VENTMATIKA

USER MANUAL

www.ventmatika.com

HOT WATER HEATERS WHC

CORROSION RESISTANT CASING

EXCELLENT THERMAL REFLECTIVITY

AIR TIGHTNESS CLASS C

DURABILITY

Air tightness class
EN15727

The water heater's model and serial number are located on the label of the product.

WARNING! SAFETY REQUIREMENTS

Improper use of this heater can result in serious bodily injury due to hazards of fire and explosion, burn.

Parts of the heater become very hot when operating and immediately after operating. *Severe burns may occur if the heater is not allowed to cool down properly before servicing.*

TRANSPORTING AND STORING

All products are packed by producer for normal transporting conditions. For unloading and storing use proper lifter to prevent product damage and employees injuries. Avoid impacts and impact loads.

Until final installation store products in dry place with humidity not more 70% (20°C), average ambient temperature must be 5-40°C. Storing place must be covered from water and dirt. Avoid long term storing. It is not recommended to store products more then 1 (one) year.

RECEIVING AND HANDLING

Inspect heater for any possible shipping damage. Inspect heater exchanger for any deformation, make sure that casing of the heater is not damaged.

SERVICE

The heat exchanger should be cleaned regularly to maintain the best performance of the heater.

QUALITY

We care about quality. 100% of heaters are tested before shipment.

AIR TIGHTNESS CLASS

Heaters are tested for leaks and conforms to air tightness class C to EN15727

Thank you for your purchase of this product. This manual describes how to use and install the supplied product. Be sure that you have read and understood its contents before using the heater.

CONTENTS

If you want to save energy and minimize heating costs, choose leakproof WHC hot water duct heaters. The WHC heaters are tested for leaks and conforms to air tightness class C to EN15727, which ensures that there will be no leak out of heaters casing and heated air will reach it's destination without energy and monetary loss.

HEATERS DESCRIPTION & STRUCTURE.

VENTMATIKA hot water duct heaters are intended for heating air in a ventilation system of a residential, commercial, public or industry use premises. ***Corrosion resistant casing*** *with excellent thermal reflectivity is made from AluZinc. Duct connection is with rolled rubber seals.*

VENTMATIKA produces ***heaters casing from AluZinc*** *coated steel. AluZinc for heaters casing was selected for it's properties:*

- *Good corrosion resistance at high temperatures (up to 315°C)*
- *Excellent thermal reflectivity*
- *Good abrasion resistance because of its surface hardness*
- ***Durability****: under normal conditions the AZ 150 coating grade will protect the steel substrate from corrosion for a minimum period of* ***15 years.***

Duct connection

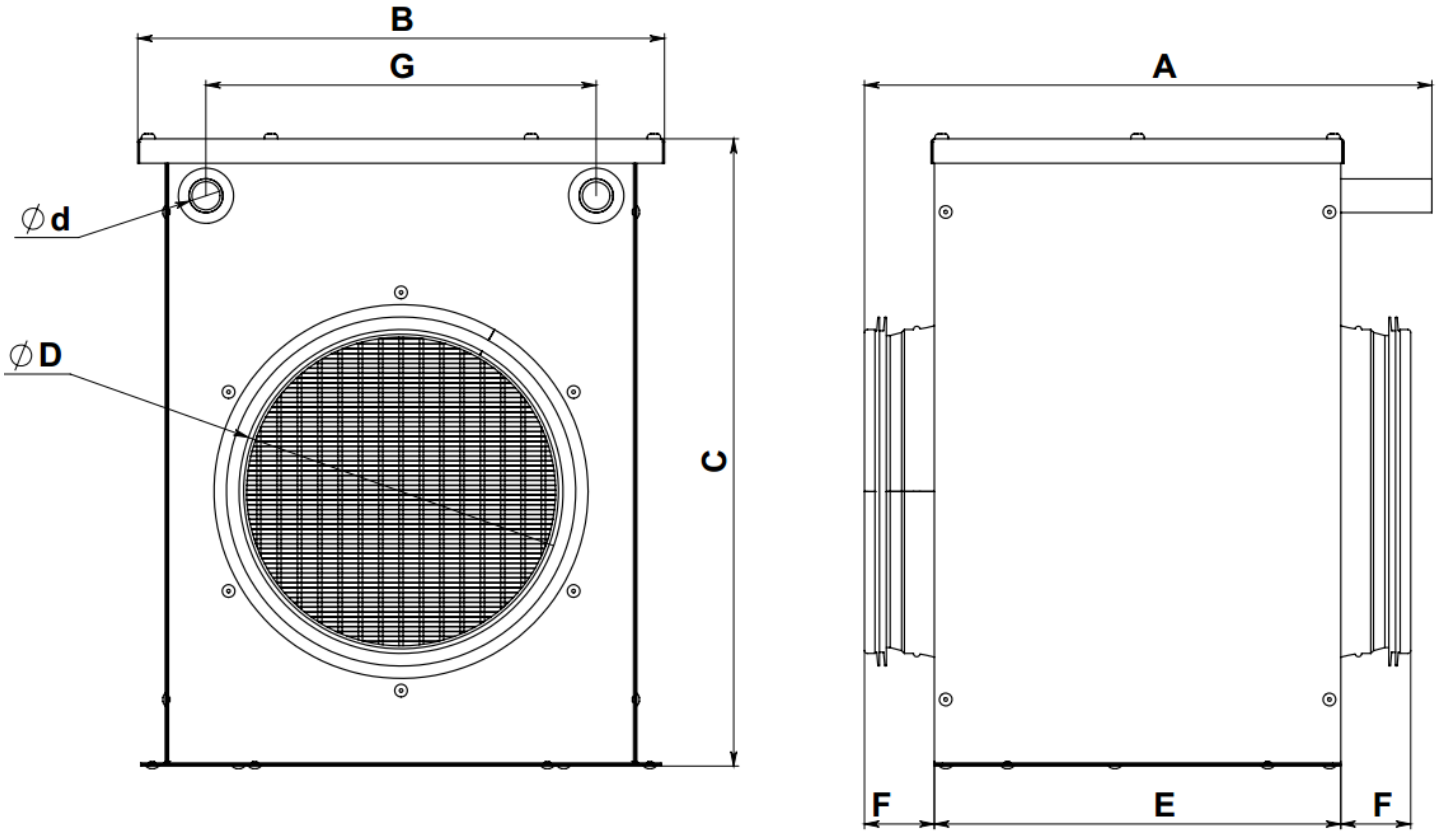
For easy duct connection heaters casing is with rolled rubber seals.

WATER HEATER CONTROL

External control of water heaters with VENTIK-W

VENTIK-W is developed to control water heater. Water heater control is provided by 0 -10 V control of three way water valve and 230VAC ON/OFF control of water pump. In addition water heater control requires additional contact temperature sensor NTC10K.

HOT WATER DUCT HEATERS DIMENSIONS



Model	*D Ø*	*A*	*B*	*C*	*E*	*F*	*Ø d*
WHC-100-2	*100*	*338*	*236*	*301*	*250*	*32*	*G 1/2*
WHC-125-2	*125*	*343*	*236*	*301*	*250*	*37*	*G 1/2*
WHC-160-2	*160*	*349*	*324*	*386*	*250*	*43*	*G 1/2*
WHC-200-2	*200*	*349*	*324*	*386*	*250*	*43*	*G 1/2*
WHC-250-2	*250*	*359*	*386*	*386*	*250*	*53*	*G 1/2*
WHC-315-2	*315*	*396*	*486*	*456*	*250*	*73*	*G 1/2*

WHC duct heaters technical data			WHC-100-2											
			Water temperature in/out 90˚/70˚C				Water temperature in/out 80˚/60˚C				Water temperature in/out 60˚/40˚C			
Air flow	Pressure drop	Inlet air temp.	Outlet air temp.	Power	Water flow	Pressure drop (water)	Outlet air temp.	Power	Water flow	Pressure drop (water)	Outlet air temp.	Power	Water flow	Pressure drop (water)
m³/h	Pa	˚C	˚C	kW	l/s	kPa	˚C	kW	l/s	kPa	˚C	kW	l/s	kPa
60	3,0	-25	54	1,60	0,02	0,18	44	1,38	0,02	0,15	26	1,02	0,01	0,09
60	3,1	-15	56	1,42	0,02	0,15	45	1,20	0,02	0,11	28	0,87	0,01	0,07
60	3,2	-10	56	1,32	0,02	0,13	45	1,11	0,01	0,10	30	0,80	0,01	0,06
60	3,3	0	57	1,16	0,01	0,10	47	0,96	0,01	0,08	33	0,66	0,01	0,05
60	3,4	10	58	0,97	0,01	0,08	50	0,82	0,01	0,06	35	0,52	0,01	0,03
110	6,1	-25	44	2,56	0,03	0,42	36	2,24	0,03	0,34	15	1,48	0,02	0,18
110	6,3	-15	47	2,29	0,03	0,34	38	1,96	0,02	0,27	19	1,27	0,02	0,14
110	6,5	-10	48	2,16	0,03	0,31	39	1,83	0,02	0,24	21	1,16	0,01	0,12
110	6,7	0	51	1,88	0,02	0,24	41	1,54	0,02	0,18	26	0,95	0,01	0,08
110	7,0	10	53	1,61	0,02	0,18	43	1,23	0,02	0,12	30	0,74	0,01	0,05
170	10,7	-25	36	3,50	0,04	0,73	29	3,07	0,04	0,59	12	2,11	0,03	0,33
170	11,1	-15	40	3,13	0,04	0,60	32	2,70	0,03	0,47	14	1,67	0,02	0,22
170	11,3	-10	42	2,95	0,04	0,54	34	2,51	0,03	0,41	16	1,46	0,02	0,17
170	11,8	0	45	2,58	0,03	0,42	37	2,13	0,03	0,31	21	1,19	0,01	0,12
170	12,2	10	48	2,21	0,03	0,32	40	1,74	0,02	0,22	26	0,92	0,01	0,08

WHC duct heaters technical data															
			Water temperature in/out 90˚/70˚C				Water temperature in/out 80˚/60˚C				Water temperature in/out 60˚/40˚C				WHC-125-2
Air flow	Pressure drop	Inlet air temp.	Outlet air temp.	Power	Water flow	Pressure drop (water)	Outlet air temp.	Power	Water flow	Pressure drop (water)	Outlet air temp.	Power	Water flow	Pressure drop (water)	
m³/h	Pa	˚C	˚C	kW	l/s	kPa	˚C	kW	l/s	kPa	˚C	kW	l/s	kPa	
90	4,8	-25	48	2,20	0,03	0,32	39	1,92	0,02	0,26	19	1,32	0,02	0,14	
90	5,0	-15	50	1,97	0,02	0,26	41	1,68	0,02	0,21	22	1,13	0,01	0,11	
90	5,1	-10	51	1,85	0,02	0,24	42	1,56	0,02	0,18	24	1,03	0,01	0,10	
90	5,2	0	53	1,61	0,02	0,19	43	1,31	0,02	0,13	28	0,85	0,01	0,07	
90	5,4	10	55	1,37	0,02	0,14	45	1,06	0,01	0,09	32	0,66	0,01	0,05	
180	11,6	-25	35	3,64	0,05	0,78	28	3,19	0,04	0,63	11	2,20	0,03	0,35	
180	12,0	-15	39	3,26	0,04	0,64	31	2,81	0,03	0,51	14	1,76	0,02	0,24	
180	12,2	-10	41	3,07	0,04	0,58	33	2,61	0,03	0,45	15	1,50	0,02	0,18	
180	12,7	0	44	2,68	0,03	0,45	37	2,22	0,03	0,33	20	1,22	0,02	0,13	
180	13,2	10	48	2,30	0,03	0,35	40	1,81	0,02	0,23	25	0,94	0,01	0,08	
270	20,3	-25	28	4,76	0,06	1,27	21	4,18	0,05	1,03	7	2,93	0,04	0,58	
270	21,0	-15	32	4,27	0,05	1,04	26	3,68	0,05	0,82	11	2,39	0,03	0,41	
270	21,5	-10	34	4,02	0,05	0,93	28	3,43	0,04	0,72	13	2,10	0,02	0,33	
270	22,3	0	39	3,52	0,04	0,74	32	2,92	0,04	0,54	16	1,46	0,02	0,17	
270	23,3	10	43	3,01	0,04	0,56	36	2,40	0,03	0,38	22	1,12	0,01	0,11	

WHC duct heaters technical data															
			Water temperature in/out 90˚/70˚C				Water temperature in/out 80˚/60˚C				Water temperature in/out 60˚/40˚C				WHC-160-2
Air flow	Pressure drop	Inlet air temp.	Outlet air temp.	Power	Water flow	Pressure drop (water)	Outlet air temp.	Power	Water flow	Pressure drop (water)	Outlet air temp.	Power	Water flow	Pressure drop (water)	
m³/h	Pa	˚C	˚C	kW	l/s	kPa	˚C	kW	l/s	kPa	˚C	kW	l/s	kPa	
140	3,6	-25	58	3,89	0,05	1,33	49	3,47	0,04	1,12	30	2,61	0,03	0,73	
140	3,7	-15	59	3,51	0,04	1,11	51	3,09	0,04	0,91	32	2,21	0,03	0,55	
140	3,8	-10	60	3,32	0,04	3,80	51	2,90	0,04	0,81	33	2,01	0,02	0,46	
140	3,9	0	62	2,94	0,04	0,81	53	2,51	0,03	0,63	34	1,59	0,02	0,31	
140	4,1	10	64	2,56	0,03	0,64	55	2,13	0,03	0,47	35	1,19	0,01	0,19	
290	8,8	-25	45	6,77	0,08	3,57	37	6,04	0,07	2,98	22	4,54	0,06	1,92	
290	9,1	-15	48	6,11	0,08	2,97	40	5,37	0,07	2,42	25	3,87	0,05	1,45	
290	9,2	-10	49	5,78	0,07	2,69	42	5,04	0,06	2,16	26	3,53	0,04	1,23	
290	9,6	0	52	5,12	0,06	2,17	45	4,38	0,05	1,68	29	2,84	0,03	0,84	
290	10,0	10	55	4,46	0,06	1,69	48	3,71	0,05	1,26	32	2,12	0,03	0,51	
430	14,8	-25	37	8,92	0,11	5,86	30	7,95	0,10	4,88	16	5,99	0,07	3,12	
430	15,4	-15	41	8,05	0,10	4,87	34	7,08	0,09	3,96	20	5,10	0,06	2,36	
430	15,7	-10	43	7,62	0,09	4,41	36	6,64	0,08	3,54	22	4,66	0,06	2,01	
430	16,3	0	46	6,75	0,08	3,55	40	5,77	0,07	2,75	26	3,76	0,05	1,38	
430	16,9	10	50	5,88	0,07	2,77	43	4,89	0,06	2,05	29	2,83	0,03	0,84	

WHC duct heaters technical data															
			Water temperature in/out 90˚/70˚C				Water temperature in/out 80˚/60˚C				Water temperature in/out 60˚/40˚C				WHC-200-2
Air flow	Pressure drop	Inlet air temp.	Outlet air temp.	Power	Water flow	Pressure drop (water)	Outlet air temp.	Power	Water flow	Pressure drop (water)	Outlet air temp.	Power	Water flow	Pressure drop (water)	
m³/h	Pa	˚C	˚C	kW	l/s	kPa	˚C	kW	l/s	kPa	˚C	kW	l/s	kPa	
225	6,4	-25	49	5,61	#REF!	2,25	41	5,01	0,06	2,14	25	3,77	0,05	1,38	
225	6,6	-15	52	5,07	0,06	2,13	44	4,46	0,05	1,74	27	3,21	0,04	1,04	
225	6,7	-10	53	4,79	0,06	1,93	45	4,18	0,05	1,55	29	2,93	0,04	0,89	
225	7,0	0	56	4,25	0,05	1,55	48	3,63	0,04	1,21	31	2,35	0,03	0,60	
225	7,2	10	58	3,70	0,04	1,22	50	3,08	0,04	0,90	33	1,73	0,02	0,36	
455	16,0	-25	36	9,27	0,11	6,28	29	8,26	0,10	5,23	16	6,22	0,08	3,45	
455	16,6	-15	40	8,37	0,10	5,22	33	7,36	0,09	4,24	20	5,30	0,06	2,52	
455	16,9	-10	42	7,92	0,09	4,72	35	6,90	0,08	3,79	22	4,84	0,06	2,15	
455	17,6	0	46	7,01	0,09	3,80	39	5,99	0,07	2,94	25	3,91	0,05	1,47	
455	18,3	10	49	6,10	0,08	2,97	43	5,08	0,06	2,19	29	2,94	0,04	0,90	
680	28,3	-25	28	12,05	0,15	10,10	22	10,74	0,13	8,38	10	8,08	0,10	5,32	
680	29,4	-15	33	10,88	0,13	8,39	27	9,56	0,12	6,80	15	6,89	0,08	4,01	
680	30,0	-10	35	10,29	0,13	7,59	29	8,97	0,11	6,06	18	6,29	0,07	3,41	
680	31,2	0	40	9,12	0,11	6,09	34	7,79	0,10	4,70	22	5,08	0,06	2,34	
680	32,6	10	44	7,93	0,10	4,74	39	6,60	0,08	3,49	27	3,84	0,05	1,43	

WHC duct heaters technical data			WHC-250-2											
			Water temperature in/out 90˚/70˚C				Water temperature in/out 80˚/60˚C				Water temperature in/out 60˚/40˚C			
Air flow	Pressure drop	Inlet air temp.	Outlet air temp.	Power	Water flow	Pressure drop (water)	Outlet air temp.	Power	Water flow	Pressure drop (water)	Outlet air temp.	Power	Water flow	Pressure drop (water)
m³/h	Pa	˚C	˚C	kW	l/s	kPa	˚C	kW	l/s	kPa	˚C	kW	l/s	kPa
360	11,6	-25	40	7,89	0,10	4,70	33	7,04	0,09	3,92	19	5,30	0,06	2,52
360	12,1	-15	44	7,12	0,09	3,91	37	6,27	0,08	3,19	22	4,52	0,06	1,90
360	12,3	-10	46	6,74	0,08	3,54	39	5,88	0,07	2,84	24	4,12	0,05	1,62
360	12,8	0	49	5,97	0,07	2,85	42	5,10	0,06	2,21	27	3,32	0,04	1,11
360	13,3	10	52	5,20	0,06	2,23	45	4,33	0,05	1,65	30	2,49	0,03	0,67
710	30,2	-25	27	12,39	0,15	10,61	21	11,04	0,13	8,80	10	8,30	0,10	5,59
710	31,4	-15	32	11,18	0,14	8,81	26	9,83	0,12	7,14	15	7,08	0,09	4,21
710	32,0	-10	34	10,58	0,13	7,97	29	9,22	0,11	6,37	17	6,47	0,08	3,58
710	33,3	0	39	9,37	0,11	6,40	33	8,00	0,10	4,94	22	5,22	0,06	2,45
710	34,7	10	44	8,15	0,10	4,98	38	6,78	0,08	3,66	26	3,95	0,05	1,50
1050	59,9	-25	20	15,72	0,19	16,37	15	14,01	0,17	13,55	5	10,53	0,13	8,55
1050	61,9	-15	25	14,20	0,17	13,59	20	12,47	0,15	10,98	10	8,98	0,11	6,43
1050	63,0	-10	28	13,43	0,16	12,28	23	11,70	0,14	9,78	13	8,20	0,10	5,47
1050	65,2	0	34	11,89	0,15	9,85	29	10,15	0,12	7,57	19	6,62	0,08	3,74
1050	67,8	10	39	10,34	0,13	7,65	34	8,59	0,10	5,61	24	5,02	0,06	2,29

WHC duct heaters technical data														
			Water temperature in/out 90˚/70˚C				Water temperature in/out 80˚/60˚C				Water temperature in/out 60˚/40˚C			
Air flow	Pressure drop	Inlet air temp.	Outlet air temp.	Power	Water flow	Pressure drop (water)	Outlet air temp.	Power	Water flow	Pressure drop (water)	Outlet air temp.	Power	Water flow	Pressure drop (water)
m³/h	Pa	˚C	˚C	kW	l/s	kPa	˚C	kW	l/s	kPa	˚C	kW	l/s	kPa
560	11,6	-25	42	12,66	0,16	14,94	35	11,34	0,14	12,53	21	8,68	0,11	8,24
560	12,1	-15	46	11,45	0,14	12,47	39	10,13	0,12	10,24	25	7,46	0,09	6,30
560	12,3	-10	48	10,85	0,13	11,31	41	9,52	0,12	9,16	26	6,84	0,08	5,42
560	12,7	0	51	9,64	0,12	9,15	44	8,31	0,10	7,18	30	5,61	0,07	3,81
560	13,3	10	54	8,43	0,10	7,20	47	7,09	0,09	5,41	33	4,36	0,05	2,45
1120	30,7	-25	29	20,14	0,25	34,73	23	18,03	0,22	28,98	12	13,78	0,17	18,84
1120	31,9	-15	33	18,23	0,22	28,96	28	16,11	0,20	23,64	16	11,85	0,14	14,37
1120	32,5	-10	36	17,27	0,21	26,24	30	15,15	0,18	21,14	19	10,87	0,13	12,32
1120	33,8	0	41	15,35	0,19	21,18	35	13,21	0,16	16,52	24	8,91	0,11	8,64
1120	35,3	10	45	13,42	0,16	13,61	40	11,27	0,14	12,40	28	6,92	0,08	5,52
1680	62,7	-25	21	25,85	0,32	54,81	16	23,14	0,28	45,63	6	17,68	0,21	29,47
1680	64,8	-15	26	23,40	0,29	45,67	22	20,68	0,25	37,17	12	15,19	0,18	22,44
1680	65,9	-10	29	22,17	0,27	41,37	24	19,44	0,24	33,22	15	13,94	0,17	19,22
1680	68,3	0	35	19,70	0,24	33,34	30	16,95	0,21	25,91	20	11,42	0,14	13,45
1680	70,9	10	40	17,22	0,21	26,09	35	14,45	0,18	19,41	26	8,86	0,11	8,55

INSTALATION

WHC connection to the system

Connecting water duct heaters (further - WHC) to the water system, the following things must be considered:

1. *WHC has to be connected to the water system using G ½ threaded connection;*
2. *WHC has to be connected to the water system ensuring that the forces of twisting or bending will not damage the heater;*
3. *Ensure that WHC will not be damaged by forces due to expansion, because due to this force heating coil can be damaged beyond retrieve;*
4. *If WHC is mounted in horizontal position, hot water inlet should be on the lower pipe, outlet – on the higher.*
5. *WHC should be mounted that it would be easy to clean and complete services;*
6. *After connection to the system and filling up with water, WHC must be immediately checked if there are no leaks in the system. If WHC will be non hermetic it can be damaged beyond retrieve.*

WARNING*: if the water in WHC will get frozen, heating element inside can be damaged beyond retrieve and create water leaks. To ensure safety of WHC, we recommend to use frost/overheating sensors, they will stabilize the system by sending information to main control unit.*

WHC cleaning

WHC must be cleaned regularly in order to retain the best performance from the heater. The cleaning interval depends entirely on the cleanliness of the air and how the filter and remainder of the system are maintained.

WHC is readily accessible for cleaning when the cover on the heater is removed. First, the air entry side of the heater is cleaned with a brush and then the whole WHC can be cleaned with compressed air, water or steam. The dirt is blown or washed away in a direction away from the exit side towards the entry side.

<u>WARNING</u>: be careful not to damage the thin fins on the heater.

Mounting

WHC is created to be mounted directly to the duct and fitted with standard duct sealing holders. WHC should not be mounted too close to the fan outlet or duct bend due to lower efficiency might be as a result. An effective filter is recommended in the system to reduce maintenance work.

WARRANTY

*1. Manufacture declare **2 years** warranty term from the date of manufacturer's invoice. Warranty is applied in case if all requirements of transporting, storing, installation and electrical connection are fulfilled.*

2. In case of damaged or faulty product during warranty term customer must inform producer in 5 days and deliver product to manufacture as soon as possible at customer's costs. In other case warranty is not valid.

3. Manufacturer is not responsible for damages which can occur during transportation or installation.

WARRANTY CLAIM FORM

- ***Warranty Claim Form has to be <u>COMPLETELY</u> filled out and sent to the producer by e-mail or fax.***
- ***Product or product part serial number and production date must be indicated.***
- ***All defective products or product parts should be returned to factory <u>with the copy of this</u> form.***
- ***If the above mentioned point No. 3 can not be fulfilled and there are serious reasons for that, all possible information (photos, descriptions and etc.) has to be sent with this form. Photos must be taken in such a way that product or product part label and possible defect part is clearly visible and identified.***
- ***Warranty claim would not be accepted if product or product part is mechanically damaged or there were made any modifications to the product without written producer consent.***
- ***An invoice has to be included to obtain warranty.***

Date:	*Filled out by:*	*Company:*
Address:		
Phone:	*Fax:*	*E-mail:*
Product or product part name:		
Serial number:	*Production date:*	*Malfunction date:*
Reason why product or product part is not delivered back to the factory (if delivered, filling not needed):		
Product installation place and environment (mounted on a wall, standing on the floor and etc.; living room, working place, surrounding area and etc.):	*Operating data:* *Approximate number of working hours per day: ____* *Working temperature from ____ to ____:* *Humidity : ____ %* *Date of last technical inspection: _____*	
Full explanation of the malfunction:		
Part to be filled out by producer		
Warranty Claim Form reception date:	*Received by:*	*Defective product delivered back to the factory (yes/no):*
Producer decision and explanation:		

NOTES

Manufacturer:

VENTMATIKA UAB,

sales@ventmatika.lt, phone: +370 41 54 77 83,

Isradeju str.13b, 78149 Siauliai, Lithuania