

# **TURBO BLOWER**

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## **INSTRUCTION MANUAL**

### **FDC SERIES**

Thank you for purchasing our Turbo Blower. Our product is produced with high quality materials and manufacturing processes. Our superior workmanship will give you the best product available in the air moving market place. Please read the instructions carefully prior to usage.



CONTENT	PAGE
1.SAFETY REQUIREMENT.....	2
2.INSTALLATION.....	3
3.OPERATION.....	6
4.TROUBLE-SHOOTING.....	9
PARTS LIST.....	10



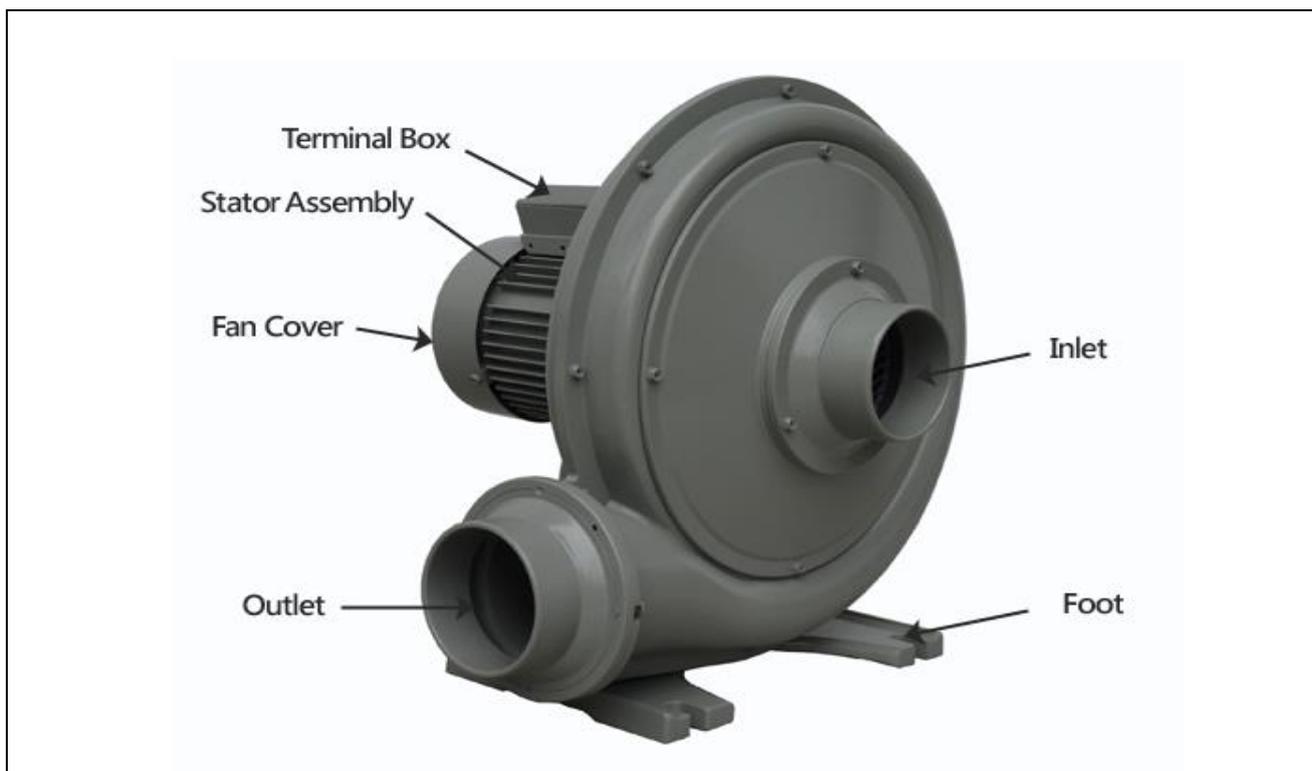
## WARNING

1. This unit is designed to operate indoors, and is an environment that is a water-free and dust-free.
2. To avoid damaging this device, it must be absolutely prevented from dropping during transportation.
3. Please read all instructions prior to installation.
4. For safety reason, please don't modify or repair the rotating part of this device.
5. The manufacturer has the right to modify the product without notice.
6. This unit is only a component, it must be installed in a machine or part of a machine which meets the terms of the machine directive 2006/42/EC.

# 1.Safety requirements: Warning

- 1.1 The maximum permissible ambient and air temperature at the intake is + 40°c.
- 1.2 All the works of transportation, installation, maintenance and trouble shooting must be executed by a responsible, qualified personnel.
- 1.3 This device must be set up according to this instruction manual.
- 1.4 The grounding wire must be connected well accordingly.
- 1.5 The lead wires as a conductor to the power supply should be properly sized and have strain relief to the wires at the connection terminals. If this is failed , electric shock and fire will be possible.
- 1.6 While rotating , human body must be kept away from the rotating portions such as the cooling fan and do not reach into the device through the intake or outlet.
- 1.7 Once the power electricity was interrupted , the power switch must be turned Off immediately .
- 1.8 If the device does not reach its rated speed in 6 seconds from the power switch turned on , please turn off the power immediately and check it carefully.
- 1.9 The power supply must be turned off before moving, maintaining , or repairing this device. Please note that , due to rotating inertia, the device may continue running several minutes after power turned off .
- 1.10 These devices are only used to handle or convey dust-free air, non-combustible, non-corrosive and non-explosive gases, vapors.
- 1.11 The intake must be properly sited and covered so that no dirt or solid particles can be sucked in .
- 1.12 Pilot type of thermal protector is provided. This protector should be externally connected with a magnetic switch which is used to control the power input ON/OFF.
- 1.13 This device is designed for continuous operation , in case of non-continuous running or high ambient temperature, checking suitability(maximum permissible temperature)with the representatives of manufacturer.

## 2 · Installation

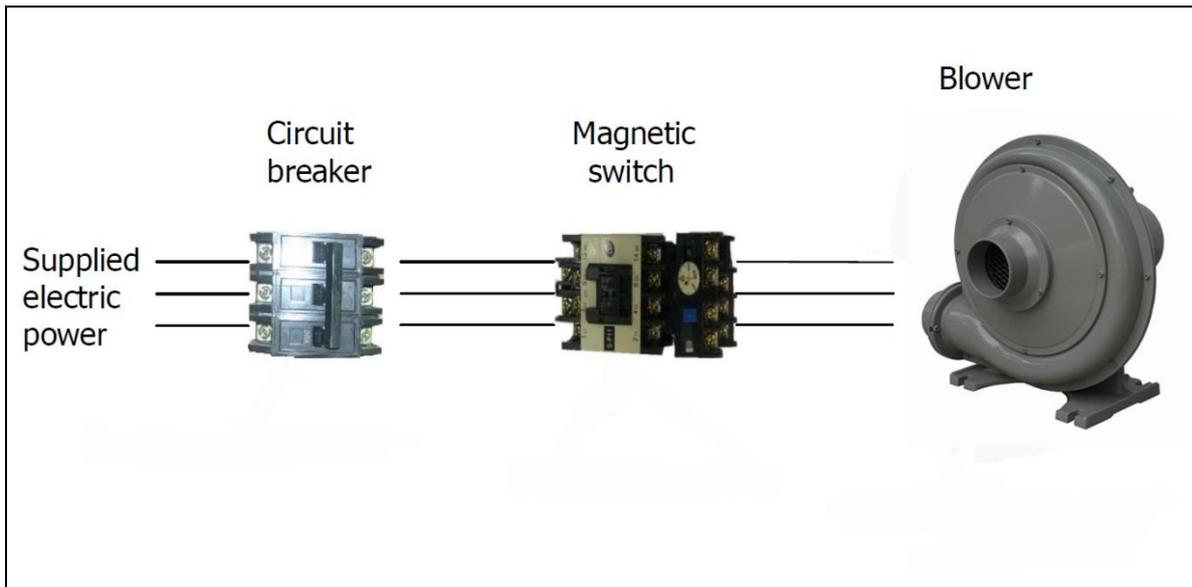


### 2.1 Installation precautions:

- 2.2.1 To avoid vibration, the unit must be mounted on a rigid base.
- 2.2.2 Any flammable materials must be kept away from the unit.
- 2.2.3 Air and gases should be filtered before entering the intake by an intake or inline filter.

### 2.2 Electric Connection:

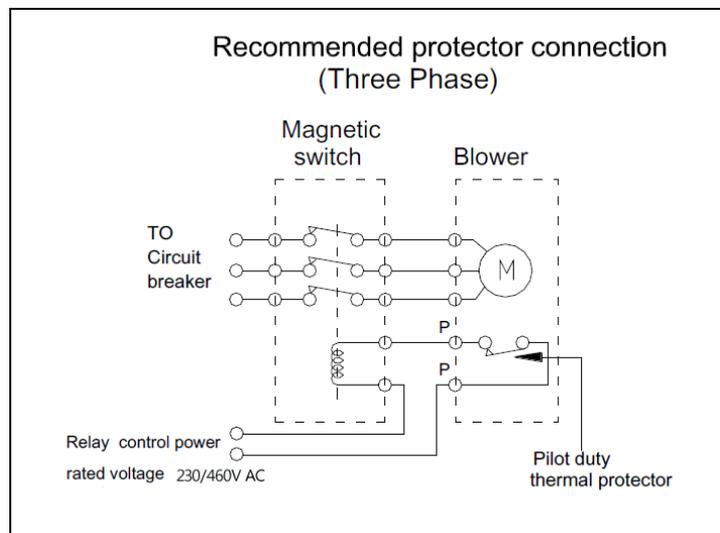
 **WARNING: No connecting work is allowed before the electric power is disconnected.**



2.2.1 Choose the correct circuit breaker to match the motor's rated current.

2.2.2 We recommended when using the magnetic switch, the setting value of electric current is the motor's rated current of 0.91 times.

2.2.3 Thermal protectors connection:

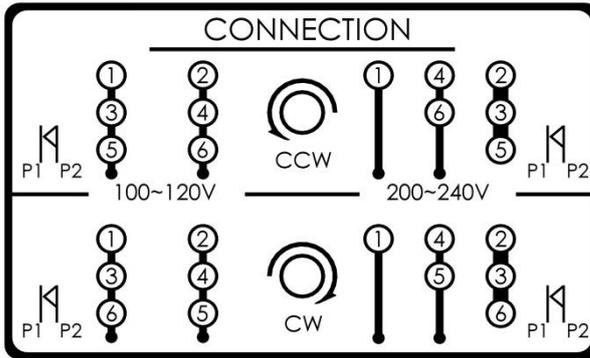


2.2.4 The ground wire must be connected to the grounding terminal.

2.2.5 The lead wires must be connected according to the diagram attached on the terminal box.

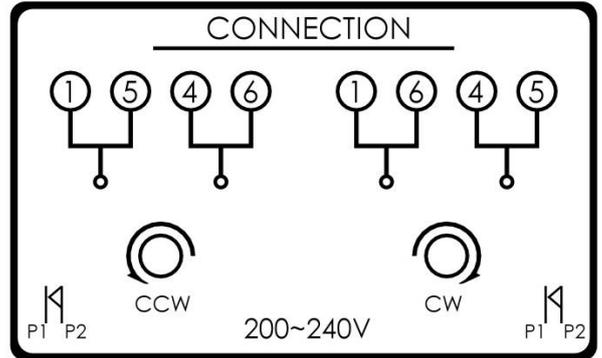
### Single Phase

50Hz/60HZ  
100V~120V 200V~240V



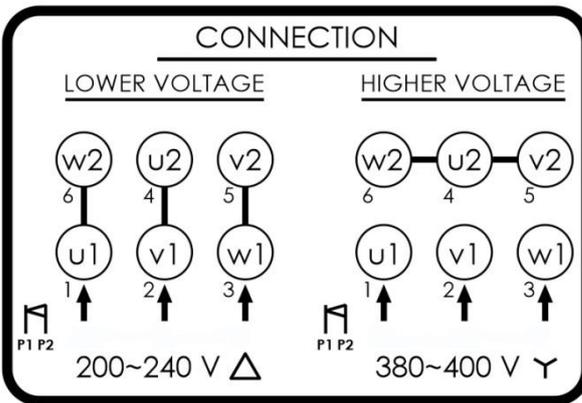
### Single Phase

50Hz/60HZ  
200~240V



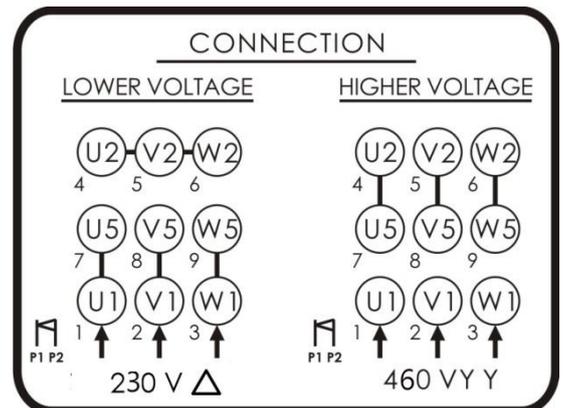
### Three phase

50Hz 220V/380V  
60Hz 230V/400V



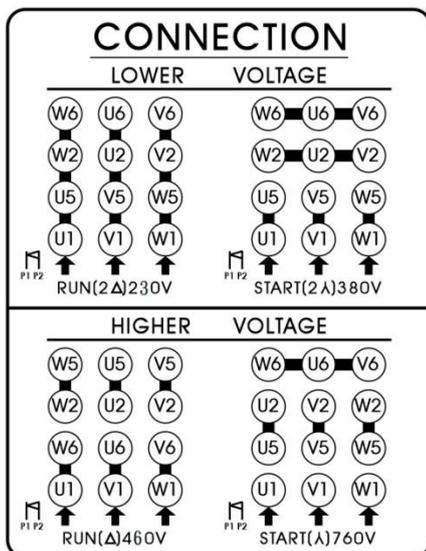
### Three phase

50Hz 220V/440V  
60Hz 230V/460V



### Three phase

60Hz 230V/460V 380V/760V



Note: The blower rotation is judged from the motor side.

## Fuji Model:

FUJI Model	Voltage(V)	Phase(PH)	Frequency(Hz)	HP
FDC-005A-7W	230/460	3	60	0.5
FDC-010A-7W	230/460	3	60	1
FDC-020A-7W	230/460	3	60	2
FDC-030A-7W	230/460	3	60	3
FDC-050A-7W	230/460	3	60	5
FDC-005P-5T	115/230	1	60	0.5
FDC-010P-5T	115/230	1	60	1
FDC-020P-2T	230	1	60	2

### 3 Operation:

3.1 These devices must be rotated as the “Arrow” direction marked on the casing.

**3.2 For three phase, changing direction can be done by** exchanging any two of the connected wires.

3.3 These devices should be operated with the rated current and pressure within the permitted range listed in the nameplate of the motor.

3.4 After wiring has been completed, reconfirm the rotation direction is same as arrow marked on the casing.

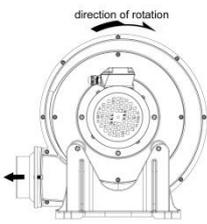
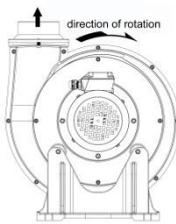
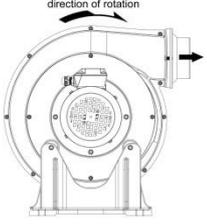
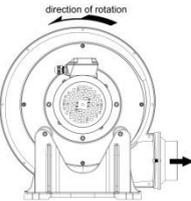
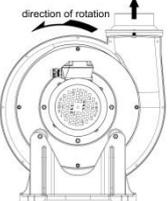
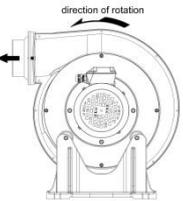
3.5 Changing the outlet direction

3.5.1 If the discharge direction is not requested , our standard model ( FDC-005A-7W

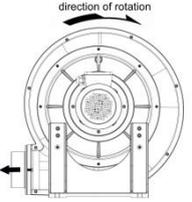
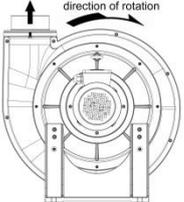
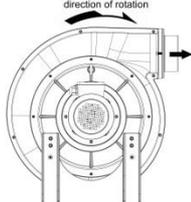
---FDC-050A-7W) is shipped with the following charts as L1.

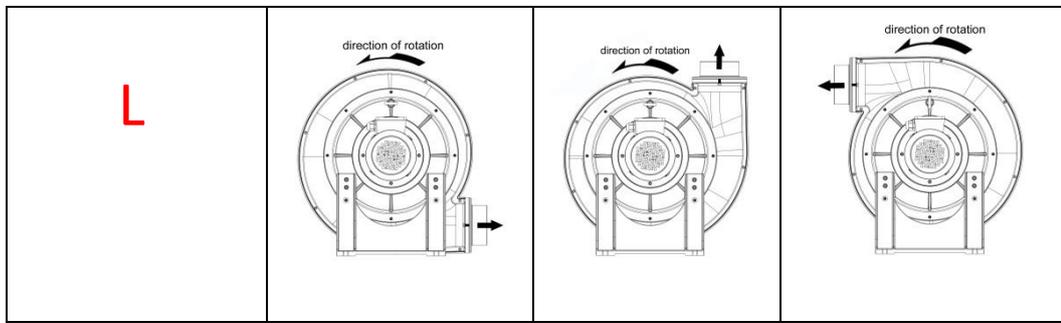
(FDC-075A-7W---FDC-010A-7W) is shipped with the following charts as R1. The outlet direction of all blowers can be changed as showed on the chart.

### FDC-005A-7W/FDC-010A-7W/FDC-020A-7W

Blower set Motor set	bottom	up	top
	1	2	3
<b>R</b>			
	<b>1</b>	<b>2</b>	<b>3</b>
<b>L</b>			

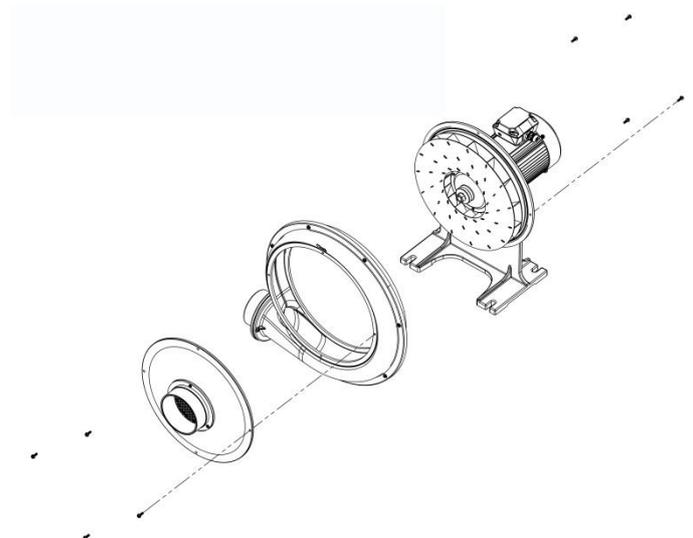
### FDC-030A-7W/FDC-050A-7W/FDC-075A-7W/FDC-100A-7W

Blower set Motor set	bottom	up	top
	1	2	3
<b>R</b>			
	<b>1</b>	<b>2</b>	<b>3</b>



Blower set Motor set	45° angle	135° angle	225° angle
R	4	5	6
L	4	5	6

3.5.2 Directions for changing outlet direction:  
 Remove the casing bolts and casing cover.  
 Rotate the housing to the desired position.  
 Re-assemble with casing bolts for final configuration.



**⚠ Caution**

Never disassemble the motor. If a malfunction occurred after changing the outlet direction, Please contact with your nearest sales office.

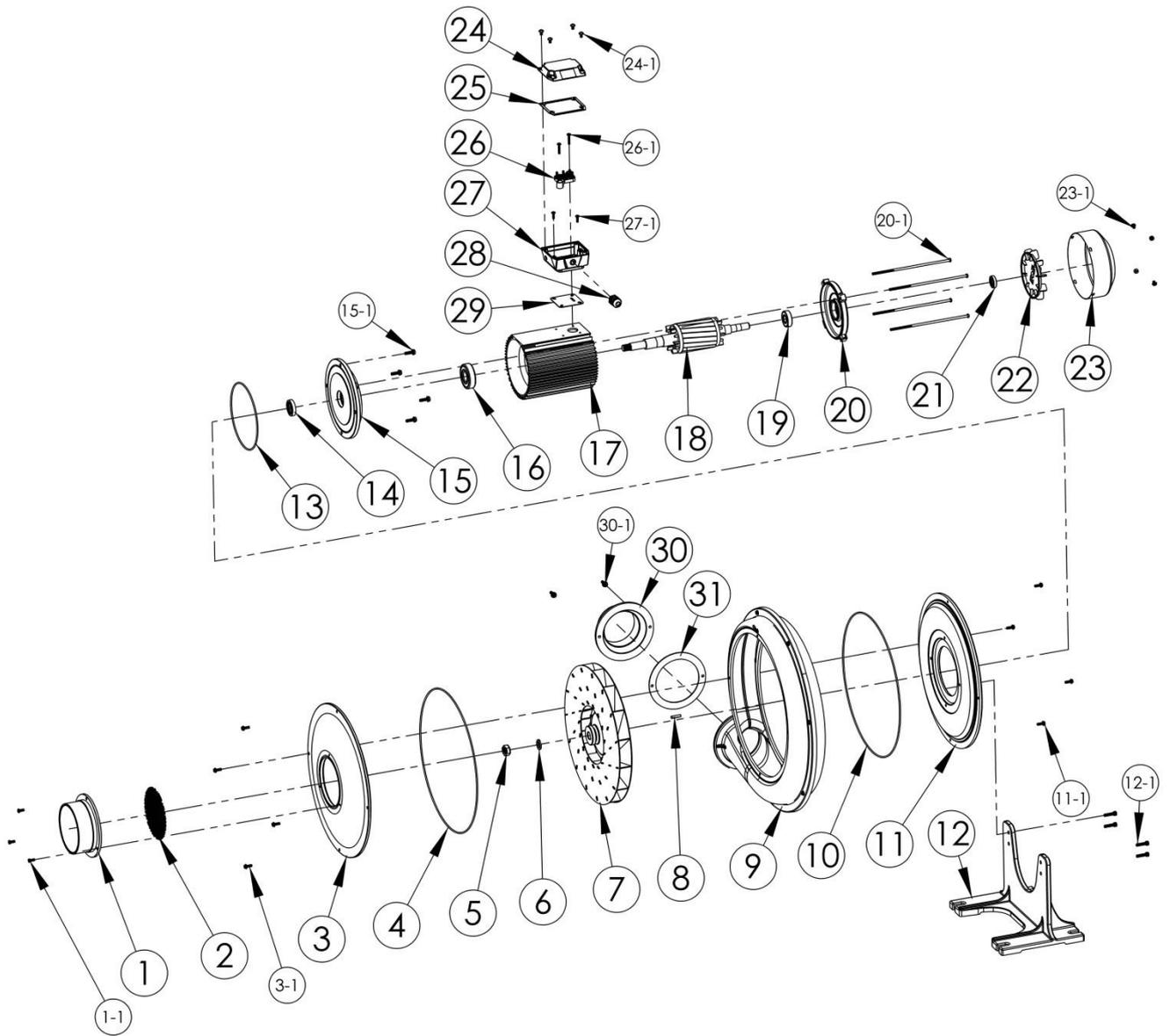
## 4 Trouble-shooting:

	Troubles	Possible Cause	Remedy
Impeller does not turn	Humming sound	<ol style="list-style-type: none"> <li>1. One phase of line not connected</li> <li>2. One Phase of stator winding open</li> <li>3. Bearings defective</li> <li>4. Impeller jammed by foreign material</li> <li>5. Impeller jammed against housing or cover</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect</li> <li>2. Contact Factory</li> <li>3. Change bearings</li> <li>4. Clean</li> <li>5. Adjust</li> </ol>
	No sound	<ol style="list-style-type: none"> <li>1. Two phases of power line not connected.</li> <li>2. Two phases of stator winding open</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect</li> <li>2. Contact factory</li> </ol>
Impeller turn	Blown fuse	<ol style="list-style-type: none"> <li>1. Insufficient fuse capacity</li> <li>2. Short circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Use fuse or proper rating</li> <li>2. Repair</li> </ol>
	Motor overheated or protector trips	<ol style="list-style-type: none"> <li>1. High or low voltage</li> <li>2. Operating in single phase condition</li> <li>3. Bearing defective</li> <li>4. Impeller rubbing against housing or cover</li> <li>5. Impeller or air passage clogged by foreign material</li> <li>6. Unit operating beyond performance range</li> <li>7. One phase of stator winding short circuited</li> </ol>	<ol style="list-style-type: none"> <li>1. Check input voltage</li> <li>2. Check connections</li> <li>3. Change bearings</li> <li>4. Adjust</li> <li>5. Clean</li> <li>6. Contact factory</li> <li>7. Contact factory</li> </ol>
	Abnormal sound	<ol style="list-style-type: none"> <li>1. Impeller rubbing against housing or cover</li> <li>2. Impeller or air passages clogged by foreign material</li> <li>3. Bearings defective</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust</li> <li>2. Clean</li> <li>3. Change bearings</li> </ol>
	Performance below standard	<ol style="list-style-type: none"> <li>1. Leak in piping</li> <li>2. Piping and air passages clogged</li> <li>3. Impeller rotation reversed</li> <li>4. Leak in blower</li> <li>5. Low voltage</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten</li> <li>2. Clean</li> <li>3. Check wiring</li> <li>4. Tighten cover, flange</li> <li>5. Check input voltage</li> </ol>

## 8. Parts List

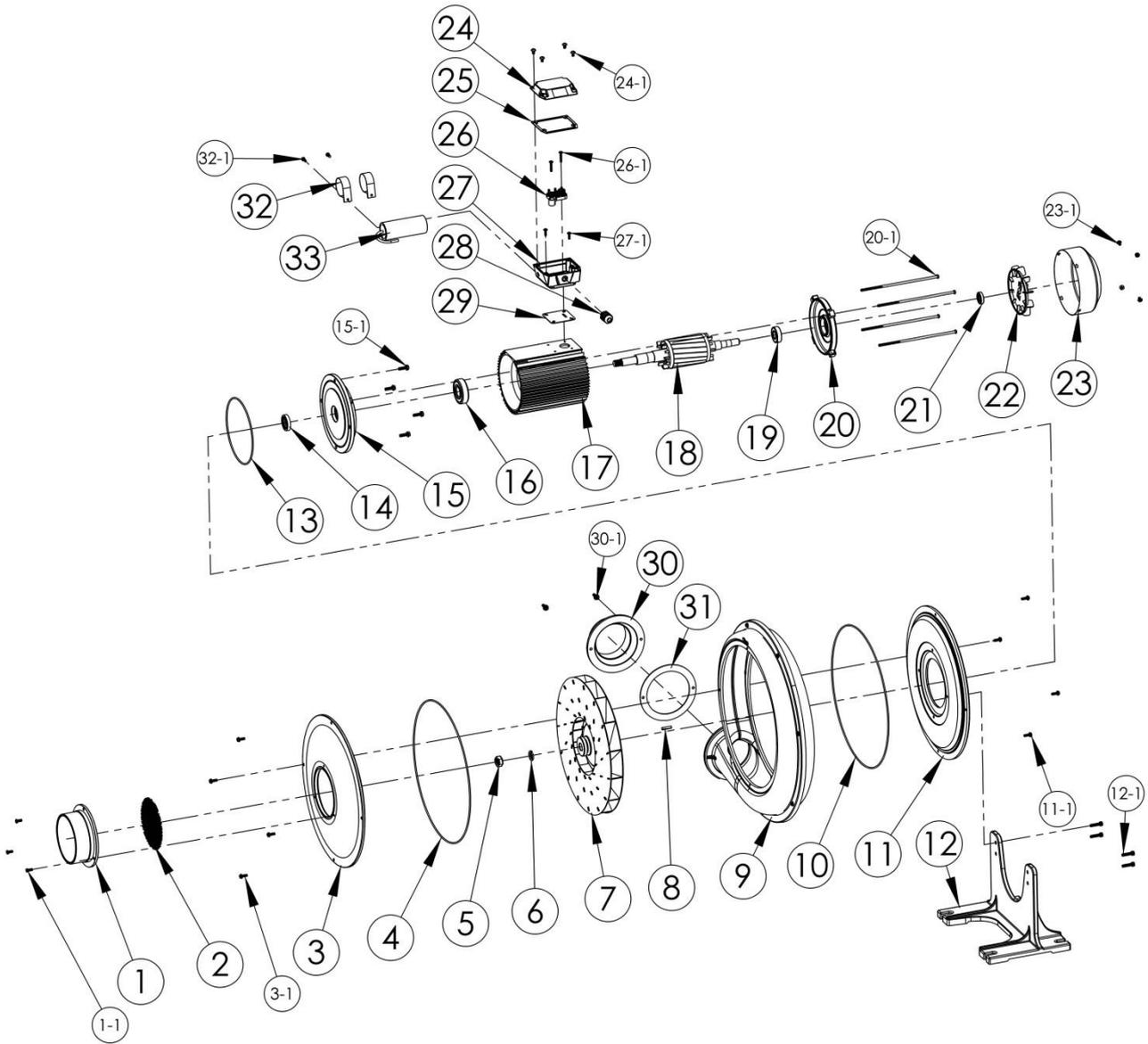
### FDC-005A-7W----FDC-050A-7W

Fig .No.	Name of part	<i>Fig. No.</i>	Name of part
1	Inlet flange	23	Fan cover
2	Net	24	Terminal box cover
3	Casing cover-front	25	Gasket- T.Box cover
4	O-ring(0.5HP-3HP)	26	Terminal plate
5	Nuts	27	Terminal box
6	Spring washer	28	Cable gland
7	Impeller	29	Gasket-terminal box
8	Pin	30	Outlet flange
9	Casing	31	Gasket-outlet flange
10	O-ring	1-1	Bolt (Inlet flange)
11	Casing cover-rear	3-1	Bolt (Casing cover-front)
12	Foot	11-1	Bolt (Casing cover-rear)
13	O-ring	12-1	Bolt (Foot)
14	Oil seal-front	15-1	Bolt (Motor shield)
15	Motor shield	20-1	Bolt (Rear housing)
16	Bearing-front	23-1	Bolt (Fan cover )
17	Frame stator	24-1	Bolt (Terminal box cover)
18	Rotor& shaft assembly	26-1	Bolt (Terminal plate)
19	Bearing -rear	27-1	Bolt (Terminal box)
20	Rear housing	30-1	Bolt (Outlet flange)
21	Oil seal-rear		
22	Fan		



## FDC-005P-5T----FDC-020P-2T

Fig .No.	Name of part	<i>Fig. No.</i>	Name of part
1	Inlet flange	24	Terminal box cover
2	Net	25	Gasket- T.Box cover
3	Casing cover-front	26	Terminal plate
4	O-ring	27	Terminal box
5	Nuts	28	Cable gland
6	Spring washer	29	Gasket-terminal box
7	Impeller	30	Outlet flange
8	Pin	31	Gasket-outlet flange
9	Casing	32	Band-Capacitor
10	O-ring	33	Capacitor
11	Casing cover-rear	1-1	Bolt (Inlet flange)
12	Foot	3-1	Bolt (Casing cover-front)
13	O-ring	11-1	Bolt (Casing cover-rear)
14	Oil seal-front	12-1	Bolt (Foot)
15	Motor shield	15-1	Bolt (Motor shield)
16	Bearing-front	20-1	Bolt (Rear housing)
17	Frame stator	23-1	Bolt (Fan cover )
18	Rotor& shaft assembly	24-1	Bolt (Terminal box cover)
19	Bearing -rear	26-1	Bolt (Terminal plate)
20	Rear housing	27-1	Bolt (Terminal box)
21	Oil seal-rear	30-1	Bolt (Outlet flange)
22	Fan	32-1	Bolt(Band-Capacitor)
23	Fan cover		





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