USER'S MANUAL

INLINE RECTANGULAR FANS
VKP SERIES

VENTS VKP / VKPI / VKPF / VKPFI / VKP EC / VKPI EC SERIES

2011

CONTENT

APPLICATION

VKP, VKPI, VKPF, VKPFI, VKP EC inline rectangular fans are intended for supply and exhaust ventilation of residential, public and industrial premises (production and storage facilities, sport halls, water pools, large auditoriums, conference halls, etc.). The fans are designed for mounting into rectangular ducts.
The fans are rated for continuous operation always connected to power mains.

Ingress protection rating is IP X4.
The transporting medium must not contain dust, solid impurities, sticky substances or fibrous materials.

Due to the constant improvements the design of some models may slightly differ from those described in this manual.

DELIVERY SET

The delivery set includes:
- fan;
- user's manual;
- packing box.

BASIC TECHNICAL DATA

The fan designations, overall and connecting dimensions, technical data are stated in tables 1, 2, 3, 4, 5, 6 and in fig. 1,2,3,4,5,6,7,8.

FAN DESIGNATION KEY

VKP X X X X XXXxXXX X

Motor type
_ - asynchronous motor
EC - electronically commutated motor

Rectangular duct size
400x200, 500x250, 500x300, 600x300, 600x350, 700x400, 800x500, 900x500, 1000x500

Phase
E - single-phase; D - three-phase

Number of the motor poles:
2, 4, 6

Fan casing
_ - no extra sound insulation
I - sound-insulated casing

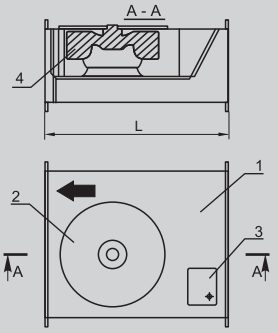
Impeller design
_ - backward curved blades
F - forward curved blades

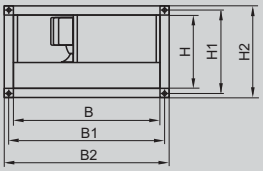
Fan name
VKP - rectangular inline fan

DESIGNATION KEY EXAMPLE:

VKPF 4E 400x20 - rectangular inline fan equipped with single-phased 4-pole motor and impeller with forward curved blades for mounting into 400x20 mm air duct.

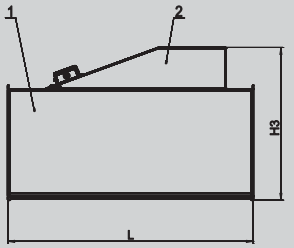
VKP 800x500 EC - rectangular inline fan equipped with EC-motor and impeller with backward curved blades for mounting into 800x500 mm air duct.

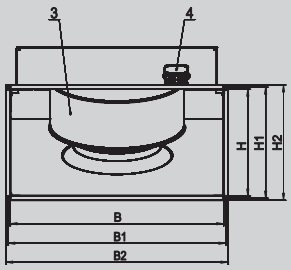




VKP 400x200, VKP 500x250, VKP 500x300, VKP 600x300, VKP 600x350

1 - fan casing
2 - impeller flange
3 - electric block cover
4 - impeller

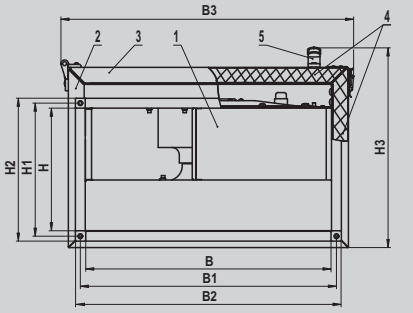


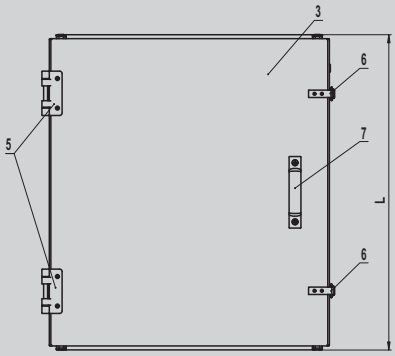


VKP 4D 1000x500

1 - fan casing
2 - cover
3 - impeller
4 - terminal box

Fig. 1





VKPI 400x200, VKPI 500x250, VKPI 500x300, VKPI 600x300, VKPI 600x350

1 - inline rectangular fan
2 - casing
3 - cover
4 - sound-insulating box
5 - latch
6 - lock
7 - handle

Fig. 2

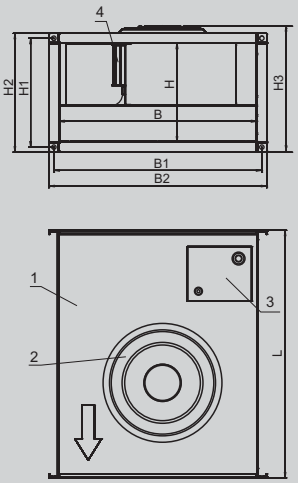
Fan type	Air capacity [m^3/h]	Voltage [V/Hz]	Current [A]	Power [W]	RPM [min^{-1}]	Noise level, 3 m [dBA]	Max. Temperature [°C]
VKP / VKPI 2E 400x200	930	230/50	0,6	138	2600	59	45
VKP / VKPI 2E 500x250	1720	230/50	1,32	305	2550	61	45
VKP / VKPI 4E 500x300	1700	230/50	0,57	140	1390	53	45
VKP / VKPI 4D 500x300	1380	400/50	0,34	136	1360	53	45
VKP / VKPI 4E 600x300	2470	230/50	0,90	220	1400	55	45
VKP / VKPI 4D 600x300	2530	400/50	0,52	230	1360	53	70
VKP / VKPI 4E 600x350	2950	230/50	2,37	470	1370	67	80
VKP / VKPI 4D 600x350	2970	400 Δ /50	1,41	510	1415	64	60
VKP / VKPI 4D 600x350	2660	400 Y /50	0,7	380	1235	63	80
VKP 4D 1000x500	15000	400/50	6,6	4000	1360	81	40

Table 1

Fan type	Dimensions [mm]									Weight [kg]
	B	B1	B2	B3	H	H1	H2	H3	L	
VKP 2E 400x200	400	420	440	–	200	220	240	–	500	13,6
VKP 2E 500x250	500	520	540	–	250	270	290	–	640	17,7
VKP 4E 500x300 / VKP 4D 500x300	500	520	540	–	300	320	340	–	680	25,5
VKP 4E 600x300	600	620	640	–	300	320	340	–	680	31,5
VKP 4D 600x300	600	620	640	–	300	320	340	–	680	32,5
VKP 4E 600x350 / VKP 4D 600x350	600	620	640	–	350	370	390	–	735	41,5
VKP 4D 1000x500	1000	1020	1040	–	500	520	540	720	1150	125,0
VKPI 2E 400x200	400	420	440	500	200	220	240	360	500	24,4
VKPI 2E 500x250	500	520	540	600	250	270	290	410	640	34,0
VKPI 4E 500x300 / VKPI 4D 500x300	500	520	540	600	300	320	340	460	680	45,0
VKPI 4E 600x300	600	620	640	700	300	320	340	460	680	52,5
VKPI 4D 600x300	600	620	640	700	300	320	340	460	680	53,0
VKPI 4E 600x350 / VKPI 4D 600x350	600	620	640	700	350	370	390	530	735	64,0

Table 2

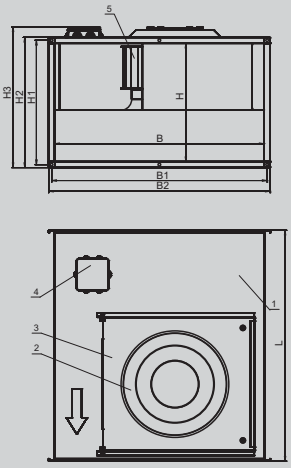
**VKPF 400x200,
VKPF 500x250,
VKPF 500x300,
VKPF 600x300,
VKPF 600x350**



1 - fan casing
2 - impeller flange
3 - electric block cover
4 - impeller

Fig. 3

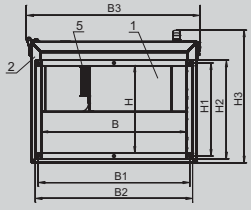
**VKPF 700x400, VKPF 800x500,
VKPF 900x500, VKPF 1000x500**

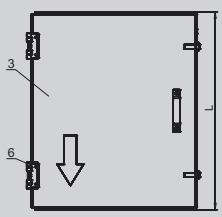


1 - fan casing
2 - impeller flange
3 - swivel cover
4 - terminal box
5 - impeller

Fig. 4

**VKPFI 400x200, VKPFI 500x250,
VKPFI 500x300, VKPFI 600x300,
VKPFI 600x350**

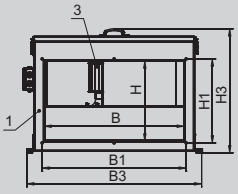


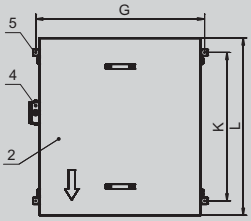


1 - VKPF fan
2 - insulated casing
3 - cover
4 - impeller
5 - latches

Fig. 5

**VKPFI 700x400,
VKPFI 800x500,
VKPFI 900x500,
VKPFI 1000x500**





1 - fan casing
2 - cover
3 - impeller
4 - terminal box
5 - latch

Fig. 6

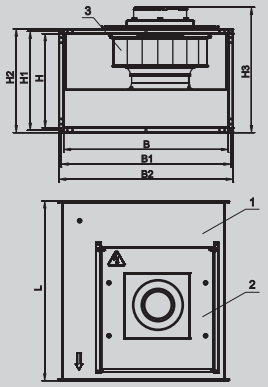
Fan type	Voltage [V/Hz]	Max. Current [A]	Max. power [W]	Max. air flow [m^3/h]	Rotation speed [rpm]	Noise level, 3 m [dBA]	Max. transported medium temp. [°C]
VKPF / VKPFI 4D 400x200	400/~50	0,60	282	1470	1300	52	-25 +45
VKPF / VKPFI 4E 400x200	230/~50	1,32	295	1440	1350	50	-25 +40
VKPF / VKPFI 4D 500x250	400/~50	0,94	570	1850	1270	54	-25 +40
VKPF / VKPFI 4E 500x250	230/~50	2,49	535	1750	1250	53	-25 +40
VKPF / VKPFI 4D 500x300	400/~50	1,7	855	2350	1300	56	-25 +50
VKPF / VKPFI 4E 500x300	230/~50	3,1	710	2350	1230	57	-25 +70
VKPF / VKPFI 4D 600x300	400/~50	2,73	1560	3740	1310	57	-25 +65
VKPF / VKPFI 4E 600x300	230/~50	6,45	1240	2950	1210	59	-25 +50
VKPF / VKPFI 4D 600x350	400/~50	3,93	2460	5020	1300	60	-25 +40
VKPF / VKPFI 4E 600x350	230/~50	13,9	2840	4260	1260	59	-25 +40
VKPF / VKPFI 4D 700x400	400/~50	6,00	3630	6450	1320	65	-25 +40
VKPF / VKPFI 6D 800x500	400/~50	5,18	2790	7610	830	59	-20 +50
VKPF / VKPFI 4D 800x500	400/~50	9,35	5850	8720	1140	67	-25 +40
VKPF / VKPFI 6D 900x500	400/~50	7,00	3870	9540	930	61	-20 +55
VKPF / VKPFI 6D 1000x500	400/~50	7,00	3870	9540	930	61	-20 +55

Table 3

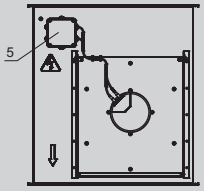
Fan type	Dimensions [mm]											Weight [kg]
	B	H	B1	H1	B2	H2	B3	H3	L	G	K	
VKPF 4D 400x200	400	200	420	220	440	240	-	255	500	-	-	17,5
VKPF 4E 400x200												
VKPF 4D 500x250	500	250	520	270	540	290	-	335	640	-	-	24
VKPF 4E 500x250												
VKPF 4D 500x300	500	300	520	320	540	340	-	365	680	-	-	33
VKPF 4E 500x300												
VKPF 4D 600x300	600	300	620	320	640	340	-	375	680	-	-	35
VKPF 4E 600x300												
VKPF 4D 600x350	600	350	620	370	640	390	-	425	735	-	-	49,5
VKPF 4E 600x350												
VKPF 4D 700x400	700	400	720	420	740	440	-	480	780	-	-	60
VKPF 6D 800x500	800	500	820	520	840	540	-	580	820	-	-	74
VKPF 4D 800x500												70
VKPF 6D 900x500	900	500	920	520	940	540	-	580	954	-	-	90
VKPF 6D 1000x500	1000	500	1020	520	1040	540	-	580	954	-	-	95
VKPFI 4D 400x200	400	200	420	220	440	240	470	360	500	-	-	29
VKPFI 4E 400x200												
VKPFI 4D 500x250	500	250	520	270	540	290	570	410	640	-	-	40,5
VKPFI 4E 500x250												
VKPFI 4D 500x300	500	300	520	320	540	340	570	460	680	-	-	52,5
VKPFI 4E 500x300												
VKPFI 4D 600x300	600	300	620	320	640	340	670	480	680	-	-	56
VKPFI 4E 600x300												
VKPFI 4D 600x350	600	350	620	370	640	390	670	530	735	-	-	72
VKPFI 4E 600x350												
VKPFI 4D 700x400	700	400	720	420	-	-	800	620	880	845	742	103
VKPFI 6D 800x500	800	500	820	520	-	-	900	720	935	945	800	120
VKPFI 4D 800x500												127
VKPFI 6D 900x500	900	500	920	520	-	-	1000	720	1000	1045	800	142
VKPFI 6D 1000x500	1000	500	1020	520	-	-	1000	720	1000	1145	800	150

Table 4

VKP 600x350 EC, VKP 700x400 EC, VKP 800x500 EC, VKP 900x500 EC, VKP 1000x500 EC



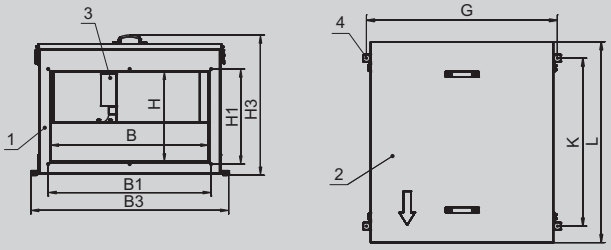
VKP 600x300 EC



1 - fan casing
2 - swivel cover
3 - impeller
4 - terminal box

Fig. 7

VKPI 600x300 EC, VKPI 600x350 EC, VKPI 700x400 EC, VKPI 800x500 EC, VKPI 900x500 EC, VKPI 1000x500 EC



1 - fan casing
2 - cover
3 - impeller
4 - latch

Fig. 8

Fan designation	Voltage [V/Hz]	Max. Current [A]	Max. power [W]	Max. air flow [m^3/h]	Rotation speed [rpm]	Noise level, 3 m [dBA]	Max. transported medium temp. [°C]
VKP / VKPI 600x300 EC	1~200-277	3,1	480	3350	2300	58	-25 +60
VKP / VKPI 600x350 EC	3~380-480	1,7	990	4550	2580	60	-25 +50
VKP / VKPI 700x400 EC	3~380-480	2,6	1700	6300	2600	63	-25 +40
VKP / VKPI 800x500 EC	3~380-480	4,6	2950	8900	2500	65	-25 +40
VKP / VKPI 900x500 EC	3~380-480	4,6	2980	10850	2040	69	-25 +40
VKP / VKPI 1000x500 EC	3~380-480	4,6	2980	10850	2040	69	-25 +40

Table 5

Fan designation	Dimensions [mm]								Weight [kg]
	B	B1	B2	H	H1	H2	H3	L	
VKP 600x300 EC	600	620	640	300	320	340	430	680	35,0
VKP 600x350 EC	600	620	640	350	370	390	480	735	49,5
VKP 700x400 EC	700	720	740	400	420	440	540	780	60,0
VKP 800x500 EC	800	820	840	500	520	540	640	880	70,0
VKP 900x500 EC	900	920	940	500	520	540	640	954	90,0
VKP 1000x500 EC	1000	1020	1040	500	520	540	640	954	95,0

Table 6

Fan type	Dimensions [mm]									Weight [kg]
	B	H	B1	H1	B3	H3	L	G	K	
VKPI 600x300 EC	600	300	620	320	775	530	752	745	500	55
VKPI 600x350 EC	600	350	620	370	775	630	802	745	500	66
VKPI 700x400 EC	700	400	720	420	875	690	880	845	742	90
VKPI 800x500 EC	800	500	820	520	975	810	935	945	800	113
VKPI 900x500 EC	900	500	920	520	1075	810	1000	1045	800	128
VKPI 1000x500 EC	1000	500	1020	520	1175	810	1000	1145	800	135

Table 7

SAFETY REQUIREMENTS

Disconnect the fan from power mains prior to any connection, adjustment, maintenance and repair operations.
Mounting and wireworks are allowed only by a duly qualified electrician with valid electrical work permit for electric units up to 1000 V after careful reading of the present user's manual.
The fans are not ready-to-use products and are allowed for operation only after connection to air ducts and installation of protecting grilles.
Connect air ducts on both sides of the fan.
In case of the fan mounting outside protect the fan against water ingress. For example, install the fan under the protecting outer hood.
Before connecting the fan to power mains make sure of no visible damages of the fan impeller, casing, grille and no foreign objects inside the casing that can damage the impeller blades. Misuse of the fan or any unauthorized modifications are not allowed. Do not use the fan for explosive and fire-hazardous media. Take steps to prevent gas backdrafting from the devices that operate with gas or open flame. The fan may have sharp edges. Make steps to avoid being cut.
The fans are rated for connection to single-phase ac 220 V / 50 Hz and three-phase ac 380 / 50 Hz power mains.

INSTALLATION AND SAFETY GUIDELINES

All the installation, connection, adjustment and repair works are allowed only after the fan is disconnected from power mains. Mounting and maintenance are allowed only by a duly qualified electrician with valid electrical work permit for electric units up to 1000 V.

The fan is designed for mounting and operation in any position. In case of ceiling mounting the fan is recommended to be mounted with the motor cover downwards to facilitate access to the terminal box.
Check the fan power cables for integrity and make sure the impeller has smooth rotation prior to mounting.
Install flexible connectors on both sides of the fan. Air flow direction in the system must match the direction of the arrow on the fan casing.
Remember to mount the fan on the additional internal brackets to avoid load transfer to the flexible connectors. The most suitable mounting option is fixation of the fan to the ceiling with anchor bolts or suspension of the fan to the perforated metal plates. Apply self-adhesive sealer on the fan end surfaces prior to mounting. Connect the fan to air ducts with M8 bolts and nuts.
Provide reliable mounting of the fan!

Connect the terminal PE to the ground circuit.

Due to the constant improvements the design of some models may slightly differ from those described in this manual.

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FAN INLINE RECTANGULAR DUCT MOUNTING EXAMPLE

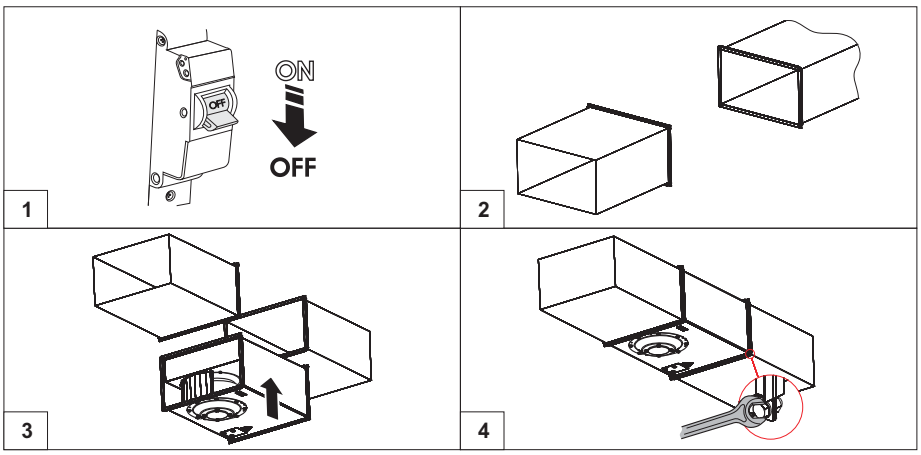


Fig. 9

FAN STRUCTURE

The fans VKP 400x20, VKP 500x250, VKP 500x300, VKP 600x300, VKP 600x350 (fig. 1); the fans VKPF 400x20, VKPF 500x250, VKPF 500x300, VKPF 600x300, VKPF 600x350 (fig.3) consist of the casing 1 with rectangular flange that is connected on both sides to the rectangular duct through four bolts. The flange 2 with the impeller 4 and the electric block cover 3 is mounted with screws on top of the casing.
The fans VKPF 700x400, VKPF 800x500, VKPF 900x500, VKPF 1000x500 (fig. 4) consist of the casing 1 with rectangular flange that is connected on both sides to the rectangular duct through four bolts. The flange 2 with the impeller 5 is fixed with screws on the swivel cover on top of the casing. The terminal box 4 is mounted on the casing for wire connection.

The fans VKPI 400x20, VKPI 500x250, VKPI 500x300, VKPI 600x300, VKPI 600x350 (fig.2), VKPFI 400x20, VKPFI 500x250, VKPFI 500x300, VKPFI 600x300, VKPFI 600x350 (fig. 5) consist of the rectangular inline fan VKP (for VKPI fans) or VKPF (for VKPFI fans) 1 with rectangular flange that is connected on both sides to the rectangular duct with four bolts. The fan is enclosed into the casing 2. The cover 3 is fixed on the top with latches 5. The casing 2 and the cover 3 are internally thermally insulated.

The fans VKPFI 700x400, VKPFI 800x500, VKPFI 900x500, VKPFI 1000x500 (fig. 6) consist of the casing 1 with rectangular flange that is connected on both sides to the rectangular duct with four bolts. The impeller 3 is under the cover 2. The sound-insulating layer is laid inside the casing 1 and the cover 2. The terminal box 4 is mounted on the casing 1 side for wire connection. The latches 5 are located on the fan side walls.

The fan VKP 4D 1000x500 (fig. 1) consists of the casing 1 with rectangular flange that is connected on both sides to the rectangular duct through four bolts. The impeller 3 is fixed on the cover 2 on top of the casing with bolts. The terminal box 4 is mounted on the cover for wire connection.

The fans VKP 600x300 EC, VKP 600x350 EC, VKP 700x400 EC, VKP 800x500 EC, VKP 900x500 EC, VKP 1000x500 EC (fig. 7) consist of the casing 1 with rectangular flange that that is connected on both sides to the rectangular duct with four bolts. The impeller 3 is fixed with screws on the swivel cover 2 on top of the casing. The motor of the fans VKP 600x350 EC, VKP 700x400 EC, VKP 800x500 EC, VKP 900x500 EC, VKP 1000x500 EC is equipped with a built-in aluminium terminal box. Remove the terminal box cover to connect the fan to power mains. Connection to power mains of the fan VKP 600x300 EC is performed through the terminal box 4.

The fans VKPI 600x300 EC, VKPI 600x350 EC, VKPI 700x400 EC, VKPI 800x500 EC, VKPI 900x500 EC, VKPI 1000x500 EC (fig. 8) consist of the casing 1 with rectangular flange that is connected on both sides to the rectangular duct with four bolts. The impeller 3 is under the cover 2. The casing 1 and the cover 2 are internally sound insulated. Connection to power mains of the fan VKPI 600x300 EC is performed through the terminal box on the side wall of the casing 1. The motor of the fans VKPI 600x350 EC, VKPI 700x400 EC, VKPI 800x500 EC, VKPI 900x500 EC, VKPI 1000x500 EC is equipped with a built-in terminal box. Remove the terminal box cover to connect the fan to power mains.

The fans VKP EC are equipped with high-efficient electronically commutated motors. Such motors are the most state-of-the art energy saving solution and are featured with high performance and the totally controllable speed range due to premium efficiency up to 90%.

The VKP EC fans are controlled by the external control signal 0-10 V. The EC-fan rotation speed is in direct proportion to the control factor value and it delivers required air volume to the system. Several VKP EC fans may be integrated into the unified computer control network. Specially designed software provides precise control of the fans integrated into the network.

CONNECTION TO POWER MAINS

Disconnect the fan from power mains prior to any operations with the fan. Connection of the fan to power mains by duly a professional electrician only!
The rated electric parameters of the fan are shown on the factory sticker. Any tempering with internal connection is not allowed and will void warranty.

Depending on the fan type it is rated either for single-phase ac 230 V / 50 Hz or three-phase ac 400/50 Hz power mains.

Connect the fan to power mains through insulated, durable and thermal resistant conductors (cables, wires).
The automatic circuit breaker incorporated into the fixed network that breaks all the phases must be installed at the external electric input 230V/50 Hz or 400V/50 Hz. The external circuit breaker QF location must provide free and unhampered access to the fan for quick switching off in case of need.
The overcurrent protection must match the rated current consumption of the fan. The recommended rated current of the automatic circuit breaker and wire cross section of various fan types are stated in the table 8. The stated cross sections are for reference only. The actually required cross section depends on the cable type, insulation, length and its layout way - open, channel or wall mounting.

The fan wiring diagrams are shown in fig. 10,11,12,13,14,15,16,17,18,19. Connect the fan to power mains in compliance with fig. 22,23,24.

Connect EC-fans to power mains on the terminal block located in the external or integrated terminal box following the wiring diagram and terminal designation. The sticker with the terminal designation is inside the terminal box.

Example of recommended wiring diagram with motor overheating protection is shown in fig. 20 (for single-phase motor), in fig. 21 (for three-phase motor). The terminals TW1, TW2 (TK1,TK2) are the lead-out terminals of the overheating thermostat normally closed contact. Connect this terminal in series to the power circuit of the magnetic starter KM1 that starts the motor after pressing the button S1. In case of the motor overheating the motor contact breaks and switches the starter coil off to de-energize and stop the motor.

The automatic circuit breaker QF, the magnetic starter KM1, the control buttons S1 and S2 are not included into the delivery set and are set by the customer.

The recommended rated current of the automatic circuit breaker and the wire cross section

Fan type	Automatic circuit breaker current [A]	Recommended cable, n x S, where n means number of wires, S means cross section [mm^2]
VKP, VKPI 2E 400x200	1	3 x 0,75
VKP, VKPI 2E 500x250	2	3 x 0,75
VKP, VKPI 4E 500x300	1	3 x 0,75
VKP, VKPI 4D 500x300	1	5 x 0,75
VKP, VKPI 4E 600x300	1,6	5 x 0,75
VKP, VKPI 4D 600x300	1	5 x 0,75
VKP, VKPI 4E 600x350	3,15	3 x 0,75
VKP, VKPI 4D 600x350	2	5 x 0,75
VKP 4D 1000x500	8	5 x 1,0
VKP, VKPI 600x300 EC	4	3 x 0,75
VKP, VKPI 600x350 EC	2	5 x 0,75
VKP, VKPI 700x400 EC	3,15	5 x 0,75
VKP, VKPI 800x500 EC	6,3	5 x 0,75
VKP, VKPI 900x500 EC	6,3	5 x 0,75
VKP, VKPI 1000x500 EC	6,3	5 x 0,75
VKP, VKPI 4E 400x200	2	3 x 0,75
VKP, VKPI 4D 400x200	1	5 x 0,75
VKPF, VKPFI 4E 500x250	3,15	3 x 0,75
VKPF, VKPFI 4D 500x250	1,6	5 x 0,75
VKPF, VKPFI 4E 500x300	4	3 x 0,75
VKPF, VKPFI 4D 500x300	2	5 x 0,75
VKPF, VKPFI 4E 600x300	8	3 x 1,0
VKPF, VKPFI 4D 600x300	5	5 x 0,75
VKPF, VKPFI 4E 600x350	16	3 x 1,5
VKPF, VKPFI 4D 600x350	5	5 x 0,75
VKPF, VKPFI 4D 700x400	8	5 x 1,0
VKPF, VKPFI 4D 800x500	10	5 x 1,0
VKPF, VKPFI 6D 800x500	6,3	5 x 1,0
VKPF, VKPFI 6D 900x500	8	5 x 1,0
VKPF, VKPFI 6D 1000x500	8	5 x 1,0

Table 8

Wiring diagram of the fan VKP 2E 400x200; VKP 2E 500x250; VKP 4E 500x300; VKP 4E 600x300; VKP 4E 600x350 with single-phase motor to the alternating current power supply

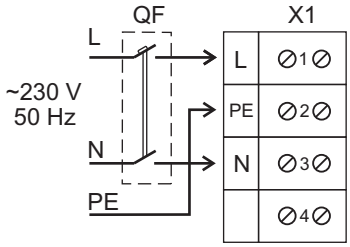


Fig. 10

Wiring diagram of the fan VKP 4D 500x300 (first option) with three-phase motor to the alternating current power supply

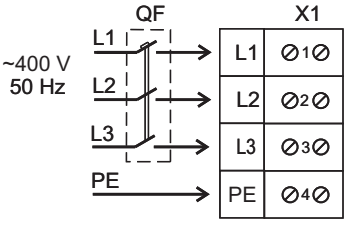


Fig. 11

Wiring diagram of the fan VKP 4D 500x300 (second option), VKP 4D 600x300 with three-phase motor to the alternating current power supply

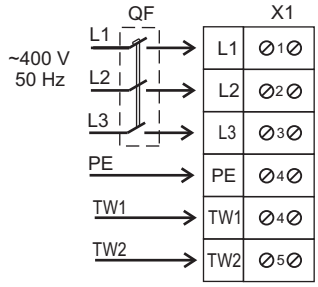


Fig. 12

Wiring diagram of the fan VKP 4D 600x300 with three-phase motor to alternating current power supply

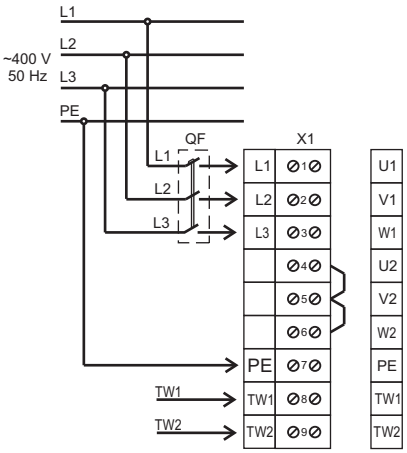


Fig. 13

where X1 - terminal block, QF - automatic circuit breaker (not included into the delivery set).

Wiring diagram of the fans VKPF, VKPFI with single-phase motor to the alternating current power supply

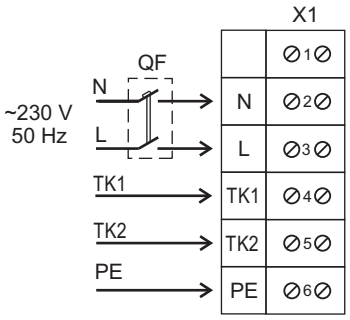


Fig. 14

Wiring diagram of the fans VKPF, VKPFI with three-phase motor to the alternating current power supply

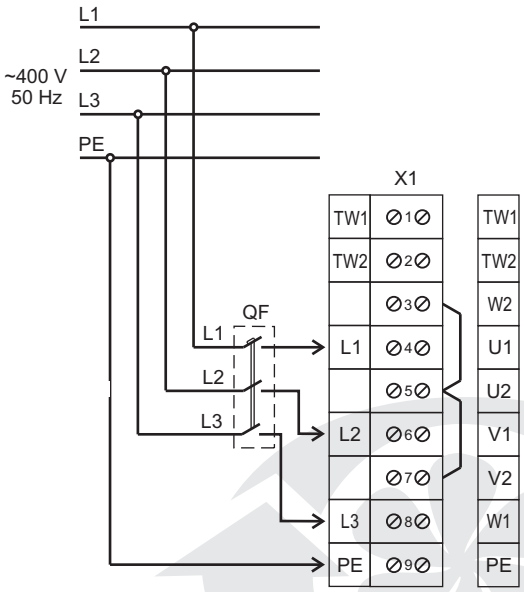
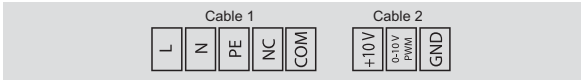


Fig. 15

where X1 - terminal block, QF - automatic circuit breaker (not included into the delivery set).

Wiring diagram of the fans VKP 600x300 EC, VKPI 600x300 EC



Contact	Connection	Colour	Purpose / Function
1	L	Black	Power supply 50/60 Hz, phase
	N	Blue	Power supply 50/60 Hz, zero
	PE	Green/Yellow	Ground cable
	NC	White 1	Fault relay, normally closed contact
	COM	White 2	Fault relay, GENERA
2	+ 10 V	Red	Voltage efficiency +10 V (no more 1.1 mA)
	0-10 V/PWM	Yellow	Control input 0-10 V / PWM (total resistance 100 kohm)
	GND	Blue	Ground

Fig. 16

Wiring diagram for the fans VKP 600x350 EC, VKPI 600x350 EC

Terminal	Connection	Purpose / Function
PE	PE	Ground cable
KL1	L3	Net, L3
	L2	Net, L2
	L1	Net, L1
KL2	NC	Alarm relay, normally-closed contact
	COM	Alarm relay, COMMON (2A, 250 V, AC1)
	NO	Alarm relay, normally-open contact

Terminal	Connection	Purpose / Function
KL3	OUT	Master output 0-10V, max. 3 mA
	GND	GND (Ground)
	0-10 V / PWM	Actual value input / control input (total resistance 100 kohm)
	+10 V	External potentiometer supply, 10 V (+10 %) max. 10 mA
	+20 V	External sensor supply, 20 V (+20%) max. 50 mA
	4-20 mA	Actual value input / control input
	0-10 V / PWM	Actual value input / control input
	GND	GND (Ground)
	RSB	interface RS485 for ebmBUS; RS B
	RSA	interface RS485 for ebmBUS; RS A
	RSB	interface RS485 for ebmBUS; RS B

Fig. 17

Wiring diagram for the fans VKP 700x400 EC, VKPI 700x400 EC

Terminal	Connection	Purpose / Function
KL1	L3	Net, L3
	L2	Net, L2
	L1	Net, L1
PE	PE	Ground cable
KL2	NC	Alarm relay, normally-closed contact
	COM	Alarm relay, COMMON (2A, 250 V, Ac1)
	NO	Alarm relay, normally-open contact

Terminal	Connection	Purpose / Function
KL3	Din1	Digital input 1 (electronics unblocking/blocking)
		Unblocking: Pin is opened or set voltage 5…50 V
		GND or set voltage block < 1V
	Ain1 I	Analogue input of set values, 4-20 mA (resistance 100 kohm), exclusively optionally Ain1 I is used for connection
	+10 V	External potentiometer supply, 10 V (±3 %) max. 10 mA
	Ain1U	Analog input of set 0-10V (resistanse 10 kOm) use Ain1 only as alternate input
	GND	GND (Ground)
	RSB	interface RS485 for ebmBUS; RS B
	RSA	interface RS485 for ebmBUS; RS A
	Aout	Analogue output 0-10 V max. 5mA, output of actual rpm / actual motor speed control factor
	Ain2 I	Analogue input of actual values, 4-20 mA (resistance 100 kohm), exclusively optionally Ain2 U is used for connection
	+20 V	External sensor supply, 20 V (+25% / - 10%) max. 40 mA
	Ain2 U	Analogue input of actual values, 0-10 mA (resistance 100 kohm), exclusively optionally Ain2 I is used for connection
	GND	GND (Ground)
	Din3	Digital input 3 (normal / reverse changeover). The pre-set parameters of the integrated controller may be selected through interface or digital input normal / reverse normal: Pin is open or set voltage is 5…50 V reverse: jumper to GND or set voltage < 1 V
	Din2	Digital input 2 (changeover day/night) Pre-set parameters may be selected through interface or digital input normal / reverse Day: Pin is open or set voltage 5…50 V Night: jumper to GND or set voltage < 1 V

Fig. 18

Wiring diagram for the fans VKP 800x500 EC, VKP 900x500 EC, VKP 1000x500 EC, VKPI 800x500 EC, VKPI 900x500 EC, VKPI 1000x500 EC

Terminal	Connection	Purpose / Function
PE	PE	Ground cable
KL1	L3	Net, L3
	L2	Net, L2
	L1	Net, L1
KL2	NC	Alarm relay, normally-closed contact
	COM	Alarm relay, COMMON (2A, 250 V, Ac1)
	NO	Alarm relay, normally-open contact

Terminal	Connection	Purpose / Function
KL3	OUT	Purpose / Function
	GND	GND (Ground)
	0-10 V / PWM	Actual value input / control input (total resistance 100 kohm)
	+10 V	External potentiometer supply, 10 V (+10 %) max. 10 mA
	+20 V	External sensor supply, 20 V (+20%) max. 50 mA
	4-20 mA	Actual value input / control input
	0-10 V / PWM	Actual value input / control input
	GND	GND (Ground)
	RSB	interface RS485 for ebmBUS; RS B
	RSA	interface RS485 for ebmBUS; RS A
	RSB	interface RS485 for ebmBUS; RS B
	RSA	interface RS485 for ebmBUS; RS A

Fig. 19

Recommended wiring diagram for connection of the single-phase motor with overheating protection

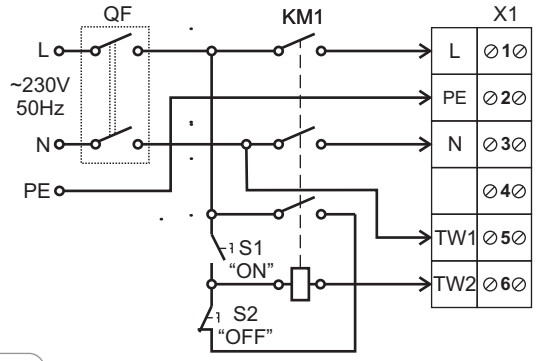


Fig. 20

Recommended wiring diagram for connection of the three-phase motor with overheating protection

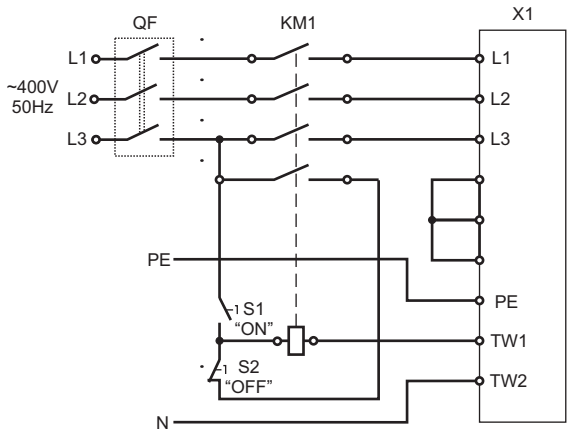


Fig. 21

where X1 - terminal block, QF - automatic circuit breaker, Km1 - magnetic starter, S1, S2 - control buttons (QF, KM1, S1, S2 are not included into the delivery set).

VKP, VKPI, VKPF, VKPFI 400x20, 500x250, 500x300, 600x300, 600x350

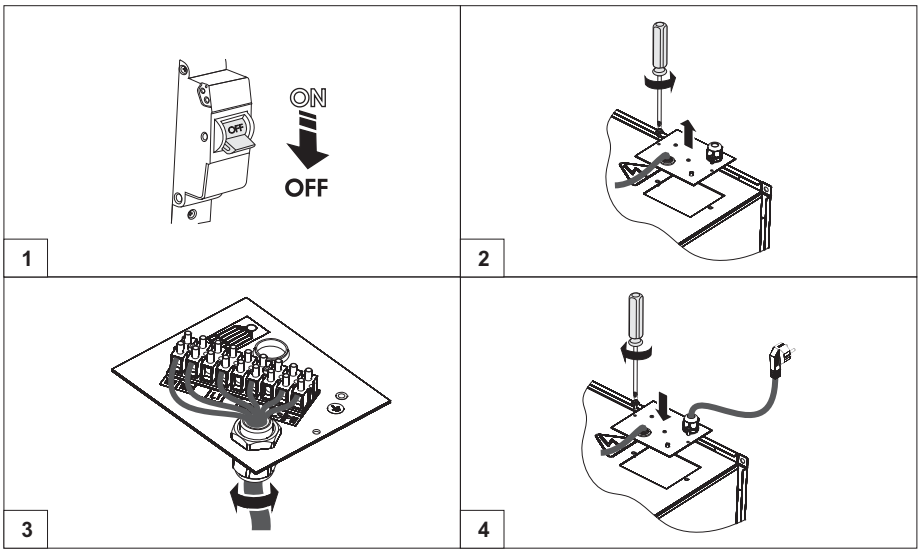


Fig. 22

VKPF, VKPFI 700x400, 800x500, 900x500, 1000x500
VKP 600x300 EC, VKPI 600x300 EC, VKP 1000x500

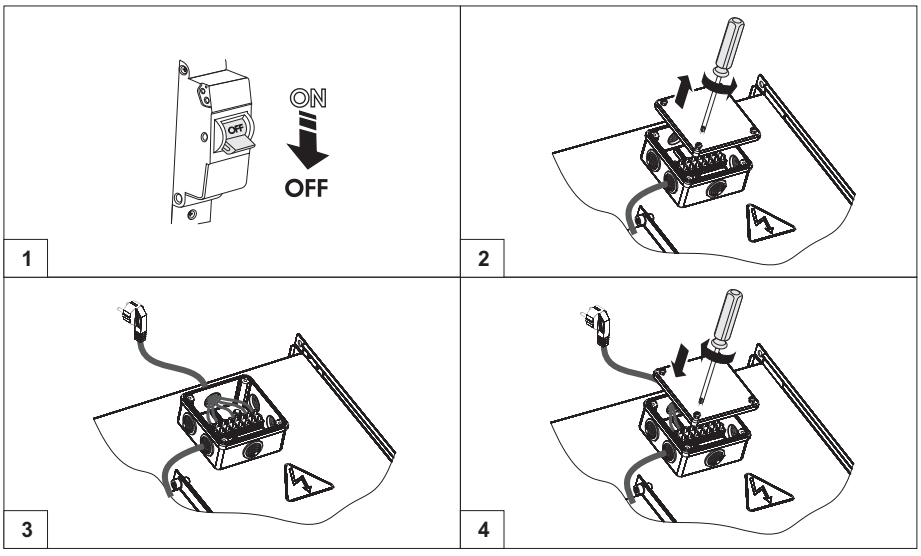


Fig. 23

VKP 600x350 EC, VKP 700x400 EC, VKP 800x500 EC, VKP 900x500 EC, VKP 1000x500 EC, VKPI 600x350 EC, VKPI 700x400 EC, VKPI 800x500 EC, VKPI 900x500 EC, VKPI 1000x500 EC

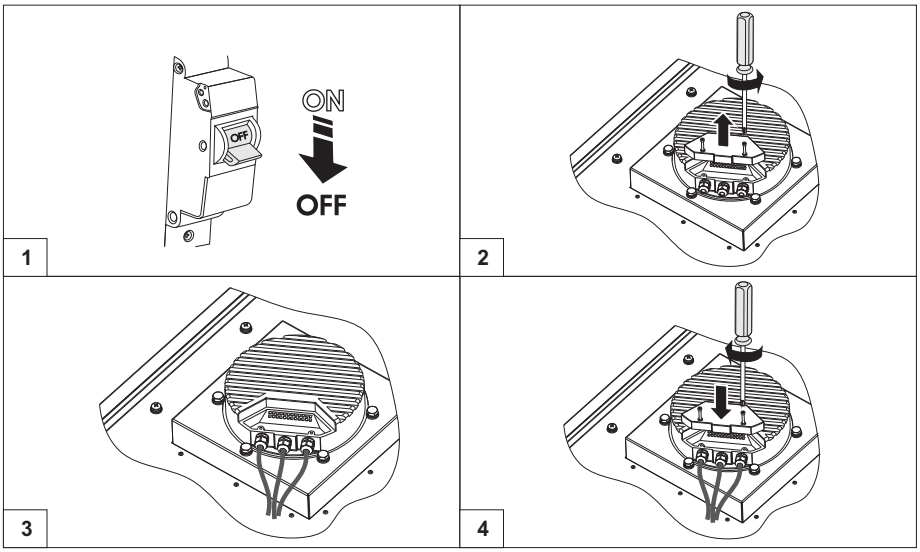


Fig. 24

MAINTENANCE

Disconnect the fan from power mains and make sure the rotating parts do not move prior to any maintenance and repair operations.
Maintenance means regular cleaning of the fan surfaces from dust and dirt. Use a soft brush or compressed air to remove dust from metal surfaces of the fan; use a vacuum cleaner to remove dust from the sound insulating surface. The impeller blades require thorough cleaning once in 6 months. Detach air ducts from the fan before starting maintenance works. Clean the fan impeller blades with water and mild detergent solution. Avoid water dripping on the motor!
Wipe the fan surfaces dry after cleaning.
While cleaning the fan make sure the balance counterweights are not shifted and the impeller is not misaligned.

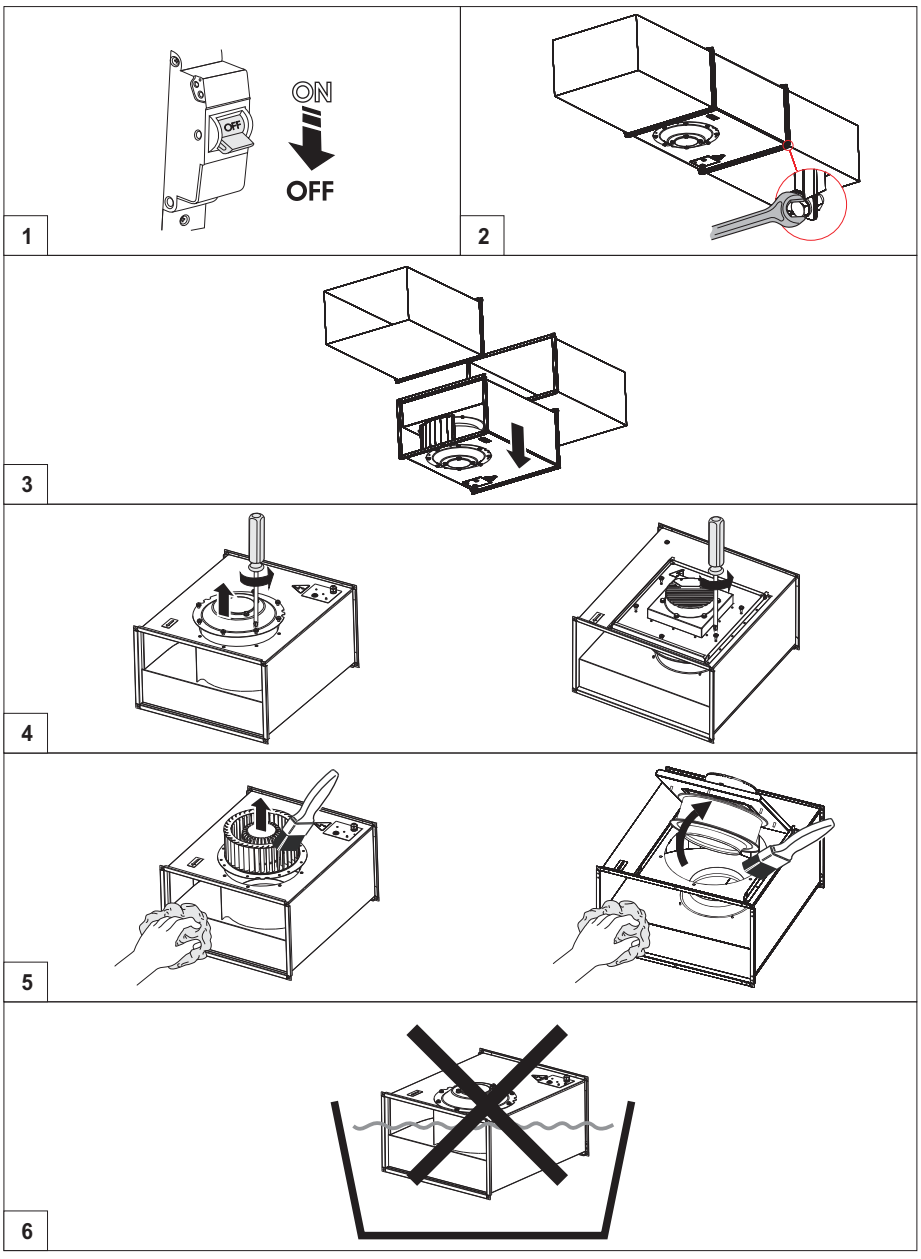


Fig. 25

TROUBLESHOOTING AND FAULT HANDLING

FAULT	POSSIBLE REASONS	FAULT HANDLING
The fan does not operate	No power supply	Check the automatic circuit breaker. Check the electric connections.
Noisy operation	Impeller misbalance	Clean the impeller.

STORAGE RULES

Store the fan in manufacturer's packaging in a ventilated room at temperatures between +5°C and +40°C and relative humidity not more than 80% at +20°C.

MANUFACTURING WARRANTY

We hereby declare that the following product complies with the essential protection requirements of Electromagnetic Council Directive 204/108/EC, 89/336/EEC and Low Voltage Directive 206/95/EC, 73/23/EEC and CE-marking Directive 93/68/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. This certificate is issued following test carried out on samples of the product referred to above.
Assessment of compliance of the product with the requirements relating to electromagnetic compatibility was based on the following standards.

While purchasing the unit the Customer accepts the following warranty terms:

Manufacturer hereby guarantees trouble-free operation of the fan within 24 months since the date of its sale provided that all the rules of transportation, storage, assembling and operation are observed.

In case of no confirmation of sales date the warranty period is calculated from the production date.

All the assemblies and components of a faulty product (warranty claimed product) that were replaced during the warranty period inherit the warranty period and the warranty terms applied to the entire product. Neither the said components nor the product in general are covered with an extendable or renewable warranty period.
In case of failure due to faulty equipment during warranty period due to manufacturing defects, contact the Seller for the product replacement.

Replacements are offered at Seller.

The accessories operated together with the fan, both included and not included into the delivery list as well as other equipment that operates jointly with the fan are not covered by the warranty.

No warranty for compatibility of the fans with other producers' goods.

The warranty covers manufacturing defects only. All the defects and faults resulting from mechanical effect during operation process or natural wear and tear shall not be covered by the warranty.
Any malfunctions caused by violence of operation, servicing and maintenance guidelines either by Customer or third parties or caused by unauthorized design modifications are not covered by warranty.

NO LIABILITY FOR RELATED DAMAGES:

The manufacturer is not responsible for any mechanical or physical damages resulting from the manual requirements violence, the product misuse or gross mechanical interference. Indirect damages such as re-installation or re-connection of the fan, direct or indirect losses etc. related to the fan replacement shall not be indemnified.
The warranty does not cover operations on mounting/dismantling, connection/disconnection and setting-up of the fan. The contractor in charge for mounting, electric and adjustment operations shall be responsible for warranty of these works.

In any case the indemnity amount shall not exceed the actually paid value for the defective fan that incurred losses.

ACCEPTANCE CERTIFICATE

The fan is duly recognized as serviceable.

Model
VENTS

VKP _____
VKPI _____
VKPF _____
VKPFI _____
VKP EC _____
VKPI EC _____

(check applicable model only)

Date of production

Approval mark

Sold by
(name and stamp of the trade company)

Sales date

WARRANTY CARD

2011 IVENTS