



TURBO BLOWER

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.



Fuji Electric Corp. of America

2025.05

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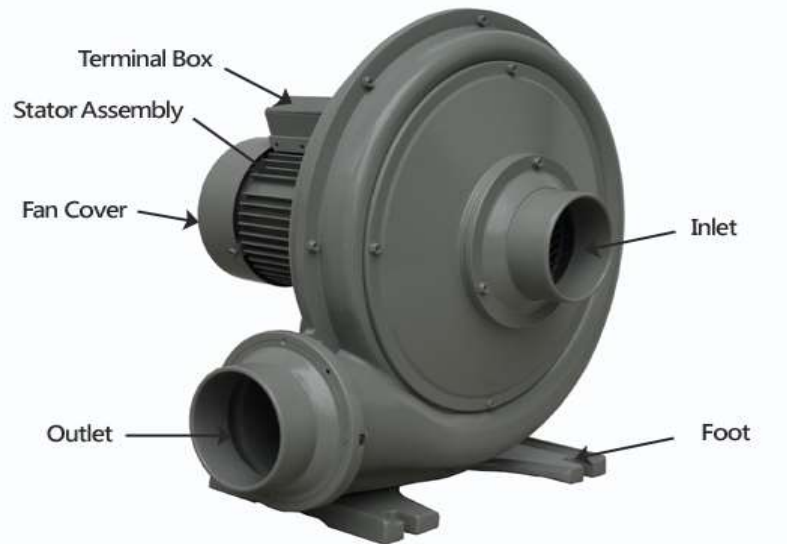
WARNING

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




Fuji Model

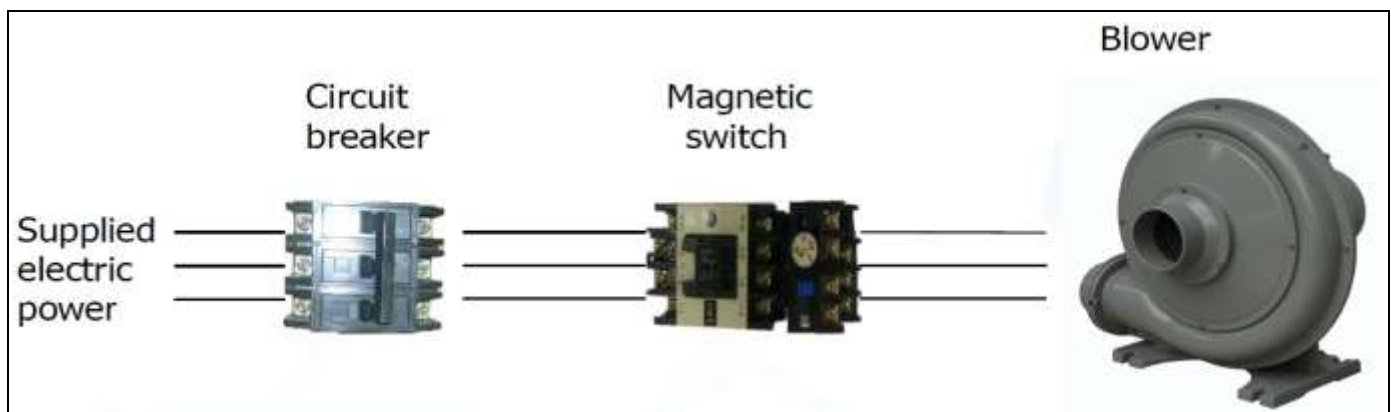
Model No.	Voltage(V)	Phase(PH)	Frequency(Hz)	HP
FDC-005A-7W	230/460	3Ø	50/60	0.5
FDC-010A-7W	230/460	3Ø	50/60	1
FDC-020A-7W	230/460	3Ø	50/60	2
FDC-030A-7W	230/460	3Ø	50/60	3
FDC-050A-7W	230/460	3Ø	50/60	5
FDC-075A-7W	230/380/460	3Ø	50/60	7.5
FDC-100A-7W	230/380/460	3Ø	50/60	10
FDC-100A-5W-RHD	575	3Ø	60	10
FDC-150A-7W	230/380/460	3Ø	50/60	15
FDC-200A-7W	230/380/460	3Ø	50/60	20
FDC-200A-7W-LHD	230/380/460	3Ø	50/60	20
FDC-250A-7W-LHD	380/660	3Ø	50	25
FDC-005P-5T	115/230	1Ø	50/60	0.5
FDC-010P-5T	115/230	1Ø	50/60	1
FDC-020P-2T	230	1Ø	50/60	2

2.1 Installation precautions

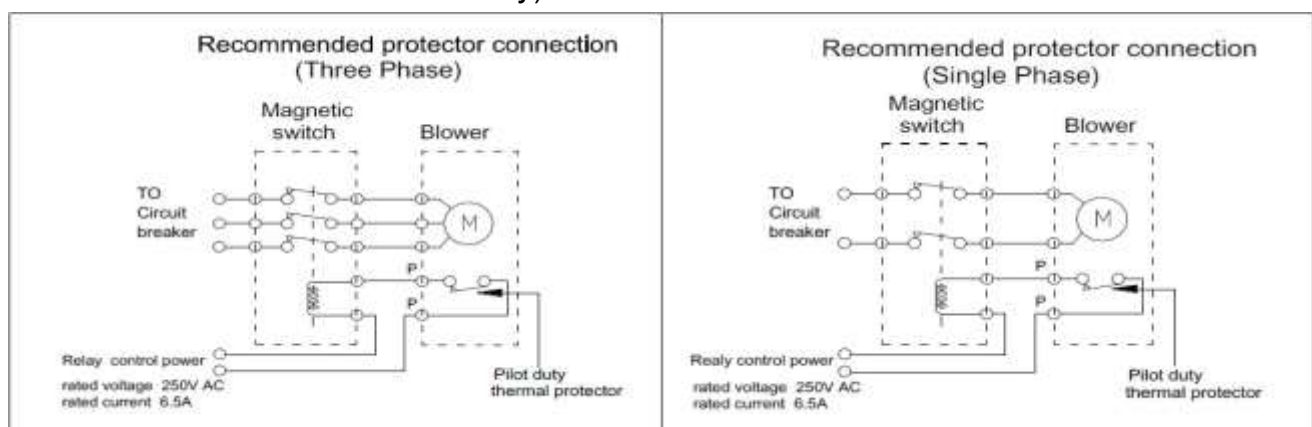
- 2.1.1 To avoid vibration, the unit must be mounted on a rigid base.
- 2.1.2 Any flammable materials must be kept away from the unit.
- 2.1.3 Air and gases should be filtered before entering the intake by an intake or inline filter.

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. (Except for the single-phase 1/2HP that requires P1.P2 to be built into the motor, P1.P2 of other specifications are all connected externally)



- 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.

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 the wiring is completed, confirm again the rotation direction is the same as the arrow marked on the casing.
- 3.5 Changing the outlet direction
- 3.5.1 If the discharge direction is not required, our standard model (FDC-005A-7W---FDC-050A-7W) is shown as L in the following figure. (FDC-075A-7W---FDC-250A-7W) is shown as R in the following figure.
- 3.5.2 The outlet direction of all blowers can be changed as shown in the figure.

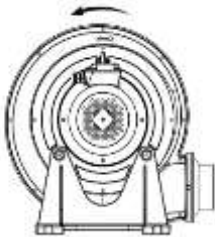
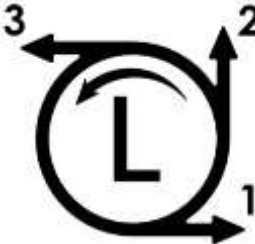
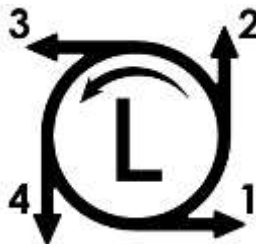
Standard Rotation (L) (0.5HP – 5HP)

FDC-005A-7W(0.4 kW /0.5HP); FDC-010A-7W(0.75 kW /1HP)

FDC-020A-7W(1.5 kW /2HP); FDC-030A-7W(2.2 kW /3HP)

FDC-050A-7W(3.7 kW /5HP); FDC-005P-5T(0.4 kW /0.5HP)

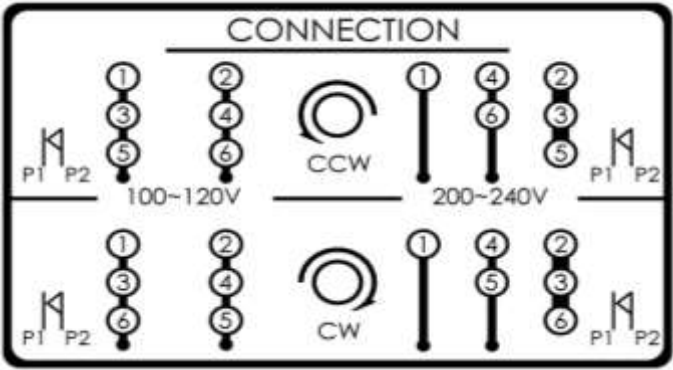
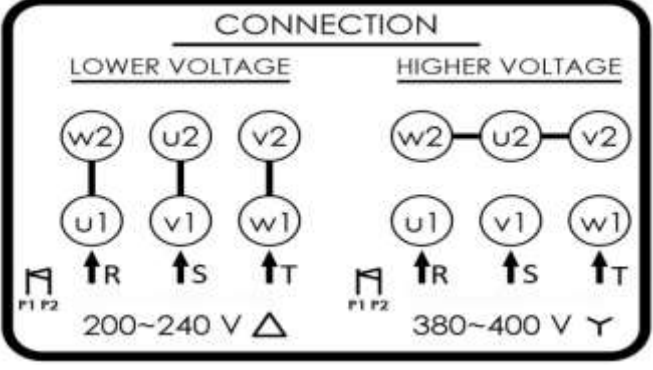
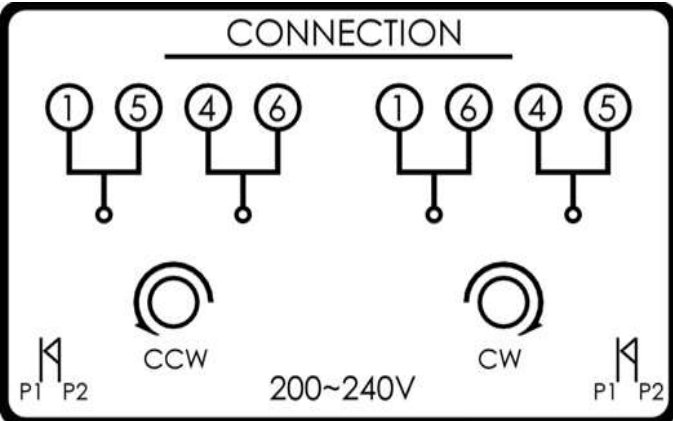
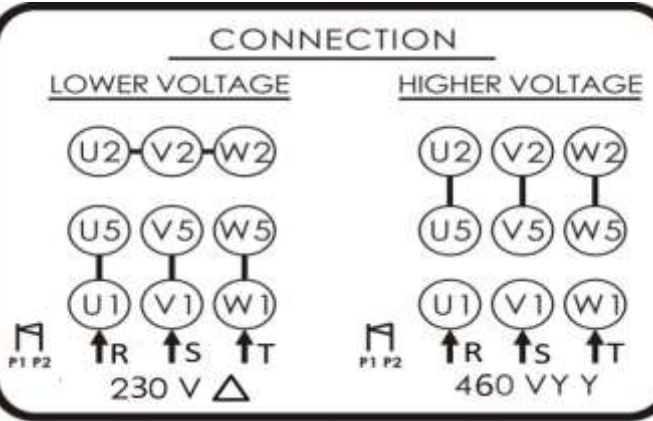
FDC-010P-5T(0.75 kW /1HP); FDC-020P-2T(1.5 kW /2HP)

Blower set Motor set	Motor impeller rotation direction	0.4 kW - 2.2kW	3.7kW
	Left Rotation	Standard Direction 1	
L			

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

Standard wiring diagram (L)

(0.5HP-5HP)

Single Phase(1Ø)	Three Phase(3Ø)
<p>0.4kW - 0.75kW (With 6 power wires)</p> <p>50Hz/60Hz 100V~120V 200V~240V</p>  <p>Model No. FDC-005P-5T; FDC-010P-5T</p>	<p>0.4kW - 3.7kW (With 6 power wires)</p> <p>50Hz/60Hz 220V/380V</p>  <p>Model No. FDC-005A-7W; FDC-010A-7W FDC-020A-7W; FDC-030A-7W FDC-050A-7W;</p>
<p>1.5kW (With 4 power wires)</p> <p>50Hz/60Hz 200~240V</p>  <p>Model No. FDC-020P-2T</p>	<p>0.4kW - 3.7kW (With 9 power wires)</p> <p>50Hz/60Hz 230V/460V</p>  <p>Model No. FDC-005A-7W; FDC-010A-7W FDC-020A-7W; FDC-030A-7W FDC-050A-7W;</p>
<p>Note: Standard wiring diagram(CCW reference)</p>	<p>Note: The standard incoming terminal wiring R, S, T corresponds to U, V, W.</p>

Special Rotation (R)

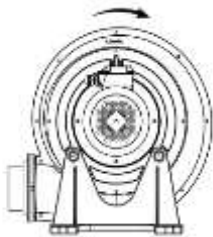

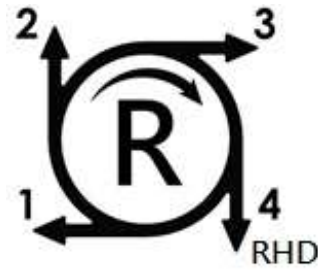
(0.5HP – 5HP)

FDC-005A-7W- RHD(0.4 kW /0.5HP); FDC-010A-7W-RHD(0.75 kW /1HP)

FDC-020A-7W-RHD(1.5 kW /2HP); FDC-030A-7W-RHD(2.2 kW /3HP)

FDC-050A-7W-RHD(3.7 kW /5HP); FDC-005P-5T-RHD(0.4 kW /0.5HP)

FDC-010P-5T-RHD(0.75 kW /1HP); FDC-020P-2T-RHD(1.5 kW /2HP)

Blower set Motor set	Motor impeller rotation direction	0.4 kW - 2.2kW	3.7kW
	Right Rotation	Outlet Direction	
R			

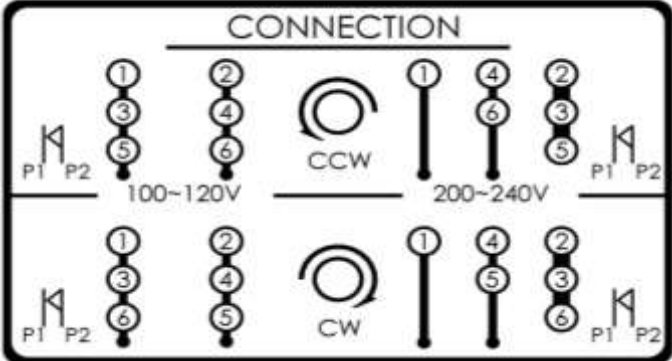
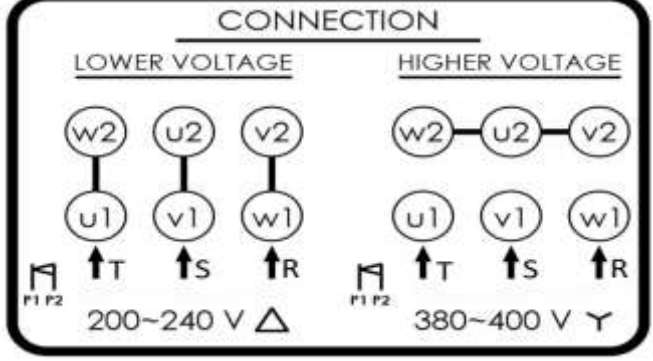
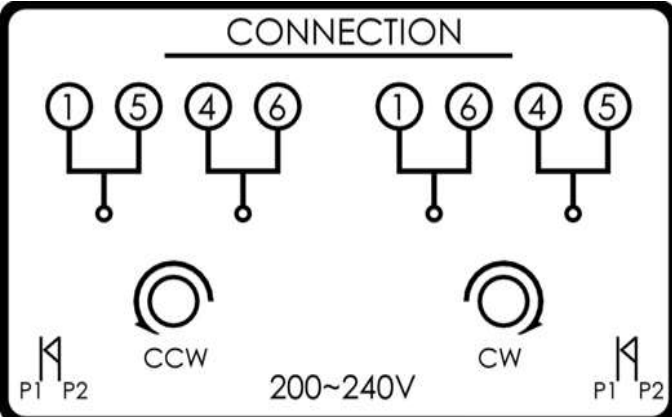
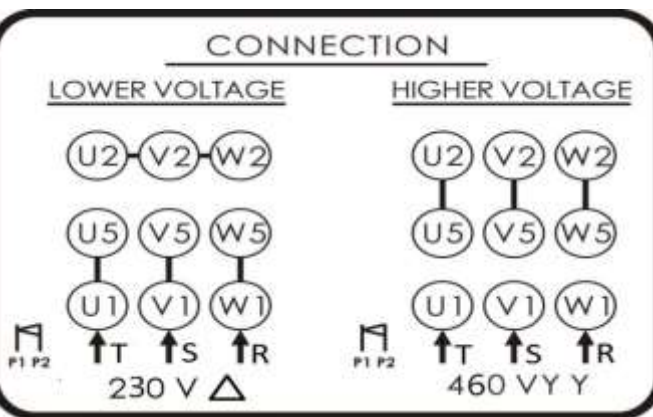
Note:

1. The blower rotation is judged from the motor side.

2. R1, R2, R3, R4(RHD) are specialized air outlet directions.

Special wiring diagram (R)

(0.5HP – 5HP)

Single Phase(1Ø)	Three Phase(3Ø)
<p>0.4kW - 0.75kW (With 6 power wires)</p> <p>50Hz/60Hz 100V~120V 200V~240V</p>  <p>Model No. FDC-005P-5T-RHD; FDC-010P-5T-RHD</p>	<p>0.4kW - 3.7kW (With 6 power wires)</p> <p>50Hz/60Hz 220V/380V</p>  <p>Model No. FDC-005A-7W-RHD; FDC-010A-7W-RHD; FDC-020A-7W-RHD FDC-030A-7W-RHD; FDC-050A-7W-RHD</p>
<p>1.5kW (With 4 power wires)</p> <p>50Hz/60Hz 200~240V</p>  <p>Model No. FDC-020P-2T-RHD</p>	<p>0.4kW - 3.7kW (With 9 power wires)</p> <p>50Hz/60Hz 230V/460V</p>  <p>Model No. FDC-005A-7W-RHD; FDC-010A-7W-RHD; FDC-020A-7W-RHD FDC-030A-7W-RHD; FDC-050A-7W-RHD</p>
<p>Note: Special wiring diagram(CW reference)</p>	<p>Note: The special incoming terminal wiring T, S, R corresponds to U, V, W.</p>

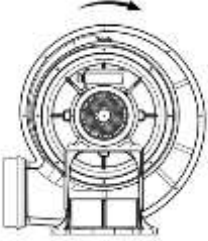
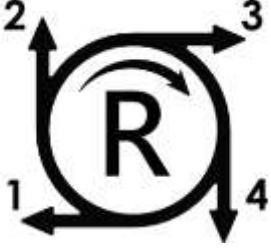
Standard Rotation (R)

(7.5HP – 25HP)

FDC-075A-7W(5.5 kW /7.5HP); FDC-100A-7W(7.5 kW /10HP)

FDC-150A-7W(11 kW /15HP); FDC-200A-7W(15 kW /20HP)

FDC-250A-7W(18.5 kW /25HP)

Blower set Motor set	Motor impeller rotation direction	5.5 kW – 18.5 kW
	Right Rotation	Standard Direction 1
R		

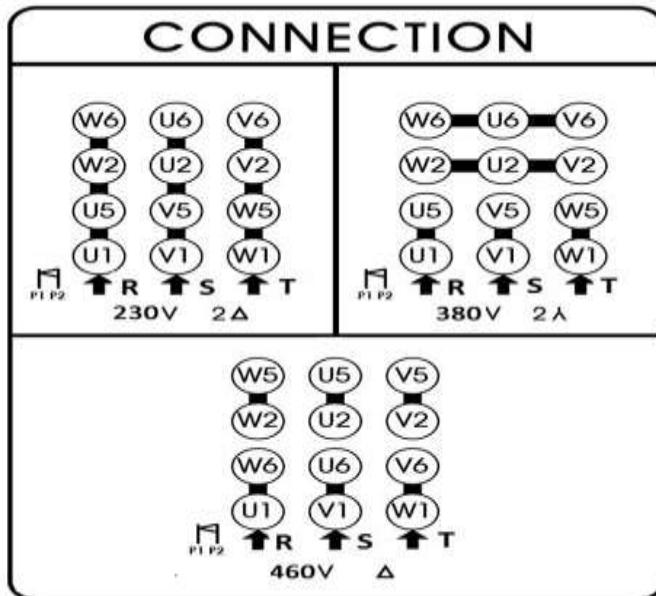
Note: The blower rotation is judged from the motor side.

Standard wiring diagram (R)

(7.5HP – 25HP)

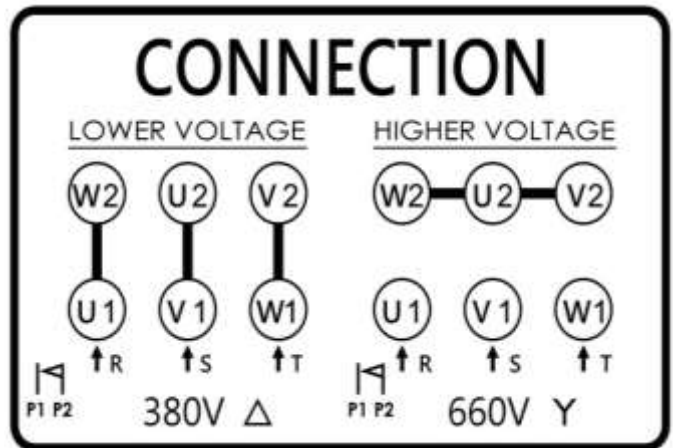
5.5kW – 15kW (With 12 power wires)

50Hz/60Hz 230V/380V/460V



18.5kW (With 6 power wires)

50Hz 380/660V



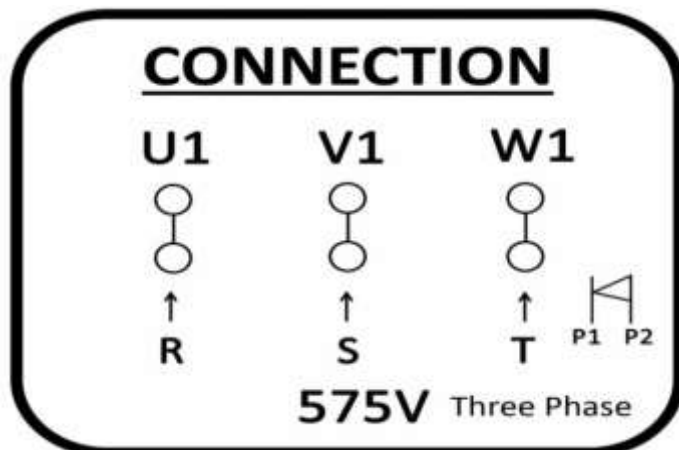
Model No. FDC-075A-7W(5.5 kW /7.5HP); FDC-100A-7W(7.5 kW /10HP);

FDC-150A-7W(11 kW /15HP); FDC-200A-7W(15 kW /20HP);

FDC-250A-7W(18.5 kW /25HP)

7.5kW (With 3 power wires)

60Hz 575V



Model No. FDC-100A-5W-RHD(7.5 kW /10HP)

Note: The standard incoming terminal wiring R, S, T corresponds to U, V, W.

Special Rotation (L)

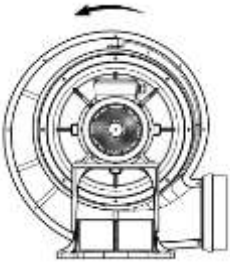
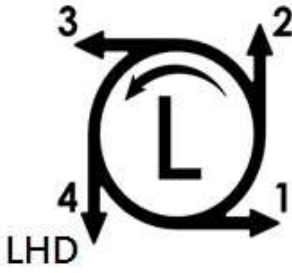
(7.5HP – 25HP)

FDC-075A-7W-LHD (5.5 kW /7.5HP); FDC-100A-7W-LHD (7.5 kW /10HP)

FDC-150A-7W-LHD (11 kW /15HP); FDC-200A-7W-LHD (15 kW /20HP)

FDC-250A-7W-LHD (18.5 kW /25HP)

FDC-075A-7W(5.5 kW) - FDC-250A-7W(18.5 kW)

Blower set Motor set	Motor impeller rotation direction	5.5 kW – 18.5 kW
	Left Rotation	Outlet Direction
L		

Note:

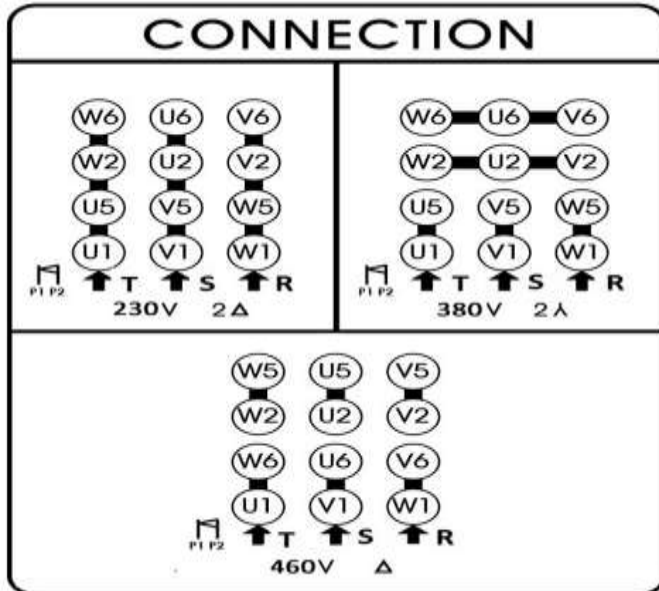
1. The blower rotation is judged from the motor side.
2. L1, L2, L3, L4(LHD) are specialized air outlet directions.

Special wiring diagram (L)

(7.5HP – 25HP)

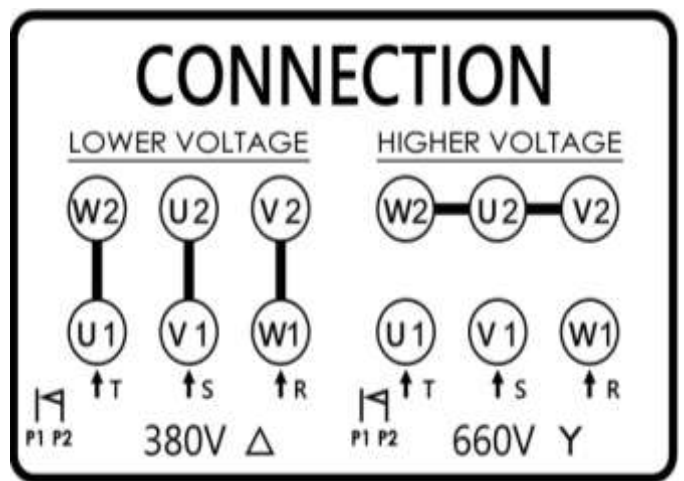
5.5kW – 15kW (With 12 power wires)

50Hz/60Hz 230V/380V/460V



18.5kW (With 6 power wires)

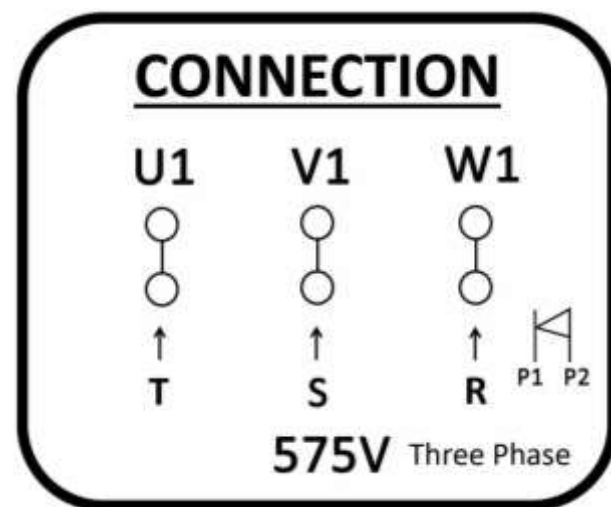
50Hz 380V/660V



Model No. FDC-075A-7W-LHD(5.5 kW /7.5HP); FDC-100A-7W-LHD(7.5 kW /10HP);
 FDC-150A-7W-LHD(11 kW /15HP); FDC-200A-7W-LHD(15 kW /20HP);
 FDC-250A-7W-LHD(18.5 kW /25HP);

7.5kW (With 3 power wires)

60Hz 575V



Note: The special incoming terminal wiring T, S, R corresponds to U, V, W.

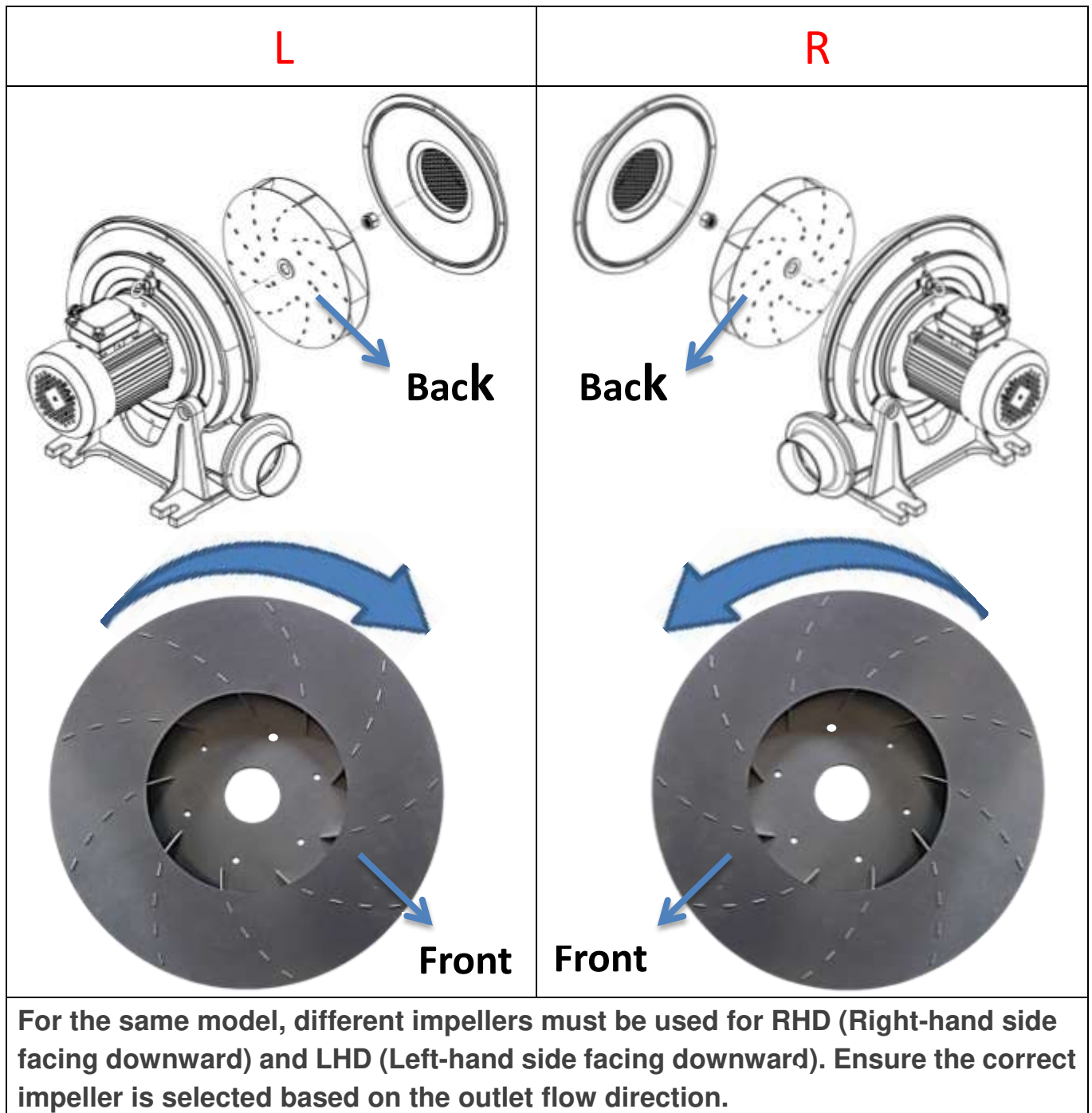
3.5.3 Operation method of changing outlet direction:

Remove the casing bolts and casing cover.

Rotate the housing to the desired position.

Re-assemble with casing bolts for final configuration.

Impeller



Caution

Unauthorized disassembly of the motor is strictly prohibited. If any abnormality occurs after modifying the outlet direction, immediately contact the nearest sales service center.

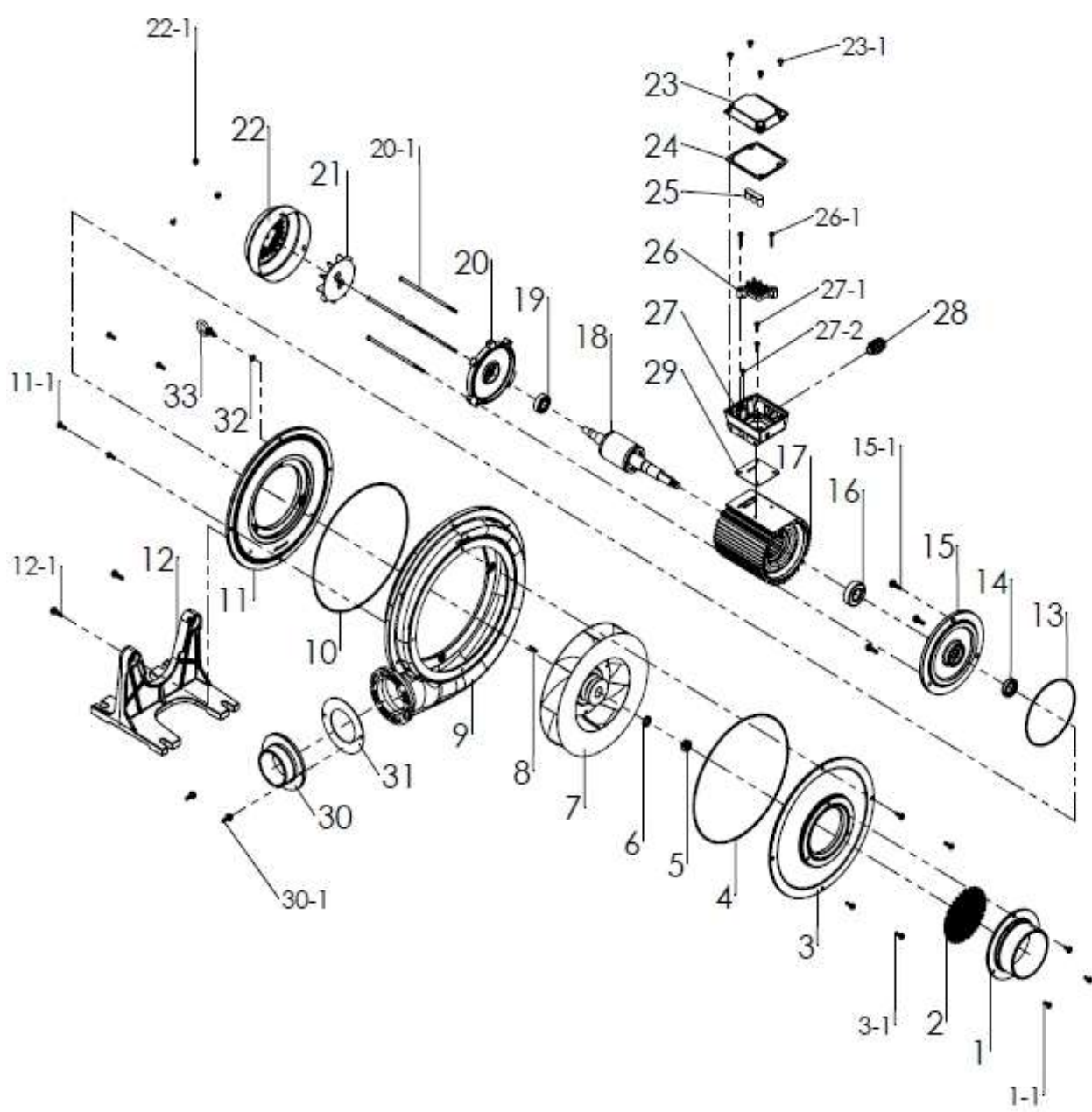
4. Trouble-shooting

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

5. Parts List

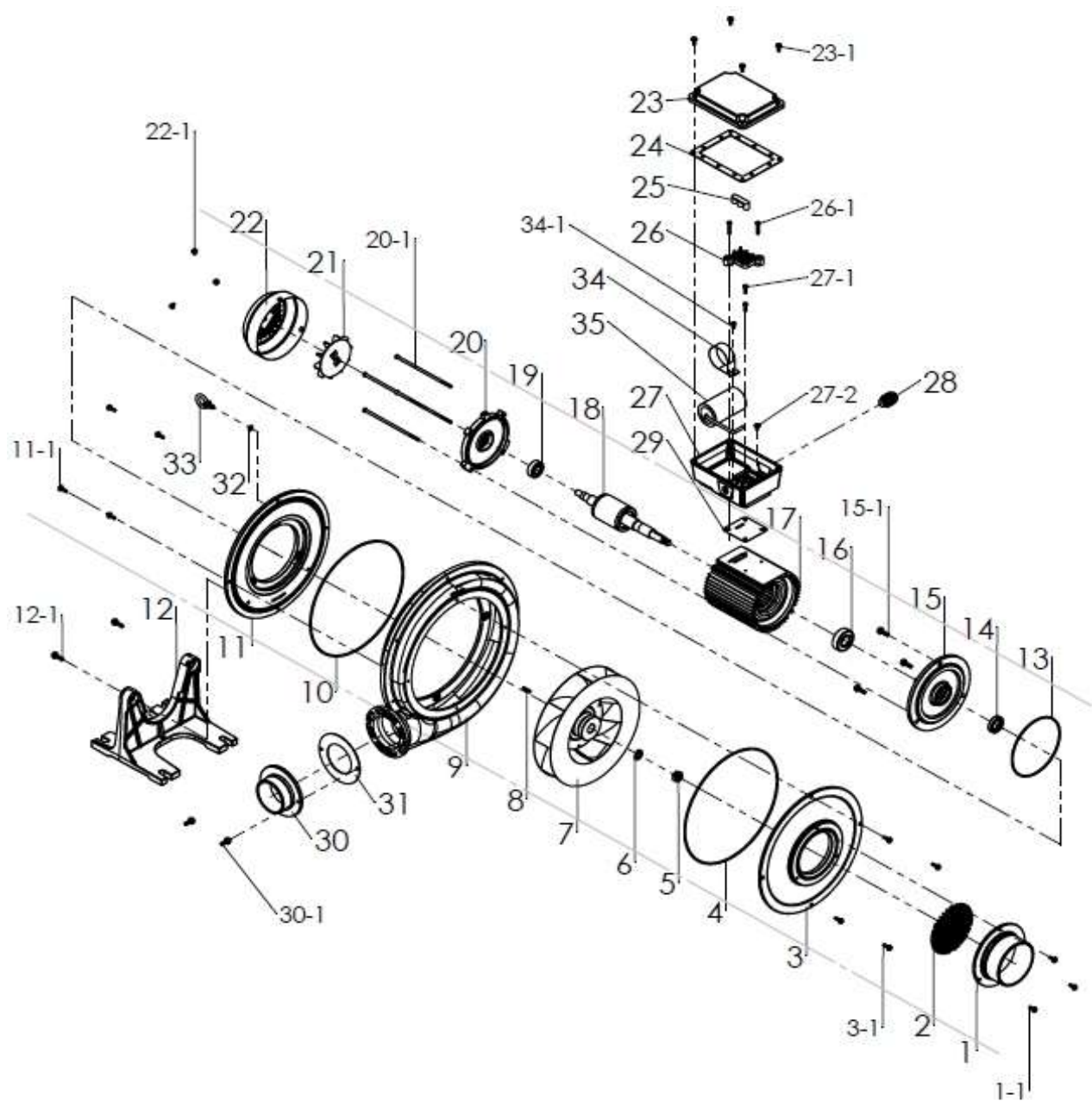
FDC-005A-7W - FDC-250A-7W (3Ø)

Fig. No.	Name of part	Fig. No.	Name of part
1	Inlet flange	24	Packing(Terminal box cover)
2	Filter mesh	25	Terminal board protected sleeve
3	Casing cover	26	Terminal board
4	O-ring	27	Terminal box
5	Nut	28	Cable gland
6	Spring washer	29	Gasket(Terminal box)
7	Impeller	30	Outlet flange
8	Pin	31	Gasket (Outlet flange)
9	Casing	32	Spring washer
10	O-ring	33	Eye bolt
11	Rear housing	1-1	Bolt (Inlet flange)
12	Mounting plate	3-1	Bolt (Casing cover)
13	O-ring	11-1	Bolt (Rear housing)
14	Oil seal	12-1	Bolt (Mounting plate)
15	Motor cover	15-1	Bolt (Motor cover)
16	Front bearing	20-1	Bolt (Motor rear cover)
17	Stator assembly	22-1	Bolt (Fan cover)
18	Rotor	23-1	Bolt (Terminal box cover)
19	Rear bearing	26-1	Bolt (Terminal board)
20	Motor rear cover	27-1	Bolt (Terminal box)
21	Cooling fan	27-2	Bolt (Ground wire)
22	Fan cover	30-1	Bolt (Outlet flange)
23	Terminal box cover		



FDC-005P-5T - FDC-020P-2T (1Ø)

Fig. No.	Name of part	Fig. No.	Name of part
1	Inlet flange	25	Terminal board protected sleeve
2	Filter mesh	26	Terminal board
3	Casing cover	27	Terminal box
4	O-ring	28	Cable gland
5	Nut	29	Gasket (Terminal box)
6	Spring washer	30	Outlet flange
7	Impeller	31	Gasket (Outlet flange)
8	Pin	32	Spring washer
9	Casing	33	Eye bolt
10	O-ring	34	Steel clip
11	Rear housing	35	Capacitor
12	Mounting plate	1-1	Bolt (Inlet flange)
13	O-ring	3-1	Bolt (Casing cover)
14	Oil seal	11-1	Bolt (Rear housing)
15	Motor cover	12-1	Bolt (Mounting plate)
16	Front bearing	15-1	Bolt (Motor cover)
17	Stator assembly	20-1	Bolt (Motor rear cover)
18	Rotor	22-1	Bolt (Fan cover)
19	Rear bearing	23-1	Bolt (Terminal box cover)
20	Motor rear cover	26-1	Bolt (Terminal board)
21	Cooling fan	27-1	Bolt (Terminal box)
22	Fan cover	27-2	Bolt (Ground wire)
23	Terminal box cover	30-1	Bolt (Outlet flange)
24	Packing (Terminal box cover)	34-1	Bolt (Steel clip)





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