

OXYDENT™

Aerators - Airfilters - Airpumps

SIDE CHANNEL BLOWER



CE

**OPERATION, INSTALLATION AND MAINTENANCE
INSTRUCTIONS**

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1. INTRODUCTION

The purpose of the present manual is to ease the installation, the operation and the routine maintenance activities of the side channel blowers.

Before proceeding with the installation and the startup of the blower, it is very important to undertake the reading the present manual and inform the operators and the plant personnel about the content of each section, to grant the correct operation of the equipment and the maximum safety of the personnel in charge for installation, start up and maintenance.

The non-observance of the instructions reported in this manual or the improper use of the blower by unskilled and/or unauthorized personnel may result in severe damage to things or serious injury and even death of people!

Oxydent B.V. is available for any technical assistance or clarification you may need. In case of doubt, call.

2. TECHNICAL DATA

The blowers have a casing and impeller of cast aluminum.

3. WARRANTY

The warranty of the product is valid for a period of 12 months operation, but not longer than 24 months from shipment date. The goods shall be returned to the supplier.

The warranty does not cover for damages or failures caused by mishandling, incorrect installation and wrong electrical wiring of any piece of equipment of the plant.

In any case the warranty excludes the reimbursement for any sort of damages originated by any cause.

Any responsibility is declined for what concerns to injuries of people and damage to things due to the improper use of its equipment.

For additional or replacement warranty clauses in respect to the statements of present manual, please refer to the contractual conditions mentioned in the order acknowledgement.

Consumables are not subject to any warranty.

4. SAFETY

Following safety instructions must be carefully followed to prevent injury or damage to surrounding equipment and to the fan itself.

A. Suction - WARNING!

Side channel blowers have very high suction power. Objects, clothing and hair can easily be sucked into the fan and cause injury. Make sure that there are no persons nearby the inlet side when the fan operates. Suction filter guard should be assembled before operation of the fan.

B. Discharge side - WARNING!

There is a very powerful stream of air from the discharge side. Foreign bodies, which might have been sucked into the fan, can be thrown out at a high speed and cause injury. Never put hands directly at the discharge or suction side.

C. Temperature - WARNING!

When the fan operates, the fan housing can be almost +100 ° C. The fan must be protected from direct contact to avoid burns.

D. Electrical connection - WARNING!

Electrical connection must be made by skilled staff only. The drive motor should be protected by an overload switch.

E. Permitted applications - WARNING!

The blowers are not to be used to convey aggressive, toxic or air with high humidity or explosive air-gas mix.

F. Sound level - WARNING!

The sound pressure level is not the same over the fan whole range. In some cases it is necessary to use extra silencers. We recommend the user to check the sound pressure level.

5. INSTALLATION

A. Transportation

Check all parts from damage during transport. The blowers are to be installed weather protected and are not to be stored outdoors unprotected. Attach hoist securely. Only use hoist and load suspension devices with sufficient capacity.

B. Installation, assembly

Install side-channel blowers horizontally or vertically weather protected. Do not subject to vibration or shocks. Blowers with base should be secure tightly at site of operation on solid, even ground. Open intake and discharge ports are to be protected. Max ambient temperature is +40°C.

C. Electrical connection

Note! Work described here may be executed by a qualified electrician only. Connect the motor acc. to wiring diagram to be found in the terminal box (lid.) The blower has a single- or three-phase motor as described on the motor plate. The motor should be protected by an overload switch. Connection to earth is to be found in the terminal box.

D. Control of rotation direction

Start up the blower a short moment. Check the rotation direction. The rotation direction on the impeller must be in accordance with the arrows on the motor. If not, move the L1 and L3 phases for three-phase operation, or check the wiring circuit in the terminal box. Incorrect rotation will cause reduced capacity of the blower.

6. OPERATION

If the rated current of the motor is exceeded during operation, the voltage and frequency of the power supply should be checked and compared with data on the unit rating plate. Some blowers cannot be operated over the whole range of the characteristic curve. Overload of the motor may occur in case of excessive system resistance (current consumption). It should not be possible to exclude overloading due to the system resistance, a pressure relief valve must be provided on the suction or pressure side. The side-channel blower must not be subjected to shock or vibration loads.

7. MAINTENANCE

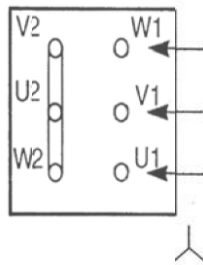
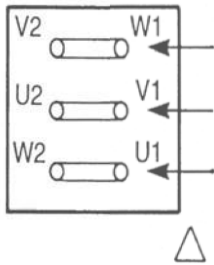
Side-channel blowers have non-contact operation and do not normally require maintenance. Wearing parts are subject to the recommended maintenance intervals and are a constituent part of the applicable warranty claims. The service life of wearing parts (ball bearings and filters) depends on the operating hours, the load and other influences, such as temperature, etc... The blowers are equipped with enclosed deep groove ball bearings, and have a minimum service life of approx. 12,000 hours.

MANUFACTURER/SERVICE

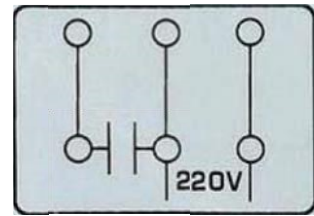
The side-channel blowers fulfill the requirements according to applicable international regulations and standards (CE). For information regarding suitable or special applications, please contact the manufacturers.

8. ELECTRICAL CONNECTION SCHEMES

THREE-PHASE MOTORS



SINGLE-PHASE MOTOR

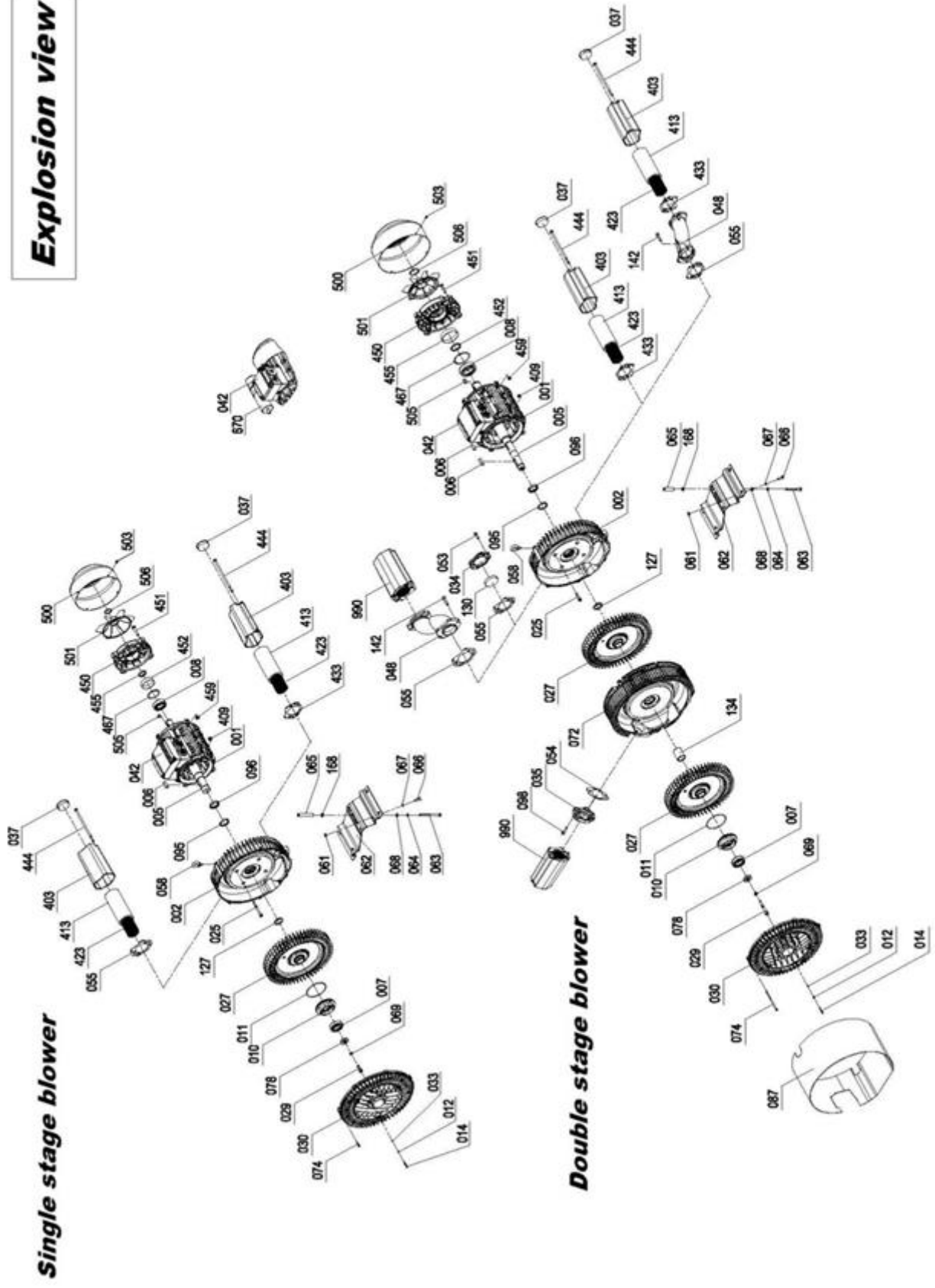


The three-phase motors have a rated voltage, at 50Hz, of 230V Δ /400VY, and they can accept a $\pm 10\%$ line voltage variation, according to IEC 38 Specification.

The same line voltage variation is allowed for single-phase motors have a rated voltage, at 50Hz, of 230V.

For motors with any other rated voltage at 50Hz and for any voltage at 60Hz, a $\pm 5\%$ line voltage variation is allowed, according to IEC 34 specification.

Explosion view



Single stage blower

Double stage blower

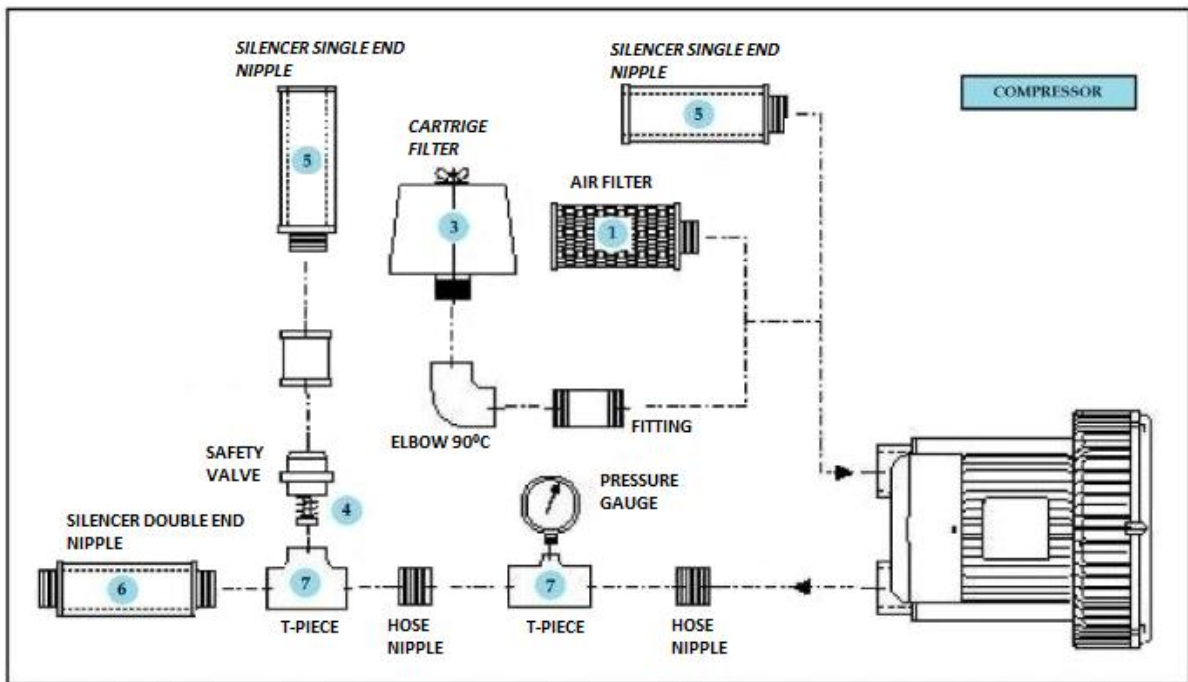
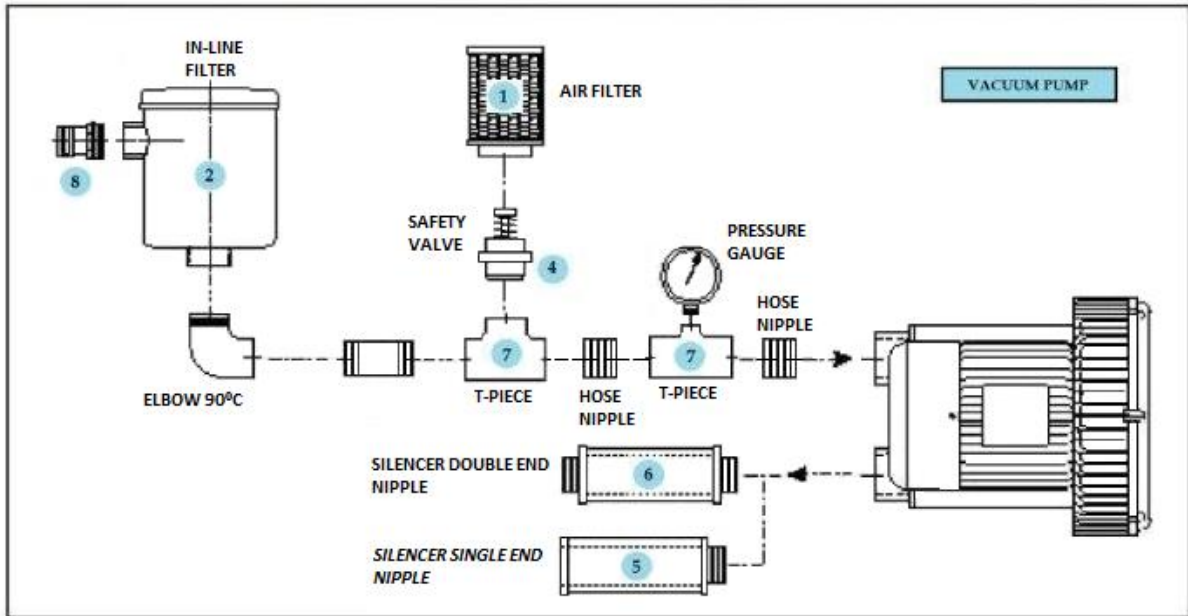
9. SPARE PART LIST

| N. | Description |
|-----|------------------------------------|
| 001 | Motor housing complete with stator |
| 002 | Blower case |
| 005 | Motor rotor |
| 006 | Key |
| 007 | Cover deep groove ball bearing |
| 008 | Case deep groove ball bearing |
| 010 | Bearing cover |
| 011 | O-ring |
| 012 | Washer |
| 014 | Screw |
| 025 | Screw |
| 027 | Impeller |
| 029 | Screw |
| 030 | Blower cover |
| 033 | O-ring |
| 034 | Flange |
| 035 | Flange |
| 037 | Cap |
| 042 | Terminal box, complete |
| 048 | S-pipe * |
| 053 | Screw |
| 054 | Gasket |
| 055 | Gasket |
| 058 | Lifting eye bolts |
| 061 | Nut |
| 062 | Base |
| 063 | Screw |
| 064 | Lock washer |
| 065 | Sleeve |
| 066 | Screw |
| 067 | Lock washer |
| 068 | Washer |

| N. | Description |
|-----|----------------------------|
| 069 | Lock washer |
| 072 | Centre case |
| 074 | Screw |
| 078 | Washer |
| 087 | Blower cowl |
| 095 | Felt ring |
| 096 | Rotary shaft lip type seal |
| 098 | Screw |
| 127 | Washer |
| 130 | Filler |
| 134 | Sleeve |
| 142 | Screw |
| 168 | Washer |
| 403 | Silencer housing |
| 409 | Nut |
| 413 | Silencer insert |
| 423 | Net silencer |
| 433 | Gasket |
| 444 | Screw |
| 450 | End shield |
| 451 | Screw |
| 452 | Rotary shaft lip type seal |
| 455 | Spring strap |
| 459 | Nut |
| 467 | Lock washer |
| 500 | Fan cowl |
| 501 | External fan |
| 503 | Screw |
| 505 | Key |
| 506 | Retaining ring |
| 670 | Capacitor |
| 990 | Silencer |

*for 2 stage blowers

10. INSTALLATION ACCESSORIES SCHEME



| | |
|---|----------------------------|
| 1 | AIR FILTER |
| 2 | IN-LINE FILTER |
| 3 | CARTRIGE FILTER |
| 4 | SAFETY VALVE |
| 5 | SILENCER SINGLE END NIPPLE |
| 6 | SILENCER DOUBLE END NIPPLE |
| 7 | T-PIECE |
| 8 | HOSE NIPPLE |