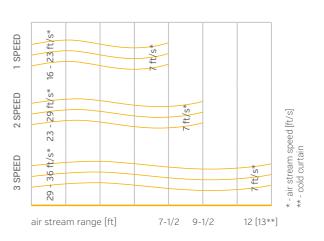


STREAM RANGE

Vertical air stream range





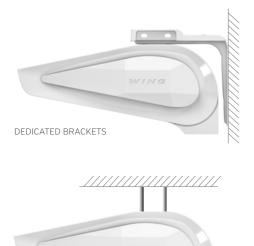


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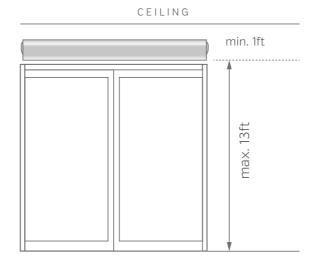


Dedicated brackets and fixing points enable immediate installation of the curtain.



The maximum mounting height is 13ft.

The minimum distance between the air outlet of the curtain and the ceiling is only 1ft.



INSTALLATION TEMPLATE

FASTENING PINS

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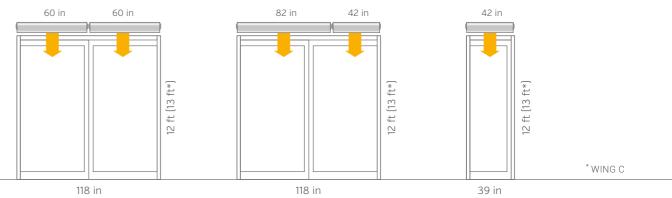
INSTALLATION EXAMPLE

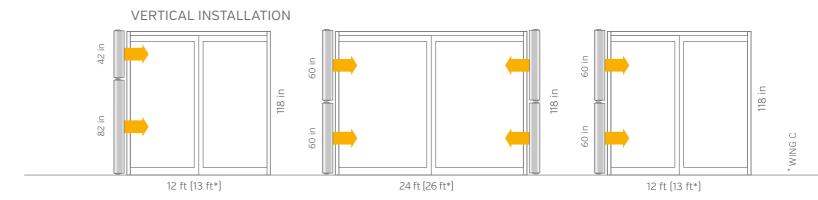
Every WING Air Curtain can be mounted horizontally and vertically, except for electric. Electric is the only air curtain that cannot be mounted vertically. Due to the slim design, very small height of the housing and the inclined air inlet, the device may be mounted in a limited space above the door,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

* WING W, WING C



HORIZONTAL INSTALLATION







I TECHNICAL PARAMETERS

	Unit	WIN	IG W100-	200	WIN	IG E100-2	00	IIW	NG C100-2	200
Parameters	of measure	WING W100	WING W150	WING W200	WING E100	WING E150	WING E200	WING C100	WING C150	WING C200
Maximum width of a single door for one device	in	39	39 59 78		39 59 78		78	39	59	78
Maximum height of door	ft				12				13	
Heating output range	МВН	13-58	34-109	58-160	7/20 or 14/20	13/41 or 27/41	20/51 or 30/51		-	
Maximum flow rate	CFM	1089	1824	2589	1088	1854	2648	1147	1883	2707
Maximum temperature of heating medium	°F		200			-			-	
Maximum working pressure	psi		232			-			-	
Water volume	in³	97	158	219		-			-	
Diameter of stub pipe connectors	n		3/4			-			-	
Motor supply voltage	V/ph/Hz	~120/	/1/60 or ~240	0/1/60	~120/1	1/60 or ~240/	/1/60	~120/	/1/60 or ~240	/1/60
Electric heater supply voltage	V/ph/Hz		-		~240/1/60 or ~240/3/60 or ~480/3/60	~240 or ~48	/3/60 0/3/60		-	
Power of the electric heater	kW		-		2 and 4	4 and 8	6 and 9		-	
Rated current of the electric heater	А		-		9/18/26 or 5/10/15 or 3/5/8	10/20/30 or 5/10/15	15/23/38 or 8/11/18		-	
EC Motor power	HP	1/5	1/4	1/3	1/5	1/4	1/3	1/5	1/4	1/3
EC Motor rated current	А	1.1	1.3	1.9	1.1	1.3	1.9	1.1	1.3	1.9
Weight	Ibs	47	64	83	49	67	86	42	56	72
IP						44				

FANCOFED		WING W100-200 WING E100-200				WING C100-200				
FAN SPEED	NOISE LEVEL	39 in	59 in	79 in	39 in	59 in	79 in	39 in	59 in	79 in
III		61	63	66	62	62	64	66	67	67
II	dB(A)***	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 10 ft away from the device









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WATER HEATERS - PARAMETERS

WING W100 (WATER AIR CURTAIN)

								Pa	arameter '	Tz/Tp [°F	-]						
	0		194	4/158			176	/140			158	3/122			140	/104	
Tp1 [°F]	Qp [CFM]	Pg [MBH]	Tp2 [°F]	Qw [gpm]	Δp [psi]	Pg [MBH]	Tp2 [°F]	Qw [gpm]	Δp [psi]	Pg [MBH]	Tp2 [°F]	Qw [gpm]	Δp [psi]	Pg [MBH]	Tp2 [°F]	Qw [gpm]	Δp [psi]
	1088	60	89	3.44	0.073	50	82	2.84	0.058	39	73	2.24	0.029	27	62	1.57	0.015
41	794	51	95	2.92	0.058	42	86	2.39	0.044	33	76	1.87	0.029	18	61	1.05	0.015
	518	40	100	2.32	0.029	33	91	1.87	0.029	26	79	1.42	0.015	15	64	0.90	0.015
	1088	55	95	3.14	0.058	45	88	2.62	0.044	35	78	1.94	0.029	17	64	0.97	0.015
50	794	47	100	2.69	0.044	38	91	2.17	0.029	29	81	1.65	0.015	15	66	0.90	0.015
	518	37	106	2.09	0.029	30	95	1.72	0.015	22	83	1.27	0.015	13	71	0.75	0.006
	1088	51	102	2.92	0.058	40	93	2.32	0.029	29	83	1.65	0.015	14	71	0.82	0.006
59	794	43	106	2.47	0.044	34	97	1.94	0.029	24	85	1.42	0.015	13	73	0.75	0.006
	518	34	111	1.94	0.029	27	100	1.57	0.015	15	83	0.90	0.015	11	77	0.67	0.004
	1088	46	107	2.62	0.044	36	98	2.02	0.029	24	88	1.35	0.015	12	79	0.67	0.004
68	794	39	111	2.17	0.029	30	100	3.96	0.015	16	85	0.90	0.015	11	80	0.60	0.004
	518	30	116	1.80	0.015	23	104	1.35	0.015	13	89	0.82	0.006	9	82	0.52	0.003

WING W150 (WATER AIR CURTAIN)

							Parar	neter Tz	/Tp [°F]								
	0		194	4/158		176/140			158/122			140/104					
Tp1 [°F]	Qp [CFM]	Pg [MBH]	Tp2 [°F]	Qw [gpm]	Δp [psi]	Pg [MBH]	Tp2 [°F]	Qw [gpm]	Δp [psi]	Pg [MBH]	Tp2 [°F]	Qw [gpm]	Δp [psi]	Pg [MBH]	Tp2 [°F]	Qw [gpm]	Δp [psi]
	1824	108	93	6.13	0.305	91	86	5.16	0.232	75	77	4.26	0.174	58	68	3.29	0.116
41	1206	90	98	5.16	0.218	76	90	4.34	0.174	63	80	3.59	0.131	48	71	2.69	0.087
	835	73	104	4.19	0.160	62	95	3.59	0.116	51	86	2.92	0.087	39	75	2.17	0.058
	1824	100	98	5.69	0.261	83	91	4.79	0.203	67	82	3.82	0.145	49	73	2.84	0.087
50	1206	83	104	4.79	0.189	70	95	3.96	0.145	56	86	3.14	0.102	41	77	2.32	0.058
	835	68	109	3.89	0.131	57	100	3.22	0.102	45	89	2.62	0.073	33	79	1.87	0.044
	1824	91	104	5.24	0.232	75	97	4.26	0.174	59	88	3.37	0.116	41	79	2.32	0.058
59	1206	76	109	4.34	0.174	63	100	3.59	0.116	49	91	2.77	0.087	34	80	1.94	0.044
	835	62	115	3.59	0.116	51	106	2.92	0.087	40	95	2.24	0.058	27	84	1.57	0.029
	1824	83	111	4.79	0.189	67	102	3.82	0.131	50	93	2.84	0.087	32	84	1.80	0.044
68	1206	70	115	4.04	0.145	56	106	3.22	0.102	42	97	2.39	0.058	26	86	1.50	0.029
	835	57	120	3.29	0.102	46	109	2.62	0.073	34	98	1.94	0.044	16	82	0.90	0.015

WING W200 (WATER AIR CURTAIN)

							Parar	neter Tz	/Tp [°F]								
	0		194	4/158			176	6/140		158/122				140/104			
Tp1 [°F]	Qp [CFM]	Pg [MBH]	Tp2 [°F]	Qw [gpm]	Δp [psi]	Pg [MBH]	Tp2 [°F]	Qw [gpm]	Δp [psi]	Pg [MBH]	Tp2 [°F]	Qw [gpm]	Δp [psi]	Pg [MBH]	Tp2 [°F]	Qw [gpm]	Δp [psi]
	2589	160	95	8.98	0.812	134	86	7.63	0.624	111	79	6.28	0.464	87	70	4.94	0.319
41	1854	139	98	8.00	0.653	119	89	6.81	0.508	98	80	5.61	0.377	77	73	4.41	0.261
	1206	116	104	6.58	0.464	99	95	5.61	0.363	82	86	4.64	0.276	64	75	3.67	0.189
	2589	145	100	8.30	0.711	123	93	6.96	0.537	99	84	5.61	0.377	76	77	4.26	0.247
50	1854	129	104	7.33	0.566	109	95	6.21	0.435	88	86	5.01	0.305	67	79	3.82	0.203
	1206	107	109	6.13	0.406	90	100	5.16	0.319	73	91	4.19	0.232	56	80	3.14	0.145
	2589	134	106	7.63	0.609	111	98	6.28	0.450	88	89	5.01	0.305	64	82	3.59	0.189
59	1854	118	109	6.81	0.493	98	100	5.61	0.363	78	91	4.41	0.247	57	82	3.22	0.145
	1206	98	115	5.61	0.348	92	106	4.64	0.261	65	95	3.67	0.174	47	86	2.69	0.102
	2589	122	111	7.03	0.522	100	104	5.69	0.377	76	95	4.34	0.247	52	86	2.92	0.131
68	1854	109	115	6.21	0.421	88	106	5.01	0.305	68	97	3.82	0.203	46	88	2.62	0.102
	1206	90	120	5.16	0.305	73	109	4.19	0.218	56	100	3.22	0.145	38	89	2.17	0.073

COLD AIR CURTAINS - PARAMETERS

WING C100, C150, C200 (COLD AIR CURTAINS)

Parameter	WING C100				WING C150)	WING C200		
Fan speed	III	Ш	1	III	II	1	III	Ш	I
Qp [CFM]	1147	882	618	1883	1324	882	2707	2001	1377
[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

- water temperature at the inlet to the device
- water temperature at the outlet from the device
- air temperature at the inlet to the device - air temperature at the outlet from the device
- heating power of the device air flow
- water flow
- pressure drop in the heat exchanger

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ELECTRIC AIR CURTAINS - PARAMETERS

WING E100 (ELECTRIC AIR CURTAIN)

T _{p1}	Q _p [ft/h]	Pg* [kW]	T _{p2} [°F]
	541	2/4/6	46/51/59
41	824	2/4/6	48/53/60
	1088	2/4/6	51/60/69
	541	2/4/6	55/60/68
50	824	2/4/6	57/62/69
	1088	2/4/6	60/69/78
	541	2/4/6	64/69/77
59	824	2/4/6	66/71/78
	1088	2/4/6	69/78/87
	541	2/4/6	73/78/86
68	824	2/4/6	75/80/87
	1088	2/4/6	78/87/96

WING E150 (ELECTRIC AIR CURTAIN)

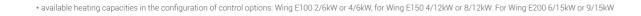
T _{p1}	Q _p [ft/h]	Pg* [kW]	T _{p2} [°F]
	853	4/8/12	48/53/59
41	1206	4/8/12	50/57/66
	1854	4/8/12	55/66/78
	853	4/8/12	57/62/68
50	1206	4/8/12	59/66/75
	1854	4/8/12	64/75/87
	853	4/8/12	66/71/77
59	1206	4/8/12	68/75/84
	1854	4/8/12	73/84/96
	853	4/8/12	75/80/86
68	1206	4/8/12	77/84/93
	1854	4/8/12	82/93/105

WING E200 (ELECTRIC AIR CURTAIN)

T _{p1}	Q _p [ft/h]	Pg* [kW]	T _{p2} [°F]
	1265	6/9/15	48/50/57
41	1883	6/9/15	50/53/60
	2648	6/9/15	53/59/69
	1265	6/9/15	57/59/66
50	1883	6/9/15	59/62/69
	2648	6/9/15	62/68/78
	1265	6/9/15	66/68/75
59	1883	6/9/15	68/71/78
	2648	6/9/15	71/77/87
	1265	6/9/15	75/77/84
68	1883	6/9/15	77/80/87
	2648	6/9/15	80/86/96

LEGEND

- air temperature at the inlet to the device
- air temperature at the outlet from the device
- heating power of the device
- air flow







1. Power supply ~120/1/60.

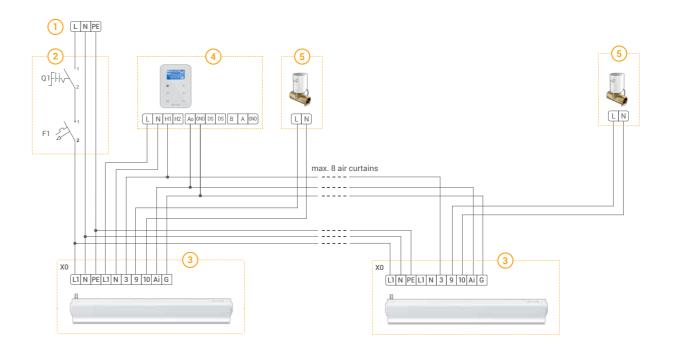
2. Main switch, fuses.

3. WING W EC.

WING



SAMPLE CONNECTION DIAGRAM FOR THE AIR CURTAIN



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

4. WING EC controller.

5. Valve with actuator.



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 7 ft/s.

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

VTS offers curtains in the length 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 efficency 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 4 in.

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 HOUSING 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 12 ft. For cold curtains the maximum range is 13 ft.

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

Up to 8 air curtains WING with EC motors can be connected to one WING FC controller

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. There is possibility to connect one reed switch to one controller WING EC. Controller can control upt to 8 air curtains WING EC.

18. 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 4 ft from the floor in order to provide access to the water drain nozzles from the heat exchanger and the terminal



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I FAQ

19. WHAT IS THE MOUNTING HOLE SPACING?



Curtain type	W1 [in]	W2 [in]
WING 100	30	-
WING 150	20	30
WING 200	36	35

20. WHAT ARE THE DIMENSIONS OF THE DEVICE PACKAGE?

Curtain type	LxWxH [in]
WING 100	45-1/2 x 20-1/2 x 12
WING 150	66 x 20-1/2 x 12
WING 200	86 x 20-1/2 x 12

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

Curtain type	Pallet dimensions [in]	Number of curtains on the pallet [pcs]
WING 100	45-1/2 x 41	10
WING 150	66 x 41	10
WING 200	86-1/2 x 41	8





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