



Electrostatic Air Cleaners

For Commercial & Industrial Applications

Installation

Operation

Maintenance



General Information

Please read this manual carefully before starting the installation of the air cleaner.

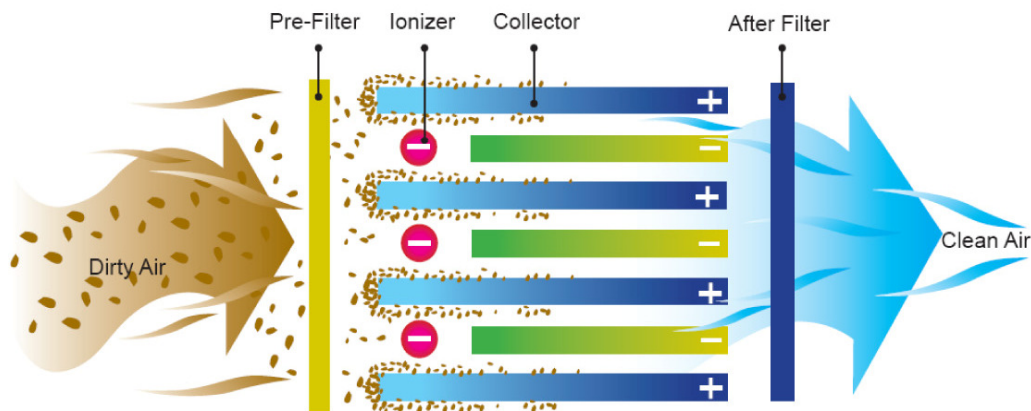
Installation should conform to all local laws and ordinances associated with building and electrical codes. Local authorities should be consulted if necessary.

SPECIFICATIONS

Model	Voltage	HP	Amps (max)	Ionizer Voltage Collector Voltage
RY2500	230VAC, 50 Hz Single Phase 120VAC, 60Hz Single Phase	50 Watts	0.5A 1A	12KVDC 6KVDC
RY5000	230VAC, 50 Hz Single Phase 120VAC, 60Hz Single Phase	90 Watts	0.8A 1.5A	12KVDC 6KVDC
RY7500A	230VAC, 50 Hz Single Phase 120VAC, 60Hz Single Phase	120Watts	1.0A 1.5A	12KVDC 6KVDC
RB2400	230VAC, 50 Hz Single Phase 120VAC, 60Hz Single Phase	1.5 Hp	6.5 A 12 A	12KVDC 6KVDC
RB4800	230VAC, 50 Hz Single Phase 120VAC, 60Hz Single Phase	1.5Hp	7.5 A 14 A	12KVDC 6KVDC
RB1000/A	230VAC, 50 Hz Single Phase 120VAC, 60Hz Single Phase	350Watt	1.8A 3.6A	6KVDC 12KVDC
RB700	230VAC, 50 Hz Single Phase 120VAC, 60Hz Single Phase	140 Watt	0.7A 1.4A	12KVDC 6KVDC
RY800	230VAC, 50 Hz Single Phase 120VAC, 60Hz Single Phase	40Watt	0.35A 0.7A	12KVDC 6KVDC

How Rydair Electrostatic Air Cleaner Work:

Contaminated air is drawn by the blower fan through a washable metal pre-filter which traps large dust particles. The remaining particles, some as small as 0.01 microns, pass into a strong electrical field (ionizing section) where the particulate receives an electrical charge. The charged particles then pass into a collector plate section made up of a series of equally spaced parallel plates. Each alternate plate is charged with the same polarity as the particles, which repel, while the interleaving plates are grounded, which attract and collect the contaminants. The contaminants are held in these plates until they are



Polluted air is drawn into the electrostatic cells by belt driven blower for RB2400 and RB4800. RY2500 and RY5000 requires external fan to move polluted air into the unit.

INSTALLTION:

RydAiR Electrostatic Air Cleaners may be installed in various ways: Free Hanging, Frame Mounted or Seated on floor platform. Whichever method is used, please ensure you comply with local ordinances and practices.

The RY and RB series are designed to allow for multiple units to be stacked on top of each other to achieve the required air volume. Each unit has a drain hole sump , so an insulation / padding of 10mm must be provided in between the units when they are stacked on top of each other.

Remove Ionizer cells and pre-filters before installation. The units may be flipped over 180 degrees to ensure correct airflow. When the unit is flipped over, ensure that the cell access door cover is also changed to have the ventilation louvers facing downwards. The cover can be opened by unscrewing the 4 nuts at the back of the cell access door.

When installing the units care should be taken to ensure that there is adequate clearance for the cell access door to be opened and cells to be removed for maintenance. This is especially important in tight areas or when the units are installed inside or above false ceilings.

The RB models are designed for stand alone applications as well as for limited duct system applications. Ducts cannot be too long and must be carefully designed to minimize external static pressure in order to move the required amount of air through the unit.

Ducting, when attached to the unit air intake area or blower outlet collar, must be properly attached and gasket or caulked to prevent air leakage. To maintain optimum efficiency, the total air volume must be distributed evenly across the entire surface of the air intake area of the unit.

For proper sizing and installation of hoods and ducts, please refer to the Industrial Ventilation handbook, or consult your **RydAiR** distributor who may be able to provide advice on this matters.

WARNING: This unit is operating on high voltage. Please exercise extra precaution when working with this unit and ensure you comply with local electrical codes

PREPARING TO START UP MACHINE :

When installation is completed, ensure that the cell is clear of debris before inserting them into the machine.

Ensure that power is properly connected to the machine's junction box.

OPERATION:

When the unit is turn on there may be a crackling or arcing sound. This is normal as dust is being sucked into the cells which is now energized at 12KV.

The indicator lights will come on and they indicate the following:

Green Light is on:	Unit is functioning normally
Red Light Flickers:	Unit is arcing/crackling as some dust is being trapped. Flickering should stop after a short while
Both Red and Green Light s On:	Cell is dirty. Maintenance/cleaning of cells is required.
Red Light On:	Power Pack automatically turned off due to prolonged usage without maintenance/ cleaning of cells.
Both Lights are off:	Air Cleaner System is faulty. Call for service.

Maintenance:

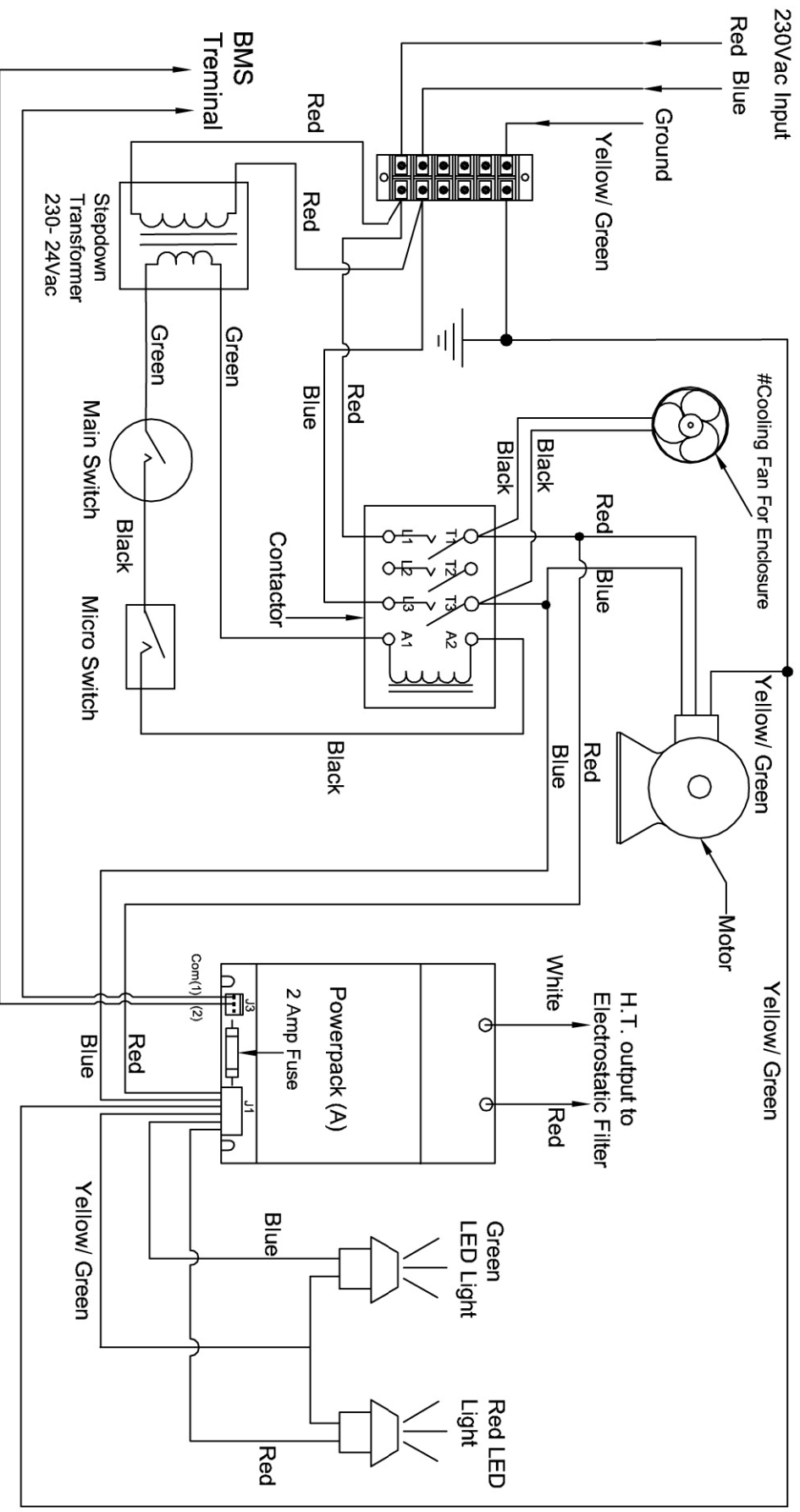
Warning High Voltage: Risk of Electric shock

To reduce risk of electric shock, do not perform any other servicing other than contained in this manual, unless you are qualified to do so.

1. Turn power switch off and disconnect power to the unit.
2. Open the cell access door.
3. Remove pre-filter
4. Remove cell(s)
5. Remove oil/grease from the base of the unit by scooping it up or with paper towels.
6. Soak pre-filter and cells in detergent water. Alkaline degreasers may be used.
7. Care should be taken so as not to damage the ionizing tungsten wires
8. Rinse pre-filters and cells thoroughly and let dry. Inspect for bent plates or broken tungsten ionizing wires.
10. Leave cells and pre-filters to drip-dry in open area or use blower fan to dry up both parts
11. Replace the pre-filters and cells, ensuring that they are in the correct airflow position.
12. Close cell access door
13. Power up the unit.
14. If arcing occurs, the cells may still be damp. Turn off unit and allow cells to dry .

To ensure optimum efficiency, the cells must be cleaned periodically. Failure to do so may cause damage to the cells as well as making it a fire hazard.

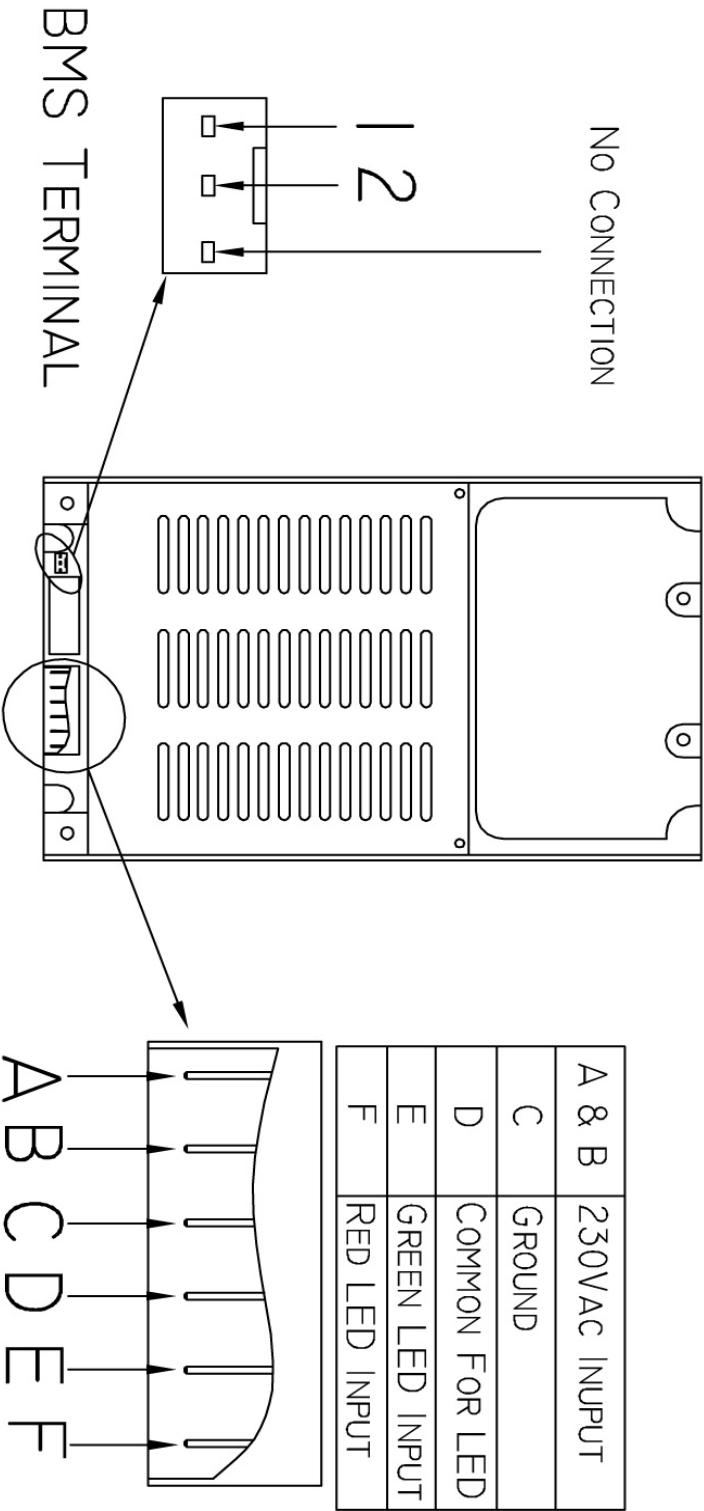
Frequency of cleaning is dependent on the level of usage as well as the type of contaminants collected. Periodic inspection of the unit to determine cleaning frequency is recommended .



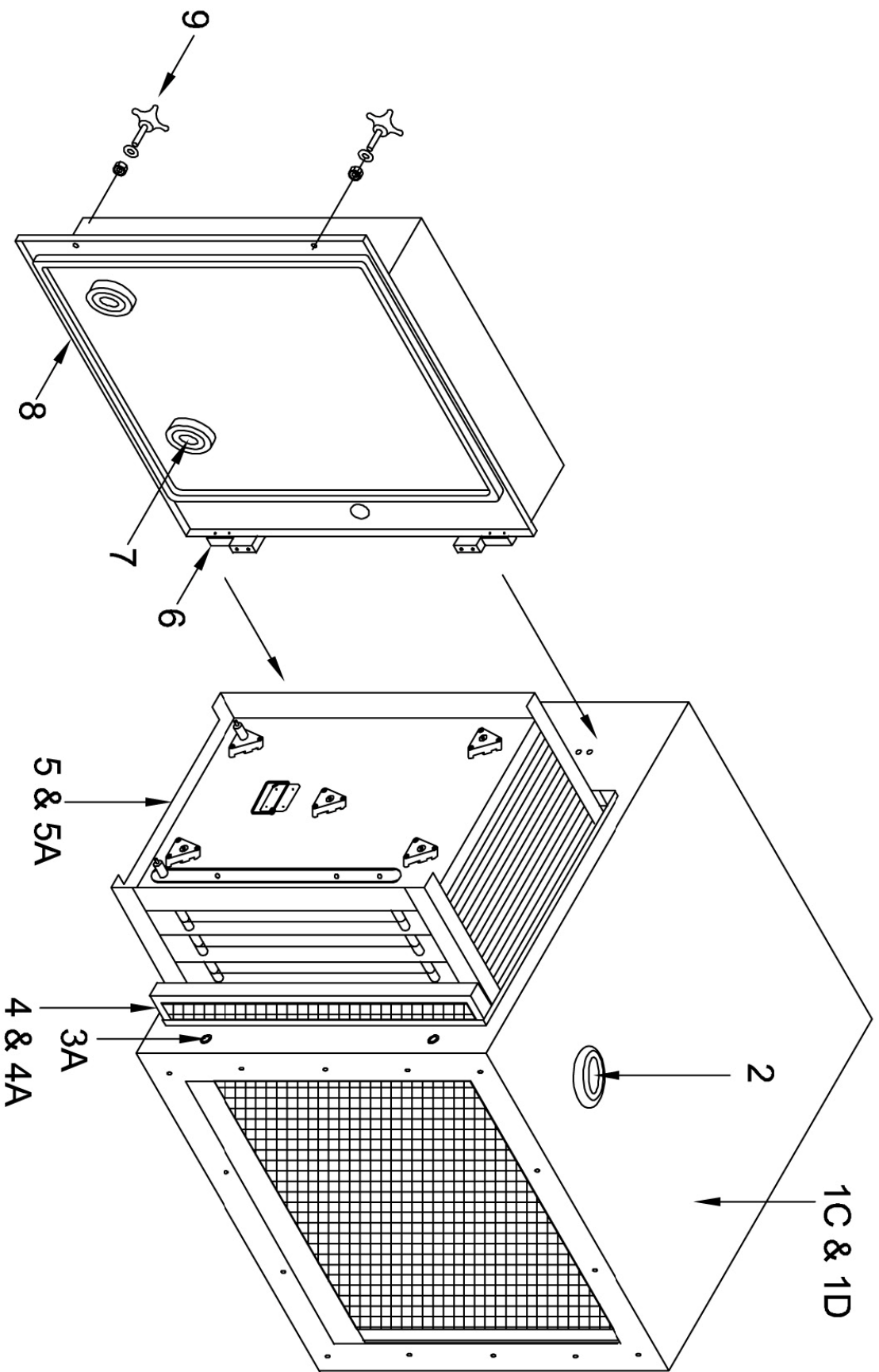
RydAir RB700, RB1000, RB1000A, RB2400 & RB4800 Circuit Diagram

Red LED Light	Green LED Light	Remarks
Off	ON	Normal Operation mode
ON	ON	Cell dirty- Cleaning required
ON	Off	1) Powerpack output H.T. voltage tripped, cell cleaning required before the H.T. can be restored. 2) Cell H.T. contacts Do Not Contact with powerpack H.T. output Terminal Contacts.
Off	Off	System faulty, Please call for Service
BMS Relay Contract Rating (J3)		1A 24Vdc / 120Vac
# Cooling Fan For Enclosure		Not For RB700, RB1000 & RB1000A

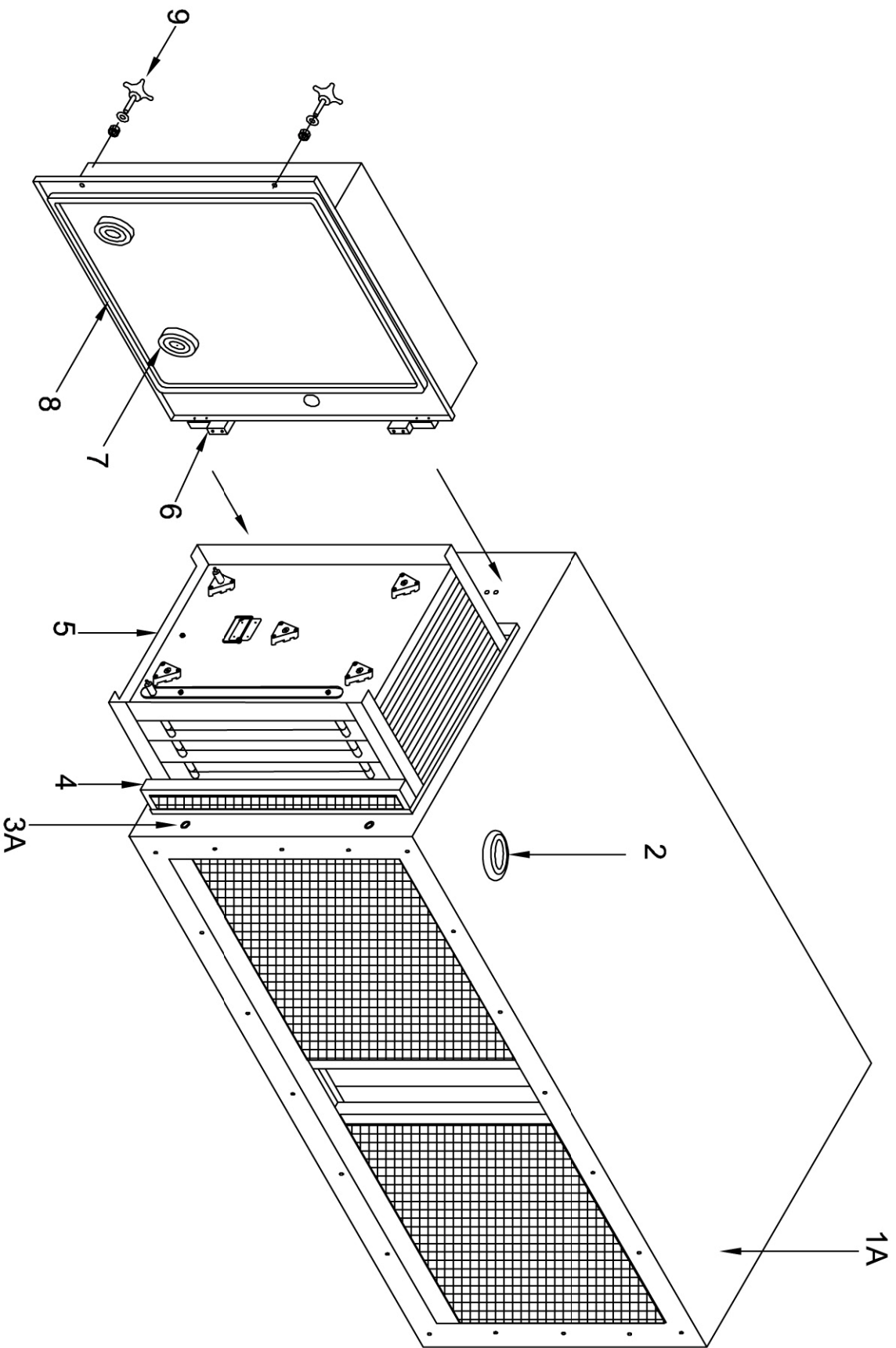
	RED LED	GREEN LED	TERMINAL 1 & 2
NORMAL OPERATION	OFF	ON	OPEN
FAULTS	ON	OFF	CLOSE
BMS RELAY CONTACT RATING	1A 24VDC / 120VAC		



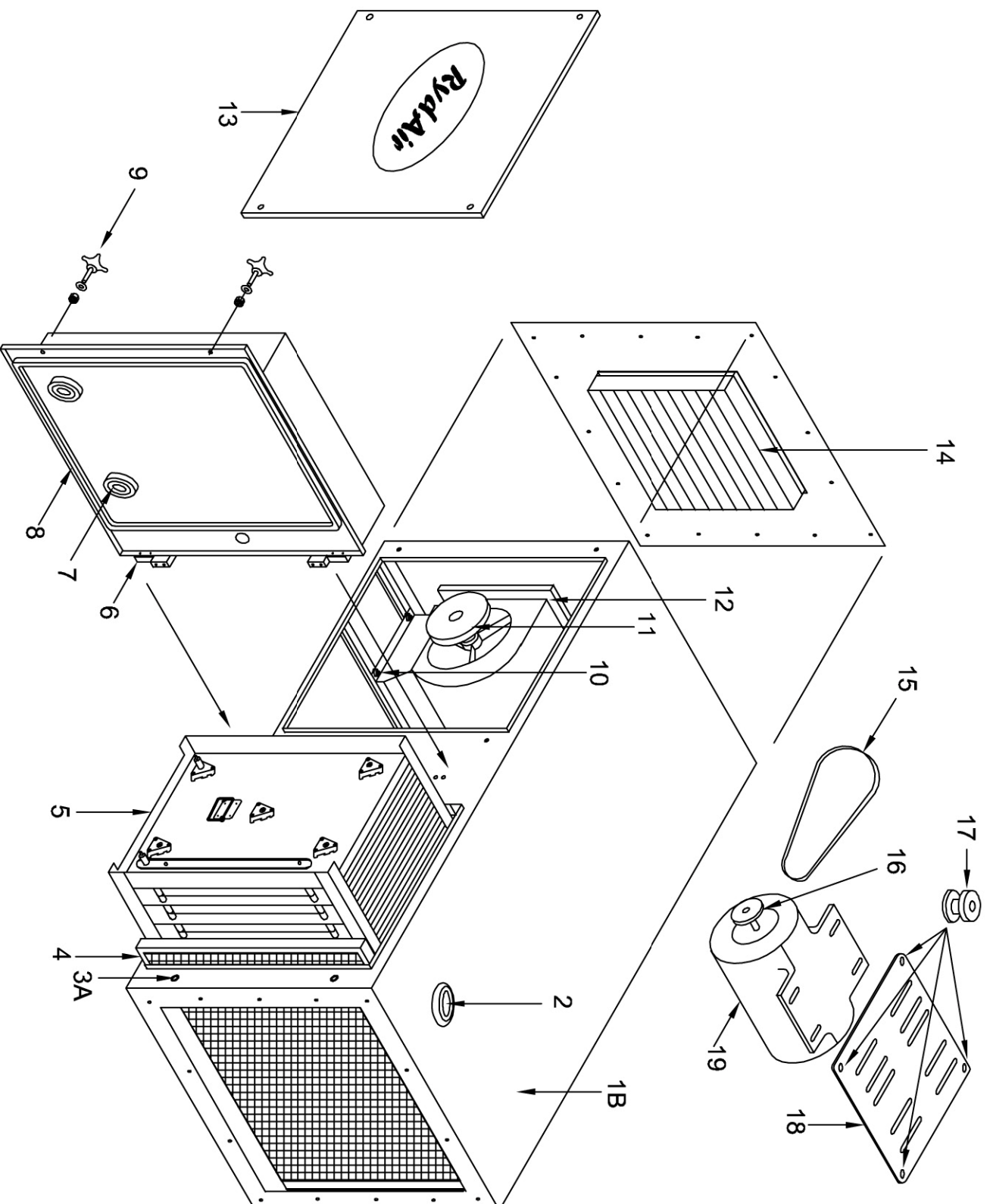
WIRING TERMINALS FOR **Rydair** RY & RB MODELS POWER PACK



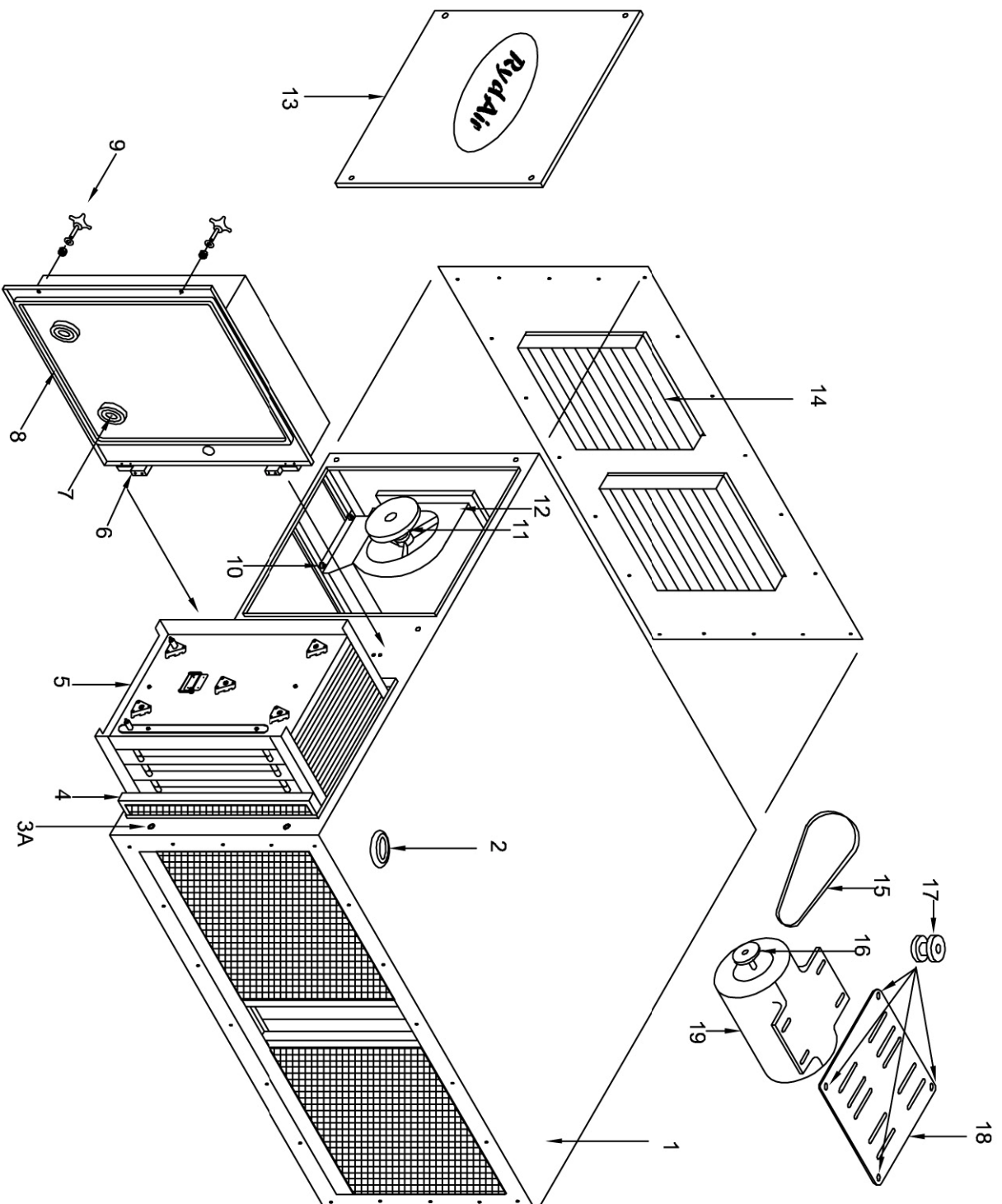
Rydair Electronic Air Cleaner Model RY2500 & RY2500A



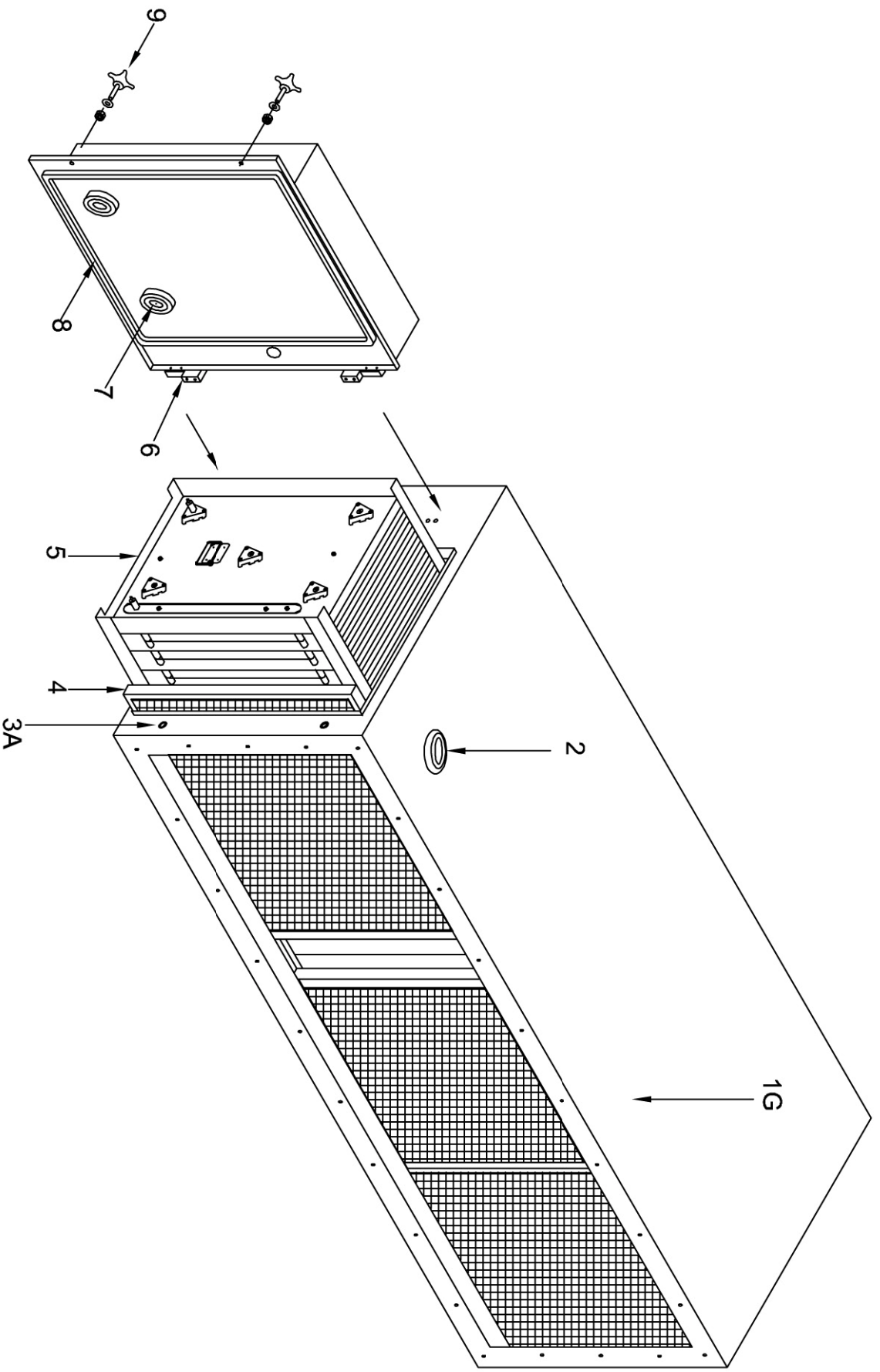
***Rydair* Electronic Air Cleaner Model RY 5000**



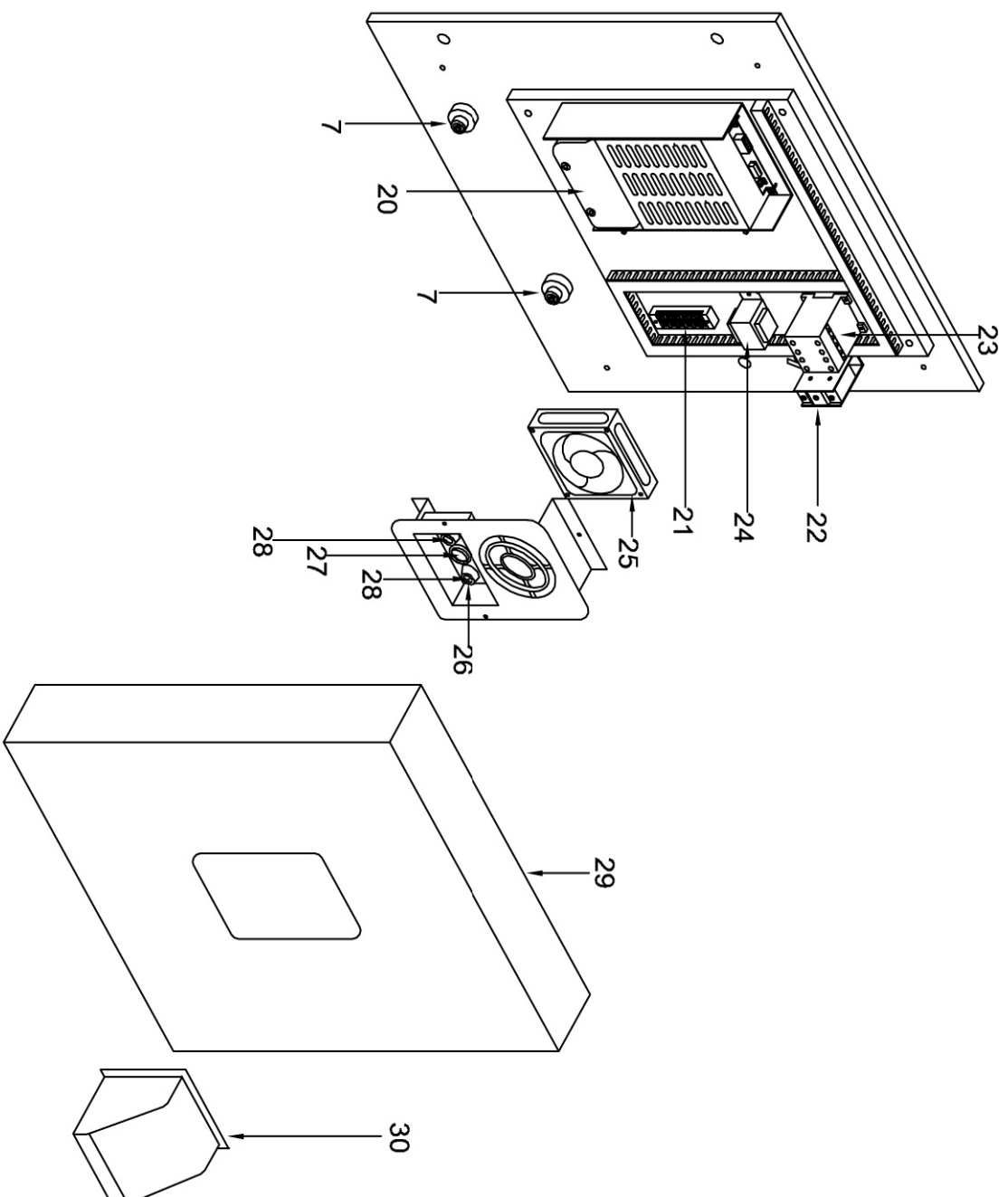
Rydair Electronic Air Cleaner Model RB2400



Rydair Electronic Air Cleaner Model RB4800



Rydair Electrostatic Air Cleaner Model RY 75000A



Rydair RB & RY Component Panel

Parts Catalogue: Rydair RY & RB Models

Revised Date: 18 Oct 2010

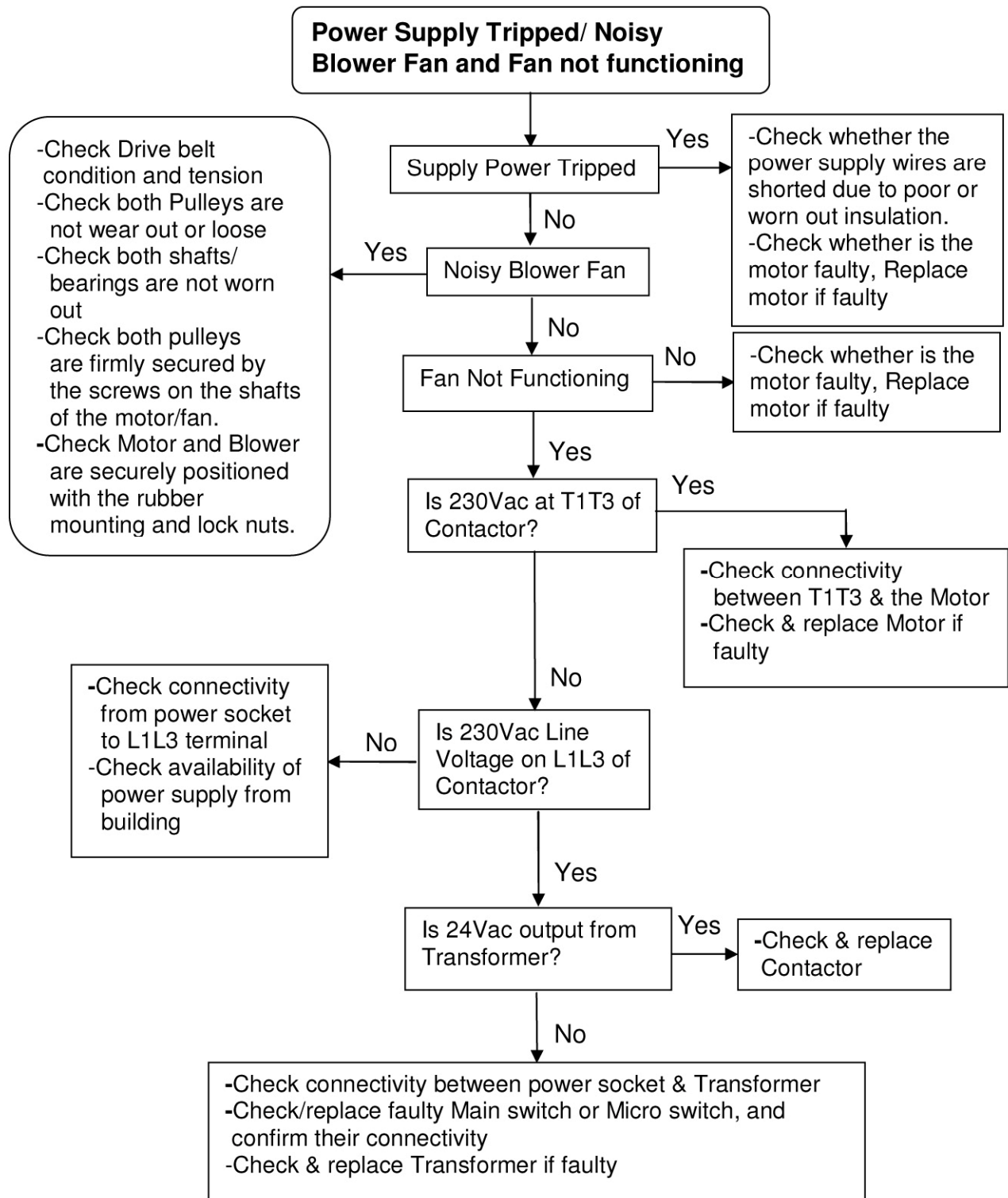
No	Description	Part No	RB4800 Qty	RY5000 Qty	RB2400 Qty	RY2500 Qty	RY2500A Qty	RY7500A Qty	RB1000A Qty	RB1000 Qty
1	Rydair Electrostatic Air Cleaner Unit Model RB4800	12-9002-00	1							
1A	Rydair Electrostatic Air Cleaner Unit Model RY5000	10-9001-00		1						
1B	Rydair Electrostatic Air Cleaner Unit Model RB2400	13-9004-00			1					
1C	Rydair Electrostatic Air Cleaner Unit Model RY2500	11-9003-00				1				
1D	Rydair Electrstatic Air Cleaner Unit Model RY2500A	14-9004-00					1			
1E	Rydaor Electrostatic Air Cleaner Unit Model RY7500A	19-9000-00						1		
1E	Rydair Electrostatic Air Cleaner Unit Model RB1000A	15-9000-00							1	
1F	Rydair Electrostatic Air Cleaner Unit Model RB1000	16-9005-00								1
2	Drain Plug Cap	60-S000-00	2	2	2	2	2	2	2	2
3	Cage Nut (M8)	60-0002-00	2	2	2	2				
3A	POP Nuts	60-0003-00					2	2	2	2
4	Pre-Filter (555W x 480H x 20T)	50-0002-00	2	2	1	1				
4A	Pre-Filter (525W x 480H x 20T)	50-0003-00					1	3		
4B	Pre-Filter (470W x 238H x 20T)	50-0004-00							1	1
5	Electrostatic Cell Assembly (9 Wires)	50-0001-01	2	2	1	1				

No	Description	Part No	RB4800 Qty	RY5000 Qty	RB2400 Qty	RY2500 Qty	RY2500A Qty	RY7500A Qty	RB1000A Qty	RB1000 Qty
5A	Electrostatic Cell Assembly (8 Wires)	50-0005-02					1	3		
6	Access Door Hinges Assembly- E cell	60-0001-03	2	2	2	2	2	2	4	4
7	Insulator assembly for H.T. Terminal	40-0004-04	2	2	2	2	2	2	2	2
8	Access Door Gasket Assembly E-cell	60-0004-05	1Set	1 Set	1Set	1Set	1Set	1Set	1Set	1Set
9	Door Knobs	60-0005-06	2	2	2	2	2	2	2	2
10	Rubber Mounting Fan	60-0006-07	4		4					
11	Pulley- Fan side 180 / 25	30-0001-08	1		1					
11A	Pulley- Fan side 170 / 25	30-0002-08								
11B	Pulley- Fan side 160/ 25	30-0003-08								
11C	Pulley- Fan side 130/ 25	30-0004-08								
12	Centrifugal Fan Assembly (Twin)	30-0031-00	1							
12A	Centrifugal Fan Assembly (Single)	30-0032-00			1					
12B	Centrifugal Fan Assembly (Direct Drive Double Inlet 2P)	30-0033-09							1	1
13	Access Door – Fan Housing	20-0001-00	1		1					
14	Exhaust Grill (Double Deflection type)	20-0002-00	2		1					
15	Drive Belt (A41)	30-0021-10	1		1					
15A	Drive Belt (A42)	30-0022-10								
15B	Drive Belt (A43)	30-0023-10								

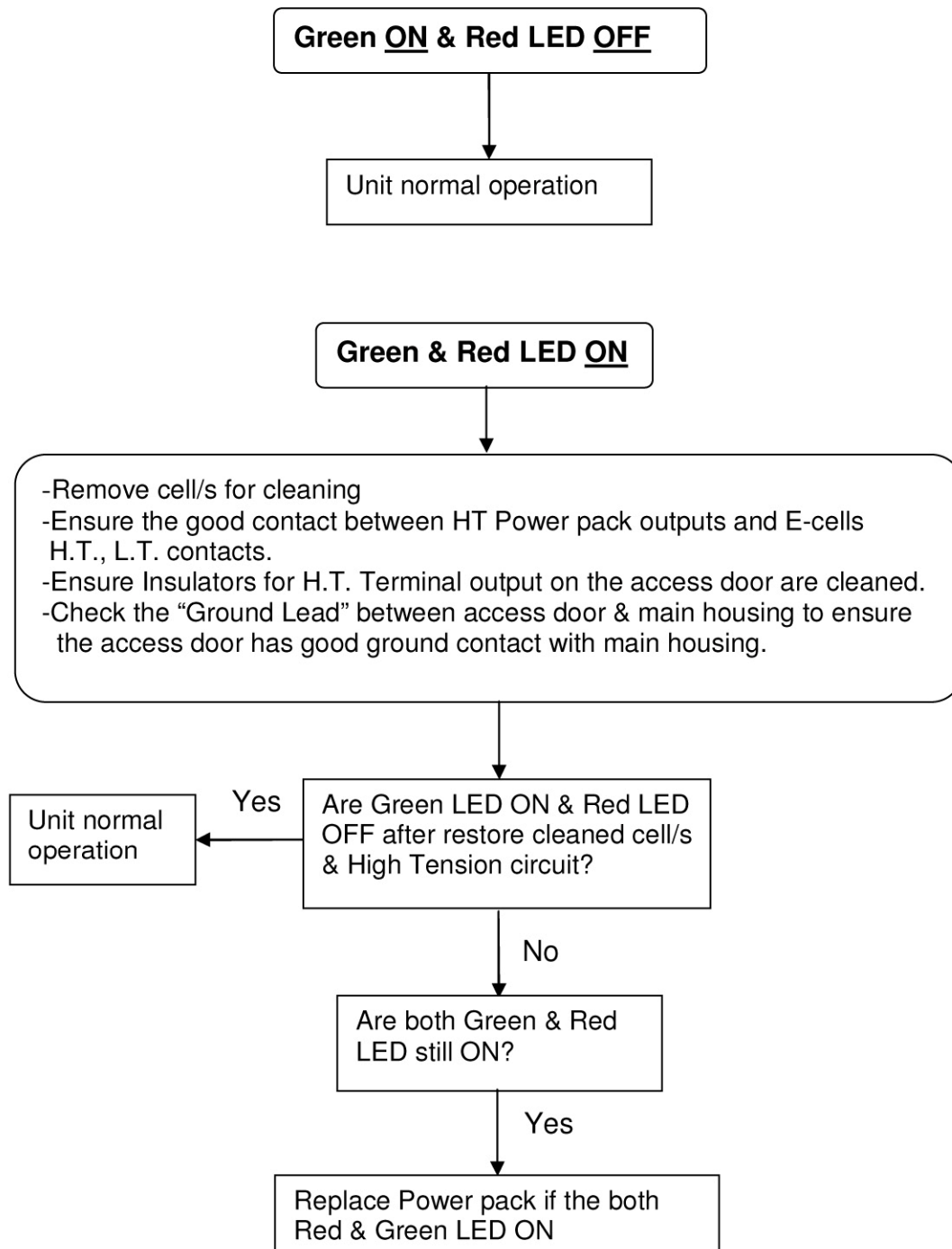
No	Description	Part No	RB4800 Qty	RY5000 Qty	RB2400 Qty	RY2500 Qty	RY2500A Qty	RY7500A Qty	RB1000A Qty	RB1000 Qty
15C	Drive Belt (A44)	30-0024-10								
15D	Drive Belt (A45)	30-0025-10								
16	Pulley – Motor side 63 / 19	30-0011-11	1		1					
16A	Pulley- Motor side 75 / 19	30-0012-11								
16B	Pulley- Motor side 100/ 19	30-0013-11								
17	Rubber Mounting Motor	60-0006-07	4		4					
18	Mounting Plate- Motor	30-S014-12	1		1					
19	Motor Single Phase 230Vac 1 horse power 4 poles	40-0001-13								
19A	Motor Single Phase 230Vac 1.5 horse power 2 poles	40-S000-13	1		1					
20	High Frequency H.T. Power Supply (-)	40-0006-14								
20A	High Frequency H.T. Power Supply (+)	40-0012-14	1	1	1	1	1	1	1	1
21	Terminal Block 6 ways	40-0007-00	1	1	1	1	1	1		
22	Micro Switch	40-0005-15	1	1	1	1	1	1	1	1
23	Contacto 24Vac	40-0009-16	1	1	1	1	1	1	1	1
24	Step-down Transformer 230/24Vac (15VA)	40-0003-17	1	1	1	1	1	1	1	1
25	Panel Cooling Fan 230Vac	40-0010-18	1	1	1	1	1	1		
26	Indicator LED Housing	40-0008-19	2	2	2	2	2	2	2	2
27	ON/ Off Switch	40-0011-20	1	1	1	1	1	1	1	1

No	Description	Part No	RB4800 Qty	RY5000 Qty	RB2400 Qty	RY2500 Qty	RY2500A Qty	RY7500A Qty	RB1000A Qty	RB1000 Qty
28	Indicator LED Assembly (Green & Red)	40-0002-00	1	1	1	1	1	1	1	1
29	Door Cover	10-0002-00	1	1	1	1	1	1		
30	Rain Shield (Optional)	60-S007-21								

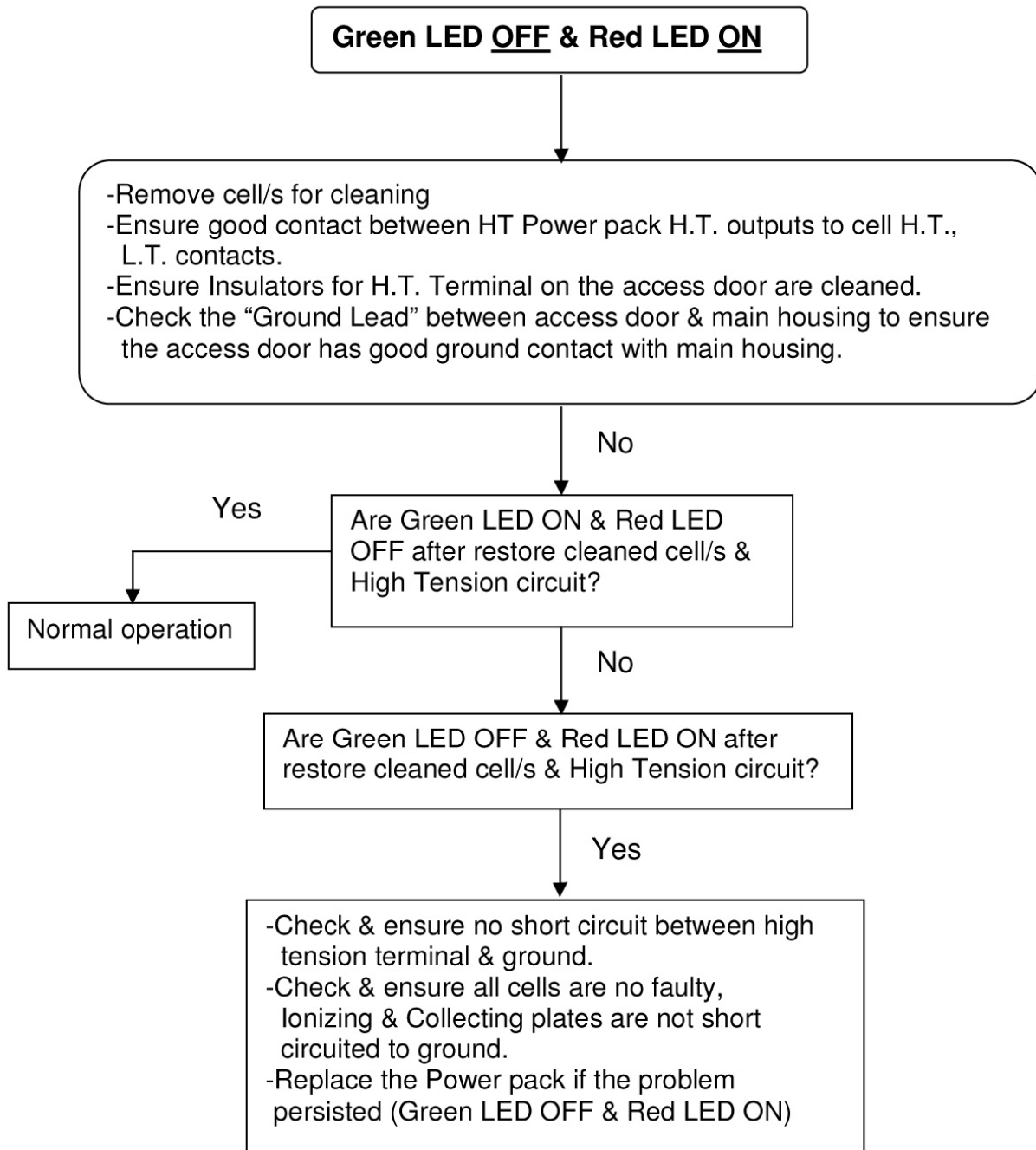
Trouble Shooting – Blower Section



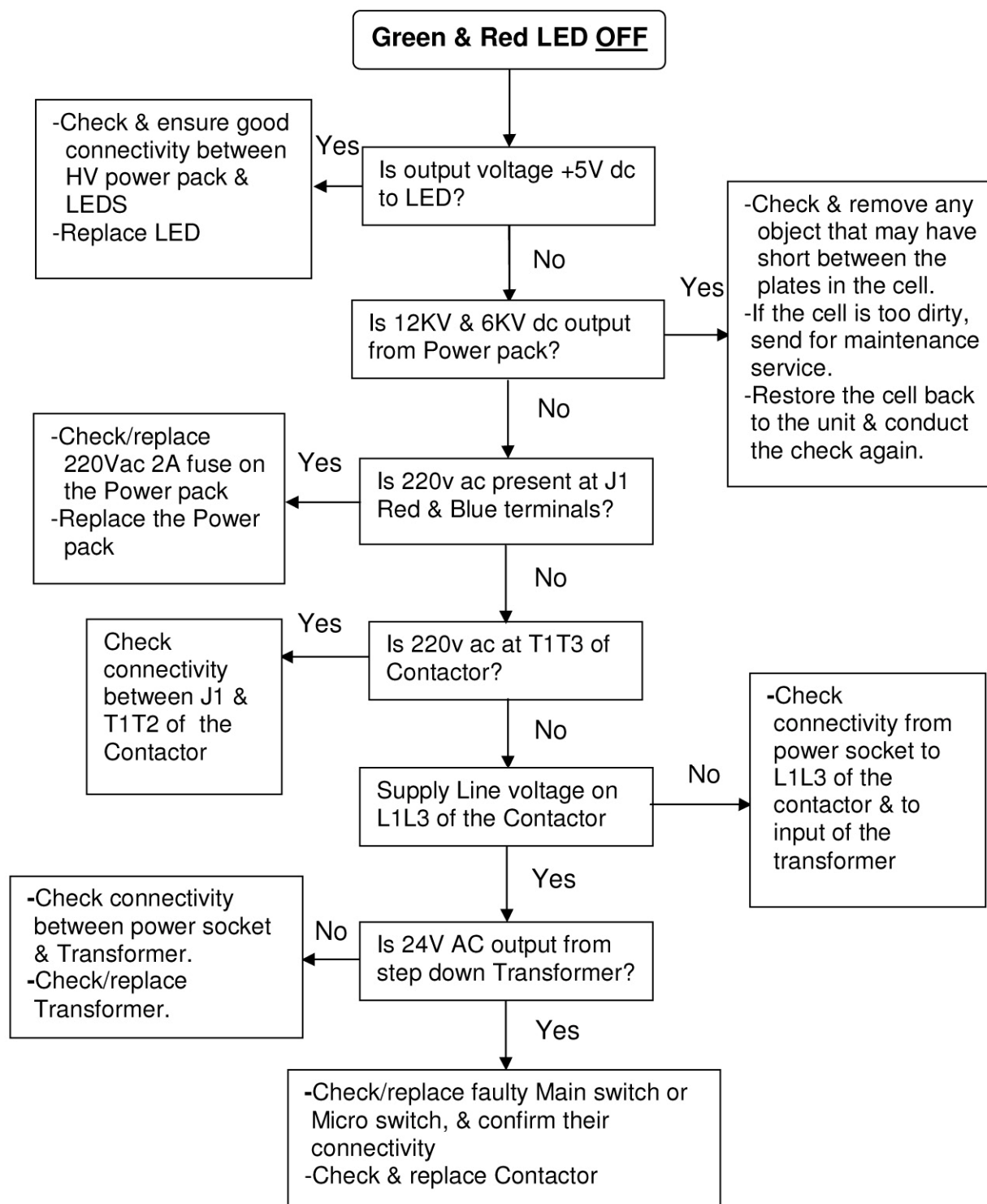
Trouble Shooting – Control Panel LED Indication-1



Trouble Shooting – Control Panel LED Indication-2



Trouble Shooting – Control Panel LED Indication -3





IMPORTANCE NOTE:

2 CAP PLUGS PROVIDED MUST INSERT ON TO THE TOP & BOTTOM OF THE MACHINE HOUSING BEFORE INSTALLATION

