



ELECTRONIC AIR CLEANER / PURIFIER (CEILING MOUNTED)

DM900N-DC/DM450N



INSTRUCTION MANUAL

HIGH VOLTAGE EQUIPMENT! FOLLOW INSTRUCTIONS INSIDE.

INTRODUCTION

DM900N-DC

DM900 Electronic air cleaners are designed to remove airborne particulates like dust, cigarette smoke, dirt, pollen, spores, bacteria, etc from indoor air. It is basically a 4 stage filter/purifier: a wire mesh pre-filter, an ionizing section, a collecting section and a UVC lamps that irradiates and disable viruses and bacteria.

Both units are designed to be used indoors (ceiling mounted) for cleaning /purifying and re-circulating indoor air. These features make them ideal for use in offices, restaurants, schools, conference rooms, smoking rooms, waiting rooms, and generally in places where people gather.

A further advantage of these units is that contaminated air in the premises can be cleaned and re-circulated without any loss or air conditioning or heating in the room.

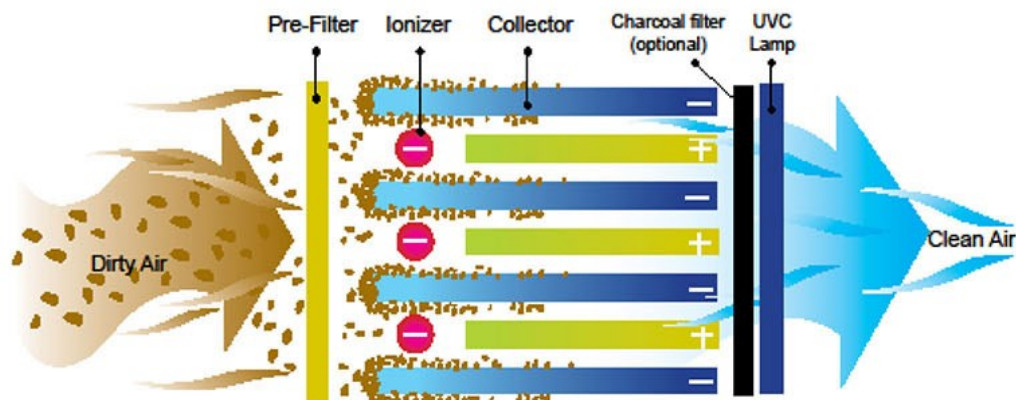
How They Work

The DM900 works on the principle of Electrostatic Precipitation.

Contaminated air is drawn through the filters by the blower in the unit. As the dirty air passes through the mesh pre-filters, large particles like lint, hair etc are trapped, the resulting air then passes through the high voltage ionizing section where the dust particles are given a positive charge, from the tungsten wires attached to the air cleaner. The charged particles are collected on the collector plates which are charge negatively or grounded, thereby removing the dust particles from the airstream.

An UVC lamp inside the unit purifies the cleaned air further by destroying the DNA of any smaller bacteria or viruses that may have slipped through the first filters.

HOW ELECTRONIC AIR CLEANERS WITH UVC WORKS



PRE-INSTALLATION

DM450N & DM900N-DC is designed to be ceiling mounted and flushed with the ceiling.

Before Installation:

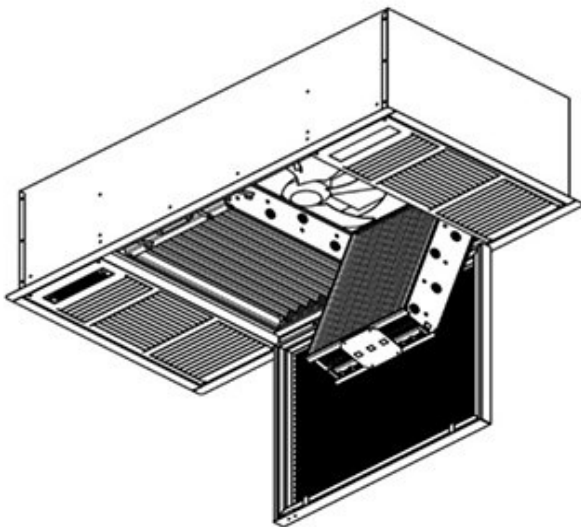
Unscrew 10 retaining screws (2 for DM450N) on the grills.

Unhinge and detach the grills completely.

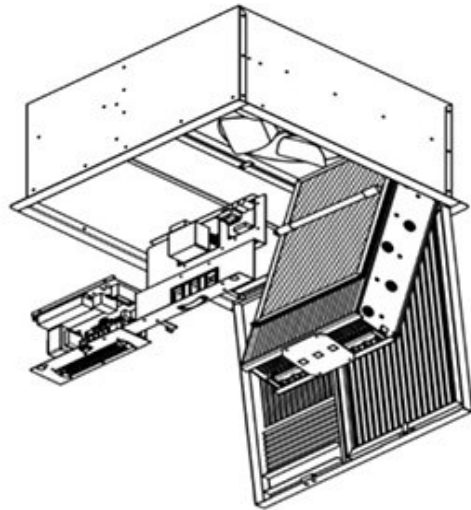
Remove the Cells and Charcoal Filters (if any).

You now have free access to the base of the unit for installation.

Care should be taken during preparation and installation, to avoid damage to the flange of the units.



DM900N-DC



DM450N

CAUTION:

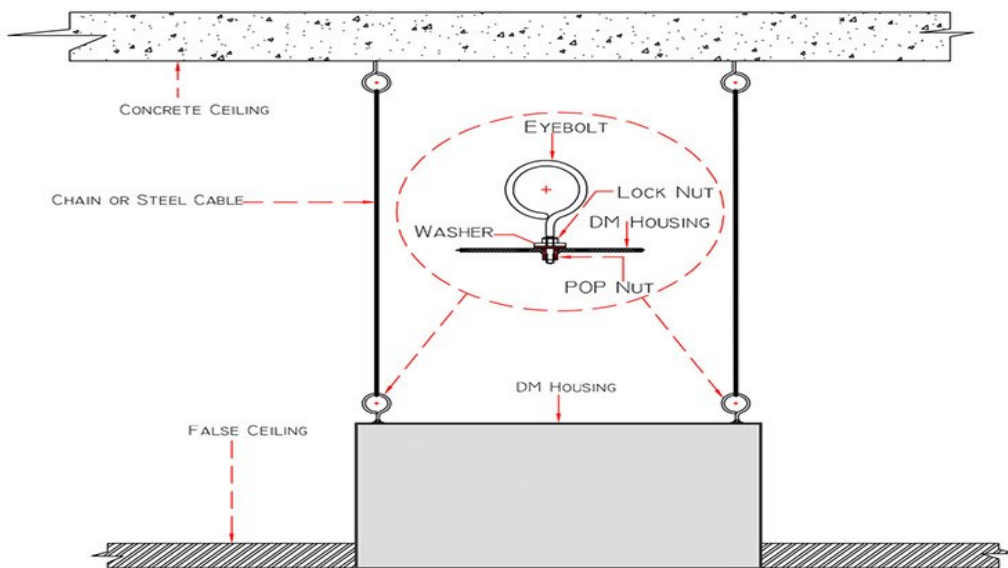
You are handling a machine that produces up to 8,000 Volts.

Turn off power when installing and replacing of any parts.

INSTALLATION

4 Screw Threaded Holes (M6 size) are provided for installation using eyebolts or other alternative fasteners , in conjunction with steel wires or chains, fastened to the permanent ceiling.

Users can however choose to install the unit with metal rods or other methods in accordance with local practices.



After installation, the following sequence of components to be replaced is: Charcoal Filter (if any) Cells and Pre filter (attached to inlet grill)

Ensure Cells are installed with the ionizing wires facing downwards.



Ensure the Retaining Brackets are fully withdrawn to hold the cells in Place

Electrical: Unit should be grounded.

Unit should not be installed too near to entrances or exits as the airflow may be disrupted by drafts from outside.

OPERATION

Using the remote control, press the on/off switch to turn on the unit. The fan speed will start in 2nd speed mode, the air cleaner, UVC and Anion functions are automatically switched on. Toggling the speed button lets you set the desired speed.

The timer will let you run the unit in increments of one hour. Pressing the key once will keep the unit running for 1 hour, twice for 2 hours, 3 times for 3 hours and 4 times for 4 hours. The default is 4 hours. Pressing it 5 times will let the unit run continuously.

The Anion (Negative Ions) and UV keys allows you to turn these functions on or off as desired.



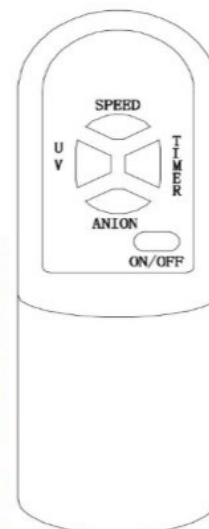
The Green LED indicates that the Electronic Air Cleaner is operating normally.

The Red LED indicates that the cells are dirty or unit is faulty.

All functions can also be controlled by the switches on the display panel of the unit.

NOTE: SERVICE SIGNAL PROMPT

If the unit emits a continual Beeping Sound, press & hold the "Start" Button on the display panel for 20 sec. The unit will reset and restore to normal operation. Remember to perform the maintenance service as soon as possible. This feature is available only on some earlier models.



MAINTENANCE

The main collection cells and pre-filter should be washed regularly, depending on usage, or when the Fault indicator comes on.

These 2 components should be soaked in a solution of water and detergent for a period of time.

A water jet spray may be used to help remove the contaminants from the plates and pre-filter.

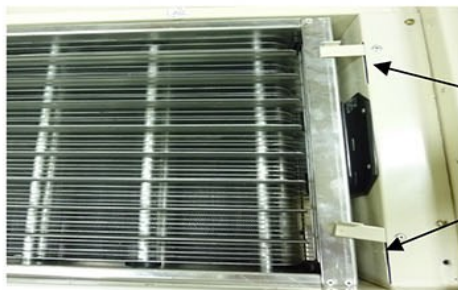
Remove them, rinse and let it drip dry.

NOTE: You should not use any brush or device to clean the plates or wires. Doing so may cause damage to the cells

Charcoal Filters, if used should be replaced every 3-4 months depending on usage.

Failure to clean the cells for an extended period of time may result in cells being damaged.

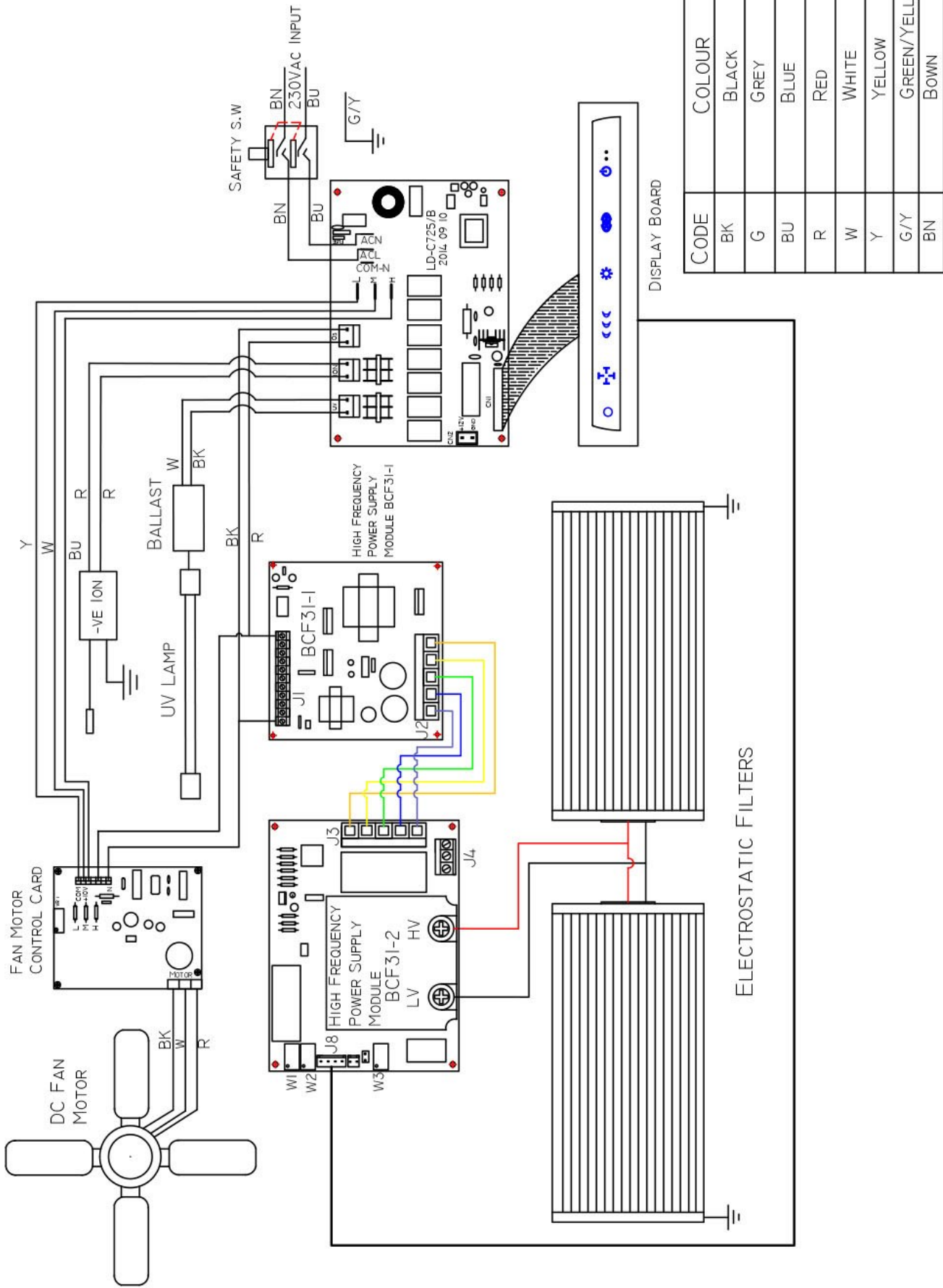
The UVC lamp is located between the fan and the charcoal filter. Lamps have a life span of 9000 hours.



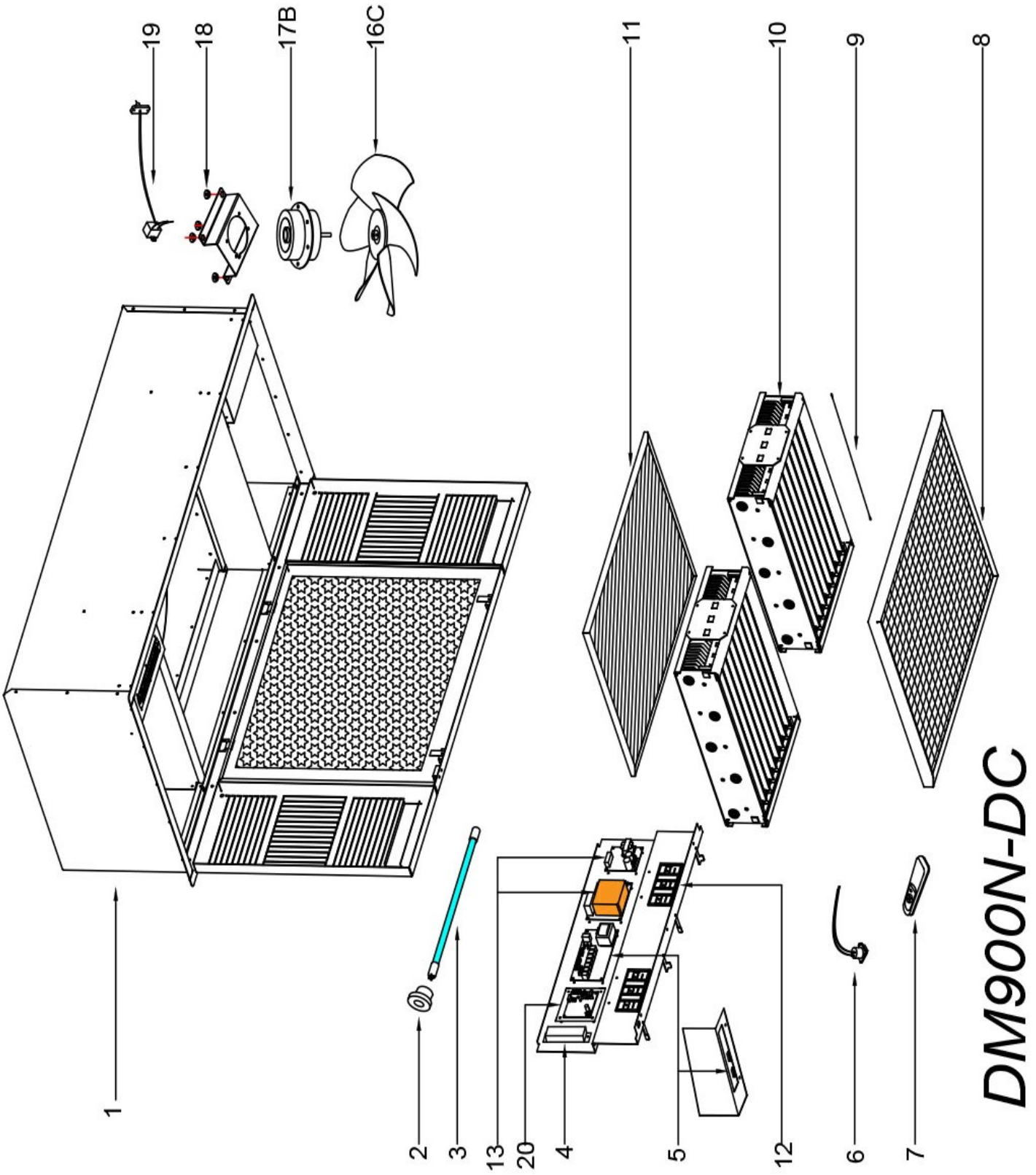
Ensure the Retaining Brackets are fully withdrawn to hold the cells in place.

CAUTION:

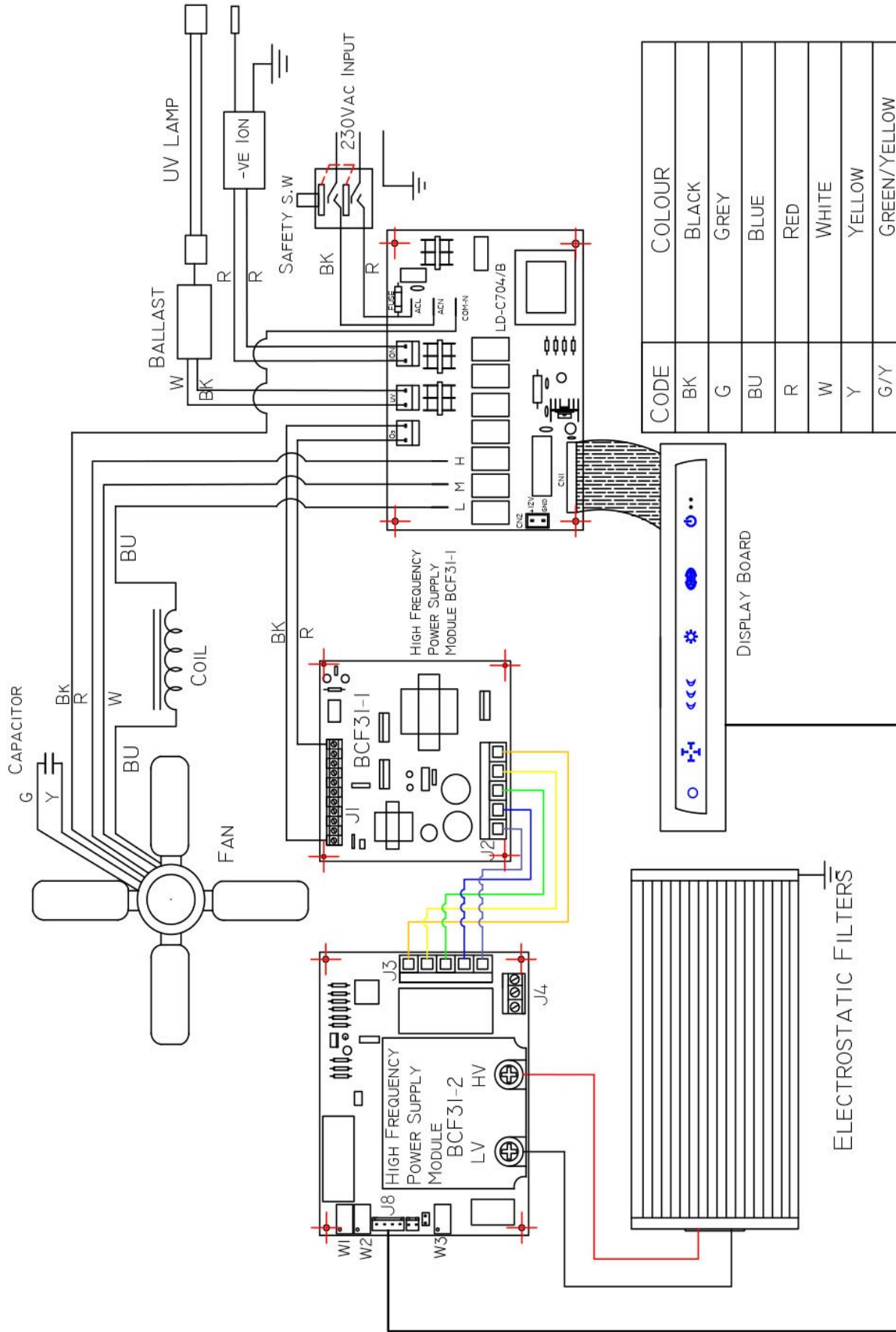
This unit is holding a maximum of 8KV. Make sure you switch off the power before proceeding to do maintenance work



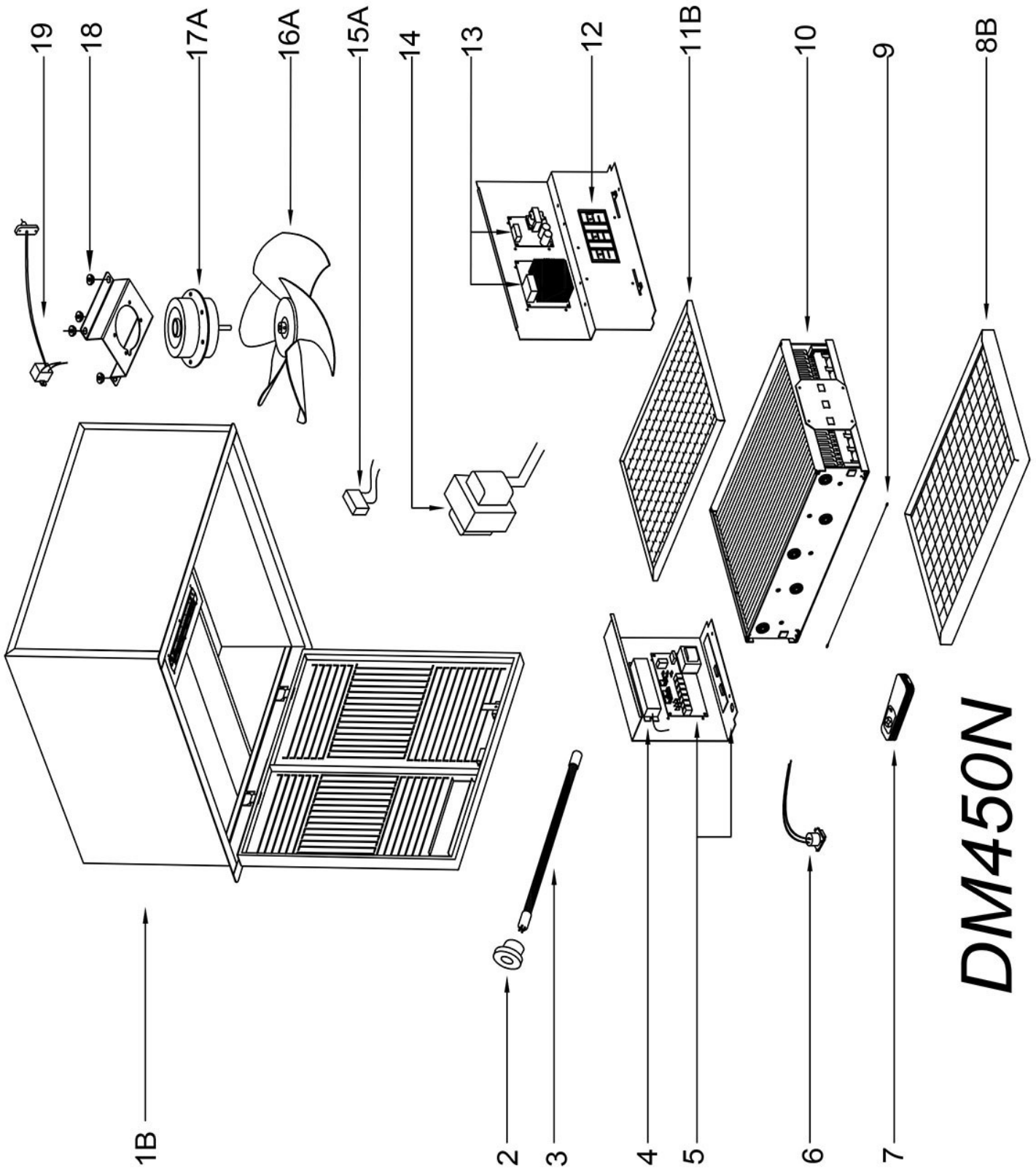
SCHEMATIC CIRCUIT DIAGRAM FOR DM900N-DC (2 FILTERS)- DC MOTOR



DM900N-DC



SCHEMATIC CIRCUIT DIAGRAM FOR DM450N (I FILTER)



DM450N

Part Catalogue: Rydair DM450N/ DM900N/ DM900N-DC Series:

No.	Description	Part No	DM450N	DM900N-DC	DM900N	Remarks
1	DM900N Assembly	01-9001-00			1	
1C	DM900N-DC Assembly	01-9007-00		1		
1B	DM450N Assembly	02-9003-00	1			
2	Silicone Rubber Mounting Type 2 UV Lamp	60-0008-39	1	1	1	
3	UVC Lamp	40-0023-30	1	1	1	
4	UV Lamp Ballast	40-0022-29	1	1	1	
5	IR Remote Control Assembly	40-0017-24	1	1	1	
5A	IR Remote Control Assembly	40-0014-31				
6	Safety Switch	40-0035-00	1	1	1	
7	Hand Held IR Remote Control Unit	40-0021-28	1	1	1	
8	Pre-Filter (630L x 540H x 25T)	50-0009-00		1	1	
8B	Pre-Filter	50-0025-01	1			
9	Ionizing Wire Assembly	50-0039-00	9	18	18	
10	E-cell Assembly	50-0008-23	1	2	2	
11	Charcoal After filter (600Lx470Wx10T) (optional)	50-0006-00		1	1	
11B	Charcoal After filter (optional)	50-0026-00	1			
12	H.T. E-Cell Contact Board	40-0018-25	1	2	2	
13	High Frequency Power Supply Assembly	40-0020-27	1	1	1	
14	Step-down Coil Assembly	40-0037-00	1		1	A/f 13
15A	Capacitor Motor 2.2uF	40-0038-00	1		1	A/f 13
16	Fan Blade Assembly (300mm Ø)	30-0035-00			1	A/f 13
16A	Fan Blade Assembly (250mm Ø)	30-0036-00	1			A/F 13
16C	Fan Blade Assembly 7 Blades (350MM Ø)	30-0043-00		1		
17A	Motor 230Vac Single Phase 30Watts Low Noise	40-0036-00	1		1	A/f 13
17B	Motor DC 310V 75W 8P (ZW94-75)	40-0045-00		1		
18	Rubber Mounting Motor	60-0006-07	4	4	4	
19	Negative Ion Generator Assembly	40-0033-00	1	1	1	
20	Fan Motor Controller Card (BLDC VFD Ver. 3.2)	40-0046-00		1		

Note: A/f: After 2013



SPECIFICATIONS	DM450N	DM900N-DC
Dimensions (W x L x H (mm))	570 x 575 x 300	570 x 1150 x 350
Material	1.0mm Thick Galvanized Steel	1.0mm Thick Galvanized Steel
Coating	Epoxy Powder Coated	Epoxy Powder Coated
Colour	Beige	Beige
Weight (kg)	30	50
Voltage Input	230Vac 50Hz	230Vac 50Hz
Power Consumption (Watts)	70	130
Efficiency	Up to 95%	Up to 95%
Max. Air Volume	775 CMH	1,550 CMH
Speeds	3	3
Remote Control	Infra Red	Infra Red
Coverage (Floor Area)	40-50 Sq. Meters	80-100 Sq. Meters
Ionising Voltage	8.1 KV	8.1 KV
Collection Voltage	4.1 KV	4.1 KV
Nos of Collection Cells	1	2
Aluminum Prefilter	1	1
Charcoal Filter (Optional)	1	1
UVC Lamp (Watts)	15	15

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