Side Channel Blower & Turbo Blower

Instruction Manual

Instructions prior to installation and operation

- Check if any part of the blower has been damaged during the transportation.
- *Do not dispose of solid or material from suction inlet directly, shall use filter before inlet, otherwise damage to blower may occur.*
- Do not dipose of acid alkali or inflammable gas, otherwise explosion and damage may occur.
- Do not dispose of liquid and air with high temperature.
- *Do not touch the blower to avoid burn damage: temperature may rise due to long time continuous operation.*
- High pressure blower (AFR series) electric current is proportional to pressure and inverse proportional to air flow. Turbo blower (ATB series) electric current is proportional to air flow and inverse proportional to pressure.
- Locking pressure of high pressure blower (AFR series) shall higher then max. Static pressure (motor full loading) do not operate over loading remarked on rating plate or rating label, to prevent motor damage, electric current over load relay, adjustable pressure relief or vacuum limitation valve shall be installed to protect motor.
- When blowing air into water, the maximum transportation depth shall not excess 70% max. Static pressure remarked on catalogue (water column).

Installation

- 3-phase blower shall be installed with ambient temperature -10 - +40°C, single phase blower with ambient temperature -5 - +40°C, relative humidity shall under 80%.
- When installed outdoor, please check if any obstruction around blower suction inlet, and install shelter to avoid motor damage or electric shock due to getting wet.
- If inlet does not connect any pipe, a filter with larger area shall be installed at suction inlet.
- Over high pressure usion shall be avoid in closed piping loop for high pressure blower (AFR series), otherwise deformation and break may be occur to blower due to temperature raise, adjustable pressure relief or vacuum limitation valve shall be installed to protect moter.
- Distance at least 50mm shall be maintained between blower motor fan and wall to avoid over heat due to poor motor heat dissipation.
- Heat may be produced during operation due to friction between air impeller and piping. Heating-resisted piping material shall be used over 1m for outlet piping.
- Section area of piping shall not smaller than 60% of blower inlet and outlet section area.
- Centerline of piping and blower inlet and outlet shall remain the same, please do not connect forcibly.
- Piping shall be fixed independently, the weight of piping shall not load on the rim of blower inlet nor outler, to avoid damage occurred to rim.
- Unusual sudden diameter shrinkage enlarge or curve design of piping shall avoided to ensure best blower air efficiency.
- When install blower in vertical or inclined position, please consider the total weight of impeller and rotor loading on bearing, please contact your blower supplier or manufacturer for further confirmation.
- Blower with the same horse power could be installed in series or parallel connection, please contact your blower supplier or manufacturer for further confirmation before installation.
- Installed with screw on leveling and hard foundation or base. Standard loading is generally about 3 times of blower weight, if installes on uneven base, vibration absorber shall be installed to avoid deformation or noise occurred due to fastening bolt of blower.

Wiring and operation

- *Make sure the voltage and frequency of power supply fits the requested electrical condition marked on blower rating plate or label, otherwise injury or motor damage may occur due to incorrect voltage.*
- Allowable voltage variance shall be within ±5% of rated voltage, and frequency variance shall be within ±2%.
- Please wiring according to the wiring instruction inside the cover of terminal box, and *connect earth lines to prevent electrical leakage accident.*

- Over-heat relay device is not available for normal blower, please install over-load switch according to the voltage marked on rating plate or rating label and choose the appropriate over-load switch.
- Turn on switch for a short time (twinkling) and test run blower after wiring, make sure rotation in compliance with arrow direction. If wrong direction happened with three phase blower, please exchange any two lines of three wires. As for single phase blower, please contract your supplier or manufacturer.
- Over load may happen when all-close piping system for high pressure blower or all-open piping system for turbo blower, please keep the current in allowable range marked on rating plate or label to avoid motor damage.
- Avoid turn blower swithc on and off to many times within a short time, otherwise overheat may occur to motor.
- Inverter is not available for single phase blower. When using inverter in three-phase blower, please avoid operation with too high or too law frequency, otherwise damage may occur to blower.

Maintenance and inspection

- Filer of filter net used in piping system may blocked after a period of operation, and may block air flowing, please clean filter or filter net periodically.
- Please clean the dust and oil on the blower housing to ensure best heat dissipation performance.
- Bearing seal and muffler cotton are consumptive parts with limited life, which would be different for different ambient and operation condition, please inspect and replace periodically.
- Please inject lubrication oil periodically to ensure long bearing life for the models with oil injection nipple.
- Conveying air with higher moisture may make blower shorter service life, and moisture air shall be avoided, if not avoidable, shall inspect blower parts periodically to prevent blower damage or injury occurred due to corrosion problem.

Trouble shooting

Status	Causes	Solution
Motor does not, without any sound	- Power lose phase - Wiring disconnection - Electro-magnetic switch broken - Motor coil burnout	- Check power condition - Check wiring connection and tighten again if loosen - Check electro-magnetic switch condition - Send for repair
Motor do not work, with current sound	- Blower impeller stuck - Bearing can not rotate - Screw loosen	- Clean blower inside - Replace new bearing - Check all screw and tighten if loosen
Motor RPM not regular, with loud strange sound	- Wrong wiring connection - Wrong voltage - Motor coil burnout	- Check wiring connection method - Use multi-meter to check power voltage - Send for repair
Motor RPM regular, blower with strange sound	- Impeller deformed or corrosion - Worn bearing - Blower housing damaged	- Replace new impeller - Replace new bearing - Send for repair
Blower with harsh loud sound	- Blower crack from deformation or corrion - Worn muffler cotton - Blower running pressure too high	- Send for repair - Replace new muffler cotton - Check piping or filter blocked or not or choose blower with bigger capacity
Blower work regularly, pressure or air flow lower than standard	- Wrong motor rotation - Worn blower impeller - Blocked piping or filter - Frequency too low - Worn bearing - Too many piping sudden change or curve design	- Change motor rotation direction - Replace new blower impeller - Clean piping and filter - Set the right frequency - Replace new bearing - Change piping design

** Blower is technical product, please do not dismantle and repair it without consulting professional technician to avoid any danger.*