



INSTALLATION – OPERATION – MAINTENANCE USER MANUAL

AXIAL FANS

CE



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1. INTRODUCTION

Before operating VENCO branded VAX and VAX-S Axial Type Fans, please examine carefully the instruction manual and keep it. Do not use devices as a workbench or a storage area. VENCO VAX and VAX-S Axial Type Fans can only be operated in conditions of intended design and technical specifications.




BEFORE OPERATING READ THIS MANUAL and KEEP IT IN REACH OF A SERVICE PERSONNEL.



THIS FAN CAN ONLY BE OPERATED IN CONDITIONS OF INTENDED DESIGN AND TECHNICAL SPECIFICATIONS. OTHERWISE THE RESPONSIBILITY BELONGS TO INSTALLER.



DO NOT USE THIS FAN IN EXPLOSIVE and CORROSIVE ENVIRONMENT.



RESPONSIBILITY OF THE DEFECTS WHICH CAN BE OCCURED AS A RESULT OF UNAUTHORIZED PERSONNEL INTERVENTION TO FAN or TO BE USED NON-ORIGINAL SPARE PARTS BELONGS TO THE INSTALLER.

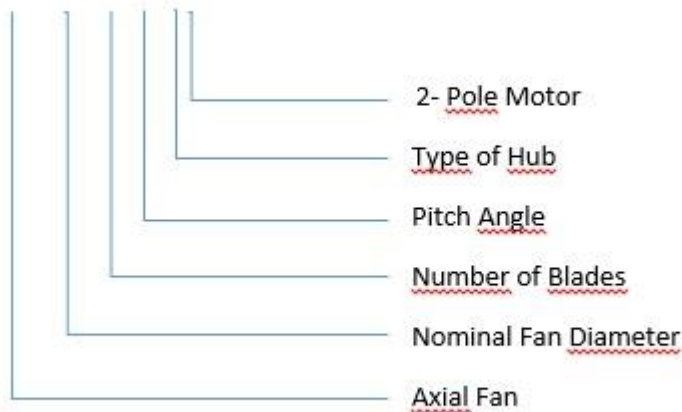
2. GENERAL IDENTIFICATION OF DEVICE TYPE and MODEL

VENCO VAX Type Axial fans are used in general ventilation projects and VAX-S Type Axial fans are used in smoke exhaust fan and carpark ventilation. The Axial fans may not be used in areas in which an explosion-capable atmosphere can be found. The motor is found combined with the impeller in canals where the air circulation actualized and the air flowing is actualized by the way of impeller. The fan cannot be installed outside without water precaution.

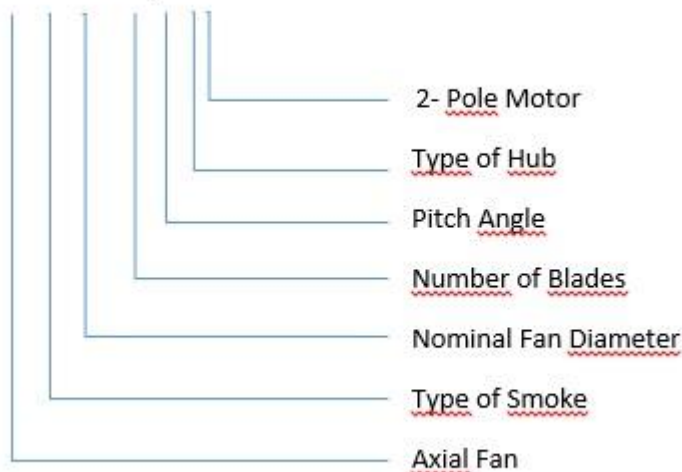
3. TECHNICAL DATA

The type key can be seen on the name plate. For Axial fans, it contains the following data

VAX-400-10/X-V2



VAX-S-400-10/X-V2



4. TECHNICAL SPECIFICATIONS

VENCO VAX Type Axial Fans;

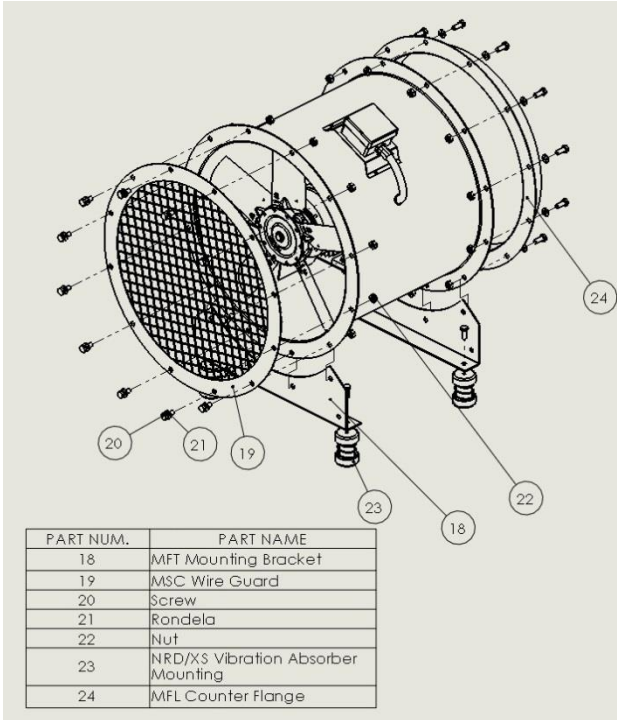
- Full size from \varnothing 400 mm to \varnothing 1600 mm diameter
- Hot deep galvanized sheet metal casing
- Cast aluminum adjustable blade angle impellers
- Aerodynamic profile impellers allow high efficiency and low noise
- Die cast aluminum alloy fan hubs
- Optimum capacity obtained hub combinations besides adjustable blade combination
- IP 67 terminal box is carried out of the casing
- Electrical motors with IP 55 and F class insulation
- 230 V, 1 phase, 50 Hz and 380 V, 3 phase, 50 Hz
- Operating temperature between -15°C and 45°C

VENCO VAX-S Type Axial Fans;

- F300 certificate harmonized with EN12101-3
- Full size from \varnothing 400 mm to \varnothing 1600 mm diameter
- Hot deep galvanized sheet metal casing
- Just aluminum adjustable blade angle
- Aerodynamic profile impellers allow high efficiency and low noise
- Die cast aluminum alloy fan hubs
- Optimum capacity obtained hub and adjustable blade combinations
- IP 67 terminal box is on the fan casing
- Electrical motors with IP55
- 230 V, 1 phase, 50 Hz and 400 V, 3 phase, 50 Hz
- Operating temperature 300°C for 2 hours

5. INSTALLATION

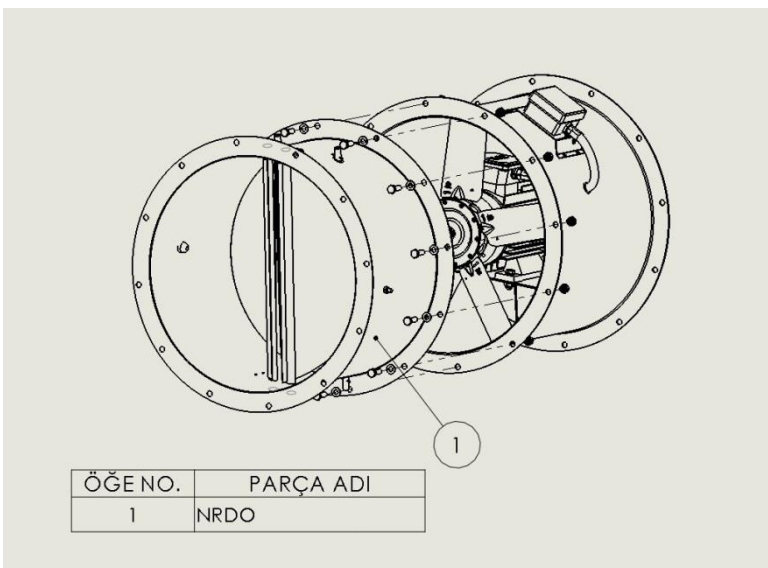
The fan must be installed according to the air direction label on the fan. Before the start of assembly, examine manually whether the fan wheel runs freely. Before installation, check the minimum air gap between the blade tip and the housing according to the following table. During assembly, secure the assembly area. Take precautions for any access by unauthorized persons. The fan should be installed in a way that makes service and maintenance easy. A wiring diagram is applied on the inside of the junction box or separately enclosed. Electrical installations must be made by trained and authorized electrician.



Drawing 5.1

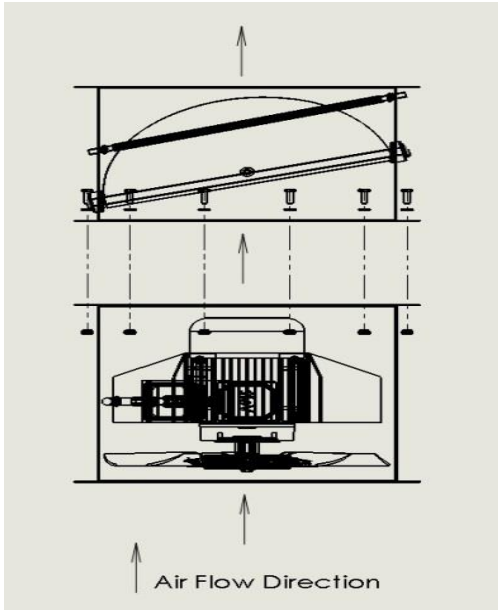
Drawing 5.1 illustrates the MFT, MSC, NRD/XS and MFL accessories that could be used with the fan.

The connection of MFT Mounting Bracket, MSC Wire Guard and NRD/XS Vibration Absorber Mounting to the fan must be done as shown in the following drawing by screw, rondela and nut.

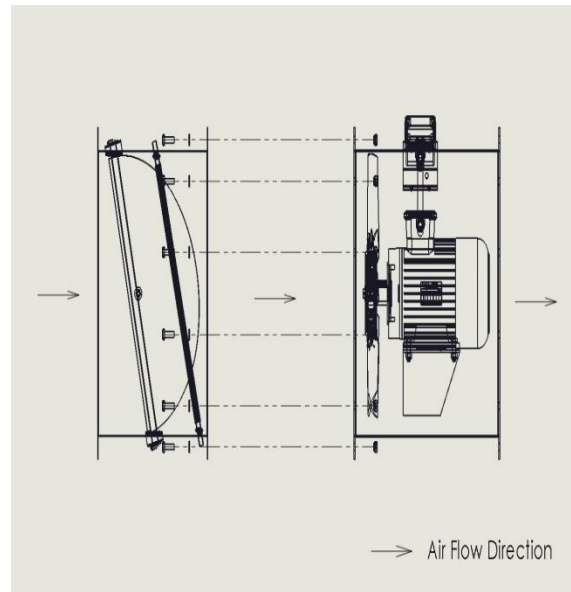


Drawing 5.2

The vertical and horizontal installation of the NRDO accessory that could be used with the fan on the Drawing 5.1 is illustrated in the following drawing.



Drawing 5.4

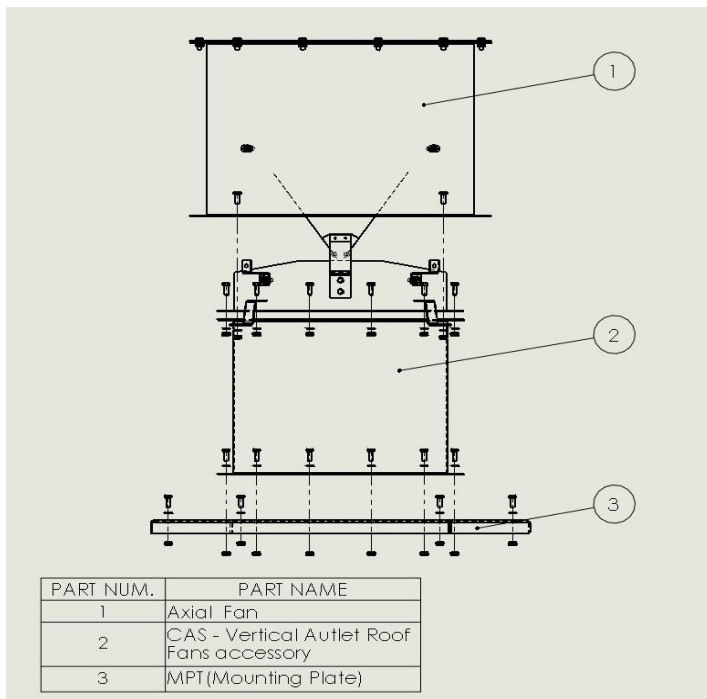


Drawing 5.3

The vertical and horizontal installation of the NRDO accessory;

Drawing 5.3 demonstrates horizontal installation of the NRDO accessory to the axial fan. When there is no air flow; position of the wing must be as shown in the Drawing 5.3 in order to keep the wings closed.

Drawing 5.4 demonstrates vertical installation of the NRDO accessory to the axial fan. When the connection is made properly and there is no air flow, the wings close down.



Drawing 5.5

Drawing 5.5 illustrates installation of the CAS- Vertical Outlet Roof Fans accessory and the MPT (Mounting Plate) to the axial fan. Connection of them to the axial fan must be done as shown in the drawing by nut, rondela and screw.

Fan Diameter	VAX		VAX-S	
	Min. (mm)	Max. (mm)	Min. (mm)	Max. (mm)
400	1	2	5,5	6,88
450	1,25	2,25	-	-
500	1,4	2,4	5,5	6,88
560	1,4	2,4	5,5	6,88
630	1,58	2,58	6	7,5
710	1,78	2,78	6	7,5
800	2	3	6,5	8,13
900	2,25	3,25	7	8,75
1000	2,5	3,5	8	10
1120	2,8	3,8	8,5	10,63
1250	3,13	4,13	10	12,5
1400	3,5	4,5	11	13,75
1600	4	5	12	15



ALL ELECTRICAL CONNECTIONS SHALL BE DONE ACCORDING TO EN 60204-1 BY TRAINED AND AUTHORIZED PERSONNEL.



SWITCH THE ENERGY SUPPLY OFF BEFORE YOU BRING ABOUT THE ELECTRICAL CONNECTION OF THE FAN. MAKE SURE THAT THE ENERGY SUPPLY CANNOT BE SWITCHED ON AGAIN PREMATURELY. THE ELECTRICAL CONNECTION MAY ONLY BE CARRIED OUT BY TRAINED PERSONNEL.



THE ELECTRICAL CONNECTION IS TO BE DONE ACCORDING TO VALID DIRECTIVES AND ONLY BY A QUALIFIED FITTER WITH MATCHING SAFETY DEVICES FOR THE PROTECTION OF THE MOTOR.



ALL COMPONENTS SHOULD BE EARTHED. DEVICE EARTH CONNECTION MUST BE DONE ON TOP OF THE CONNECTOR IN JUNCTION BOX and FROM GROUNDING SCREW WITHIN BODY.

6. OPERATION

Before starting, check the followings; Be sure that foreign objects are removed from fan area and connected duct system, check connection to the electrical installation, minimum air gap between the tip of the blade and the housing and no noise appears when starting the fan. If the air gap is correct, switch the device on and off briefly, in order to check the direction of rotation of the fan. The rotation direction of the fan must match up with the direction of the arrow on the housing of the fan. If the direction of rotation is wrong, interchange two phases in order to set the correct direction of rotation.



ALWAYS WEAR APPROPRIATE PROTECTIVE CLOTHING (INCLUDING HARD HATS, EYE PROTECTORS AND EAR DEFENDERS) WHEN WORKING IN THE VICINITY OF THE FAN ASSEMBLY

7. HANDLING & STORAGE

The fans are delivered on wooden pallets wrapped in plastic stretch. Transport the fan to the place of assembly in its original packaging. During transport, connection cables, terminal box and wire connections mustn't be damaged. Load and unload the fan carefully, in order to avoid possible damage. Use suitable lifting equipment. The fan should be stored in a safe, clean, dry, vibration free, location. A regular monthly rapid spin of the impeller is recommended to prevent grease hardening and possible brinelling of the bearings; the impeller should not be in the same angular position after rotation.

When dismantling the crate to gain access to the fan assembly care should be taken to avoid injury from sharp edges, nails, staples, splinters, etc.

8. MAINTENANCE

Periodically check the screw connections, coil resistance, function of the safety components and control elements. Only clean the fan manually, with a vacuum cleaner or with compressed air. Before service, maintenance or repairing, disconnect the electrical connections and the impeller is stopped. The fan must be cleaned when needed, at least once per year to maintain the capacity. The fan bearings are maintenance-free and should be renewed only when necessary. Cleaning should be done without dislodging or damaging the impeller. Make sure that there is no unexpected noise from the fan.

In addition to routine maintenance motor bearings will in the longer term require attention. If the motor bearings are greased through extended lubricators, a quality of grease should be periodically applied in accordance with the information on the fan or motor nameplate and/or instructions provided.

9. FAULT DETECTION

It is necessary to turn off the fan before checking the fan and the system. During maintenance, device electrical connections should be cut entirely. All switches and circuit breakers should be locked by brought to the OFF position. Also "DO NOT START" sign should be placed on the control panel that will consistently stand.

Check that the electrical connections to the unit are secure. Check that the voltage applied at the fan terminals is as specified on the motor nameplate, and is balanced. Measure the current on each phase (one phase in the case of single-phase motors) of the motor in turn and check that the current consumption is within the full load current specified on the motor nameplate.

Rotate the motor shaft by hand. Investigate any sound of grinding noises, internal chaffing, rubbing or stiffness. Any observed defect may indicate that the bearings require lubrication or replacement. Ensure that

all fixings are secure. Make sure that the fan blade is not blocked by an object, if fan is still not working, contact your supplier.

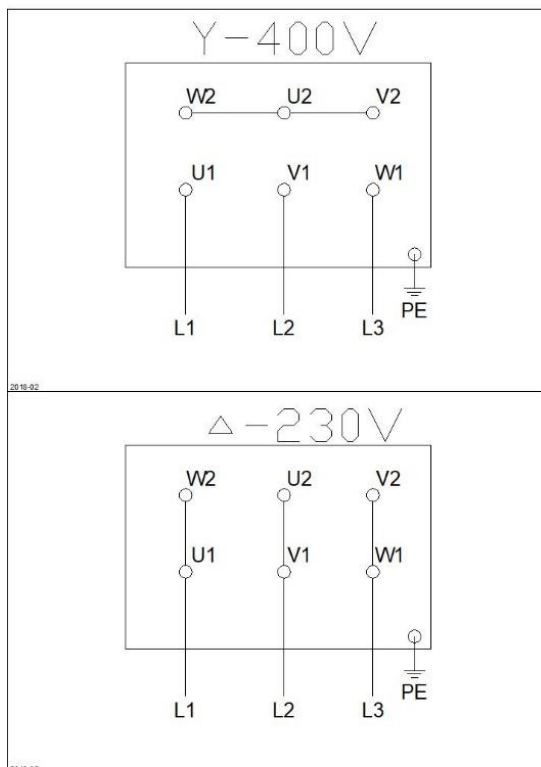
10. WARRANTY

- The warranty period starts from the date of delivery and it is for 2 years.
- Including all parts of the entire fan is under warranty of our company.
- The maximum repairing period is 30 business days. This period starts from the date of notification to us.
- Fan's warranty does not include electrical connection errors, failures that may arise due to voltage and user errors.
- The warranty is only valid under condition that the fan is assembled, operated and periodic maintenance to be made according to this manual.

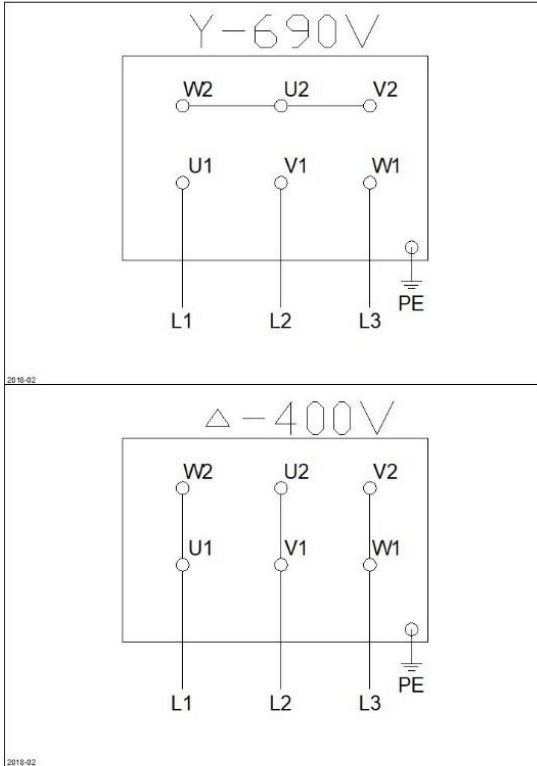
11. ANNEX

11.1. Annex-1: Electrical Wiring Diagrams

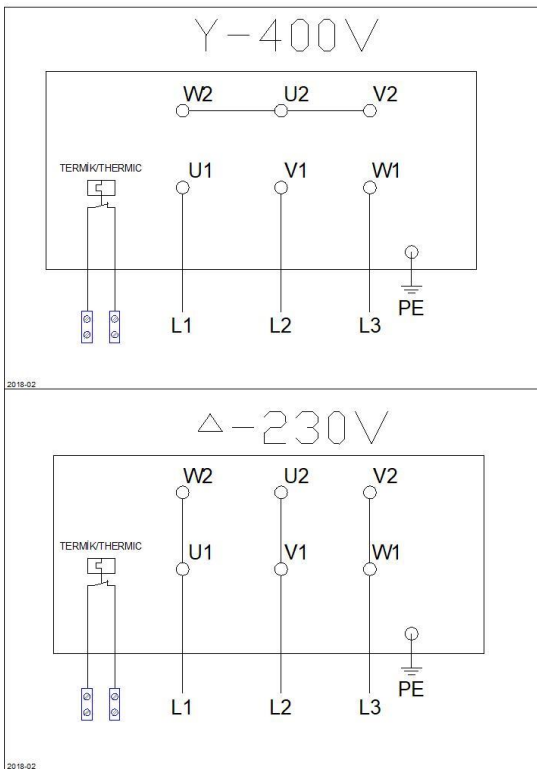
11.1.1. Under 4 kW



11.1.2. 4 kW and Above



11.1.3. Under 4 kW with Thermic



11.1.4. 4 kW and Above with Thermic

