

# SERVICE MANUAL

EdgeStar Small Room Portable Air Conditioner  
with 71 Pint Dehumidifier

MODEL:

AP8000W

CAUTION: READ ALL SAFETY PRECAUTIONS IN THIS  
MANUAL BEFORE SERVICING THE UNIT

# CONTENTS

CONTENTS.....	1
SAFETY PRECAUTIONS.....	1
ELECTRICAL SAFETY.....	2
GENERAL SAFETY.....	3
1 SPECIFICATIONS .....	4
2 EXPLODED VIEW AND PARTS LIST.....	5
3 WIRING DIAGRAM.....	7
4 REFRIGERANT SYSTEM DIAGRAM .....	7
5 MODES AND OPERATING CONDITIONS .....	8
5.1 TERMS AND DEFINITIONS .....	8
5.2 COOLING MODE (BLUE LIGHT).....	8
5.3 FAN ONLY MODE (GREEN LIGHT).....	8
5.4 DEHUMIDIFY MODE (AMBER LIGHT) .....	9
5.5 OVERFLOW PREVENTION.....	9
5.6 COMPRESSOR PROTECTION.....	9
6 TROUBLESHOOTING.....	10

## SAFETY PRECAUTIONS

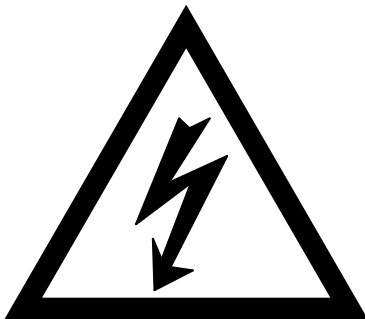
**WARNING: This manual and the information contained herein is intended for use by certified technicians. The manufacturer or seller is not responsible for the interpretation or misuse of the information provided, nor does it assume any liability in connection with its use.**

**The safeguards and warnings indicated in this manual do not cover all possible conditions which may occur. Common sense, caution, and care must be exercised.**

- To prevent electric shock, always unplug an appliance from the power supply before attempting any service.
- Disconnect the power cord by grasping the plug, not the cord.
- Do not bypass, cut, or remove the grounding plug.
- Prevent water from spilling onto electric elements or the machine parts.
- Always refer to the rating label on the appliance for rated current and voltage.
- Always check line voltage and amperage.
- Always use exact replacement parts.
- Any attempt to repair a major appliance may result in personal injury and property damage.

## Electrical Safety

- Do not exceed the power outlet ratings.
- It is recommended that the unit be connected to its own circuit.
- A standard electrical supply that is properly grounded in accordance with the National Electrical Code and all state and local codes and ordinances is required.
- Do not use outlets that can be turned off by a switch or pull chain.
- Always turn the unit off and unplug it from the outlet when cleaning.
- Unplug the unit if it is not going to be used for an extended period of time.
- Do not operate the unit with a power plug missing the ground plug, a damaged cord, or a loose socket.
- Be sure the appliance is properly grounded.
- Do not bypass, cut, or remove the grounding plug.
- If the power cord is damaged, it must be replaced by the manufacturer or a qualified technician.
- Do not use extension cords or power strips with this unit. You may need to contact an electrician if it is necessary to use a longer cord or if you do not have a properly grounded outlet. Do not modify the power cord's length or share the outlet with other appliances.
- Do not start or stop the unit by switching the electrical circuit's power on and off.
- Immediately unplug the unit if it makes strange sounds, emits an odor or smoke and contact customer service.
- Do not remove any part of the casing unless instructed by an authorized technician.
- Before the appliance is removed from service or discarded, remove any doors and cut off the power cord.



## General Safety

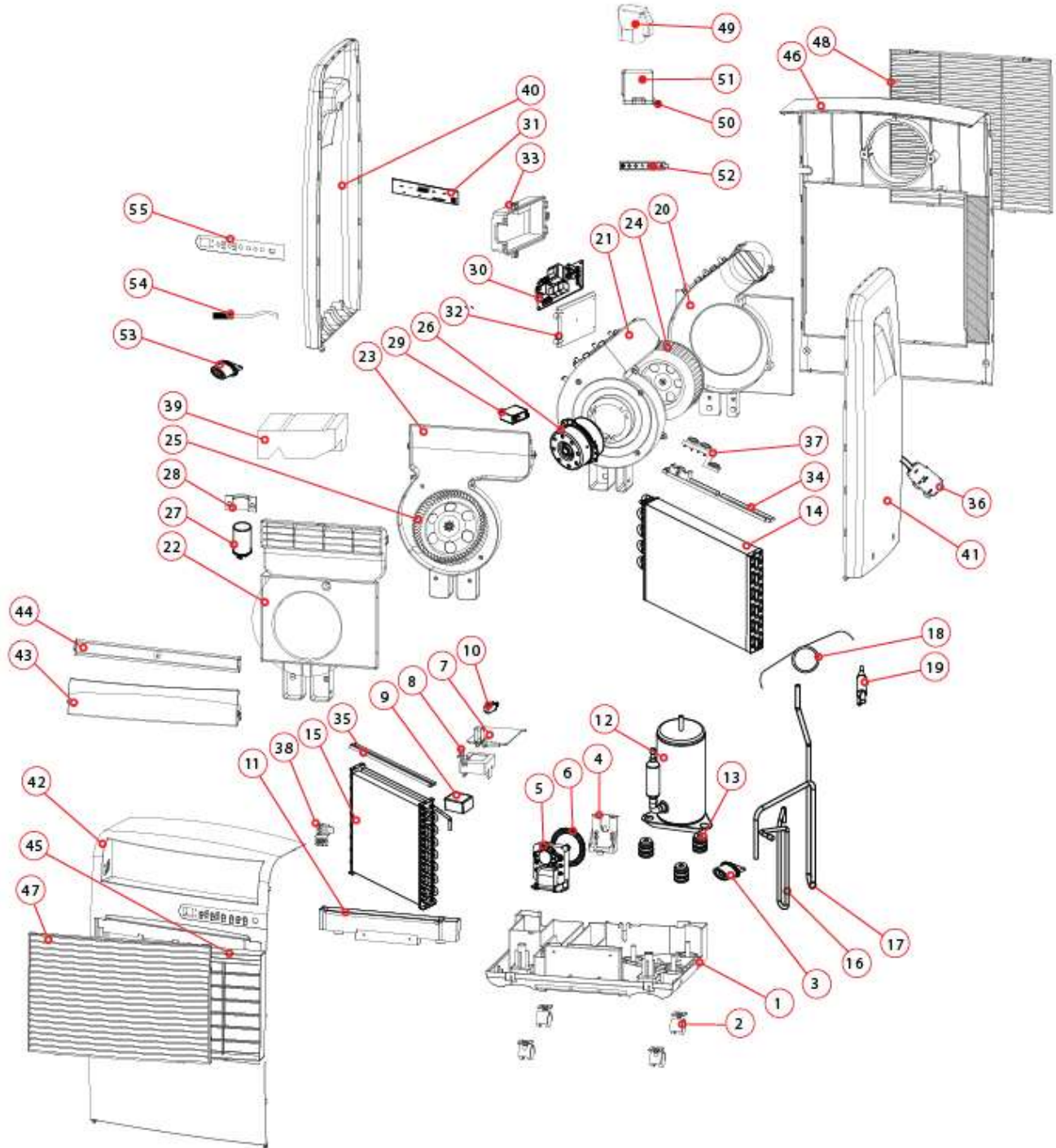
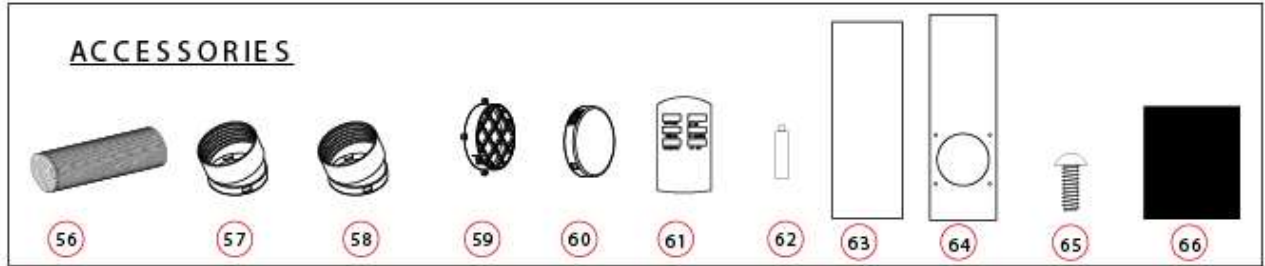
- Always unplug an appliance from the power supply before attempting any service. Disconnect the power cord by grasping the plug, not the cord.
- Do not allow children or pets to play on or in the appliance.
- This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the machine by a person responsible for their safety.
- Do not install or store this appliance where it will be exposed to the weather.
- Disconnect from the power socket before cleaning or maintenance.
- If the plug (power cord) is damaged, it must be replaced by the manufacturer or an authorized service representative.
- This machine shall be repaired only by an authorized service representative. Only genuine replacement parts should be used.
- If connected to a circuit protected by fuses, use time-delay fuses with this appliance.
- Do not lean items against the glass door.
- Please do not close the door with excessive force. If it is found difficult to close the door, please check for obstruction.
- When you plan to dispose of this unit in the future, please comply with the local waste disposal regulations. Remove any doors so that children and pets will not be trapped in the unit.

# 1 Specifications

Description of product	Portable Air Conditioner
Model	AP8000W
Voltage / Frequency	AC 115V ~ 60Hz
Input Power	860 W
Current	7.9 A
<b>Cooling Capacity (SACC)</b>	<b>4500 BTU</b>
Cooling Capacity (ASHRAE)	8000 BTU
Color	White
Dehumidifying Capacity	71 pints / Day
Coolant	R-410A
Timer	24 Hour
Dimensions (W x H x D)	19.25" x 24.75" x 13.25"
Weight	56 lbs.

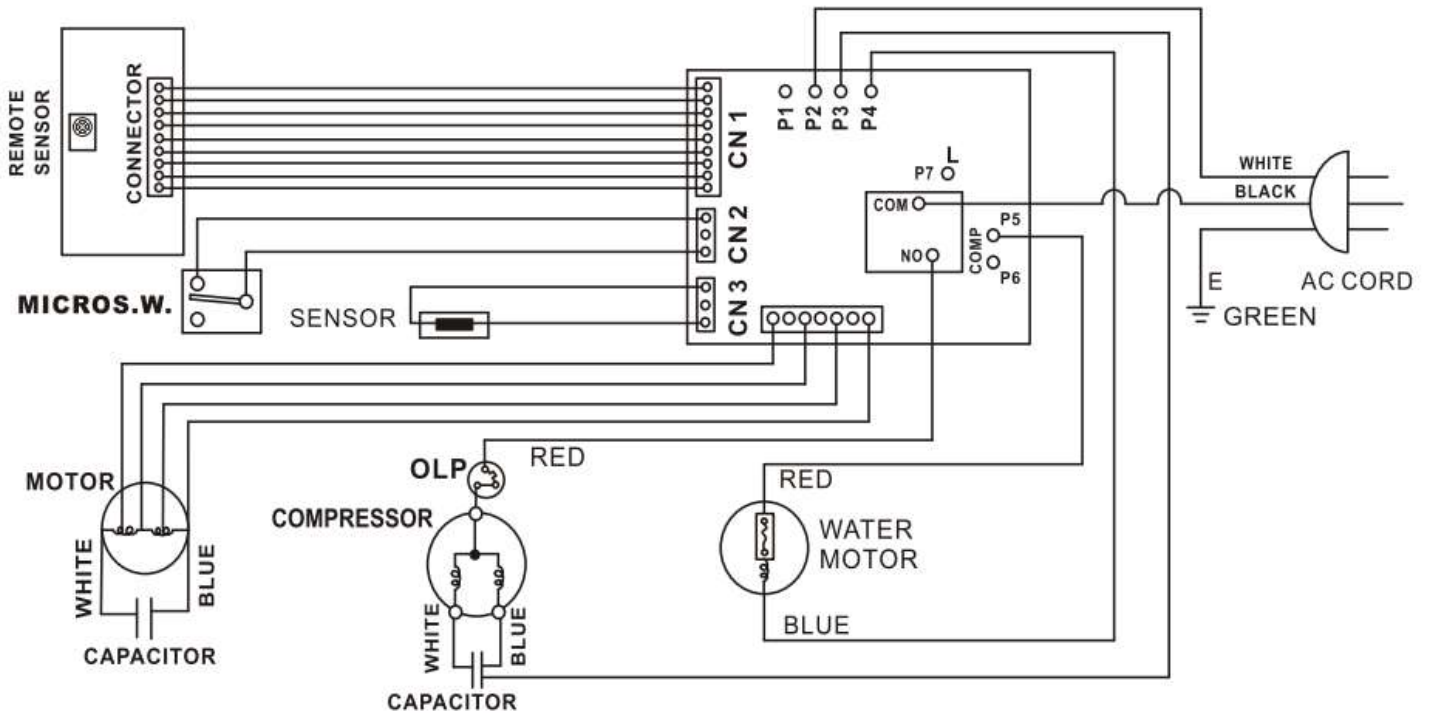
The above data is subject to change without notice. Please refer to the rating label on the unit.

## 2 Exploded View and Parts List

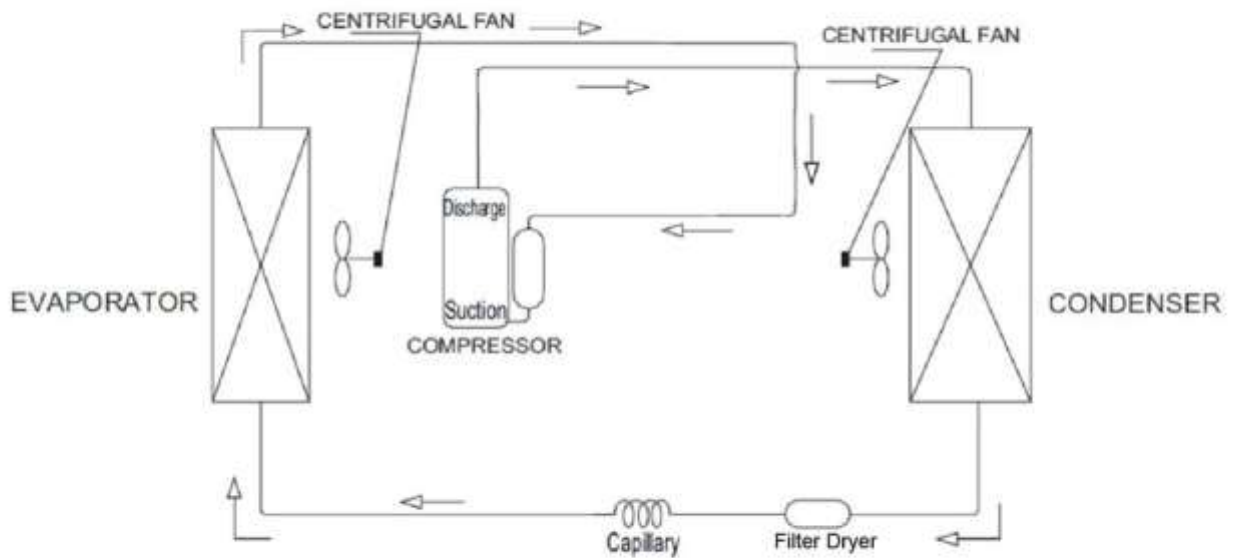


<b>NO.</b>	<b>PART NAME</b>	<b>NO.</b>	<b>PART NAME</b>
1	BASE PAN	34	TOP COVER PLATE
2	CASTOR	35	TOP COVER PLATE
3	PLUG	36	POWER SUPPLY CORD
4	FAN BRACKET	37	BRACKET
5	FAN MOTOR	38	BRACKET
6	BLADE	39	SHOCK ABSORBER
7	DRAIN BUCKET COVER	40	SIDE PANEL
8	TANK LID	41	SIDE PANEL
9	FLOAT	42	FRONT PANEL
10	FLOAT SWITCH	43	LOUVER
11	DRAINAGE PAN	44	FAN AIR DEFLECTOR
12	COMPRESSOR	45	AIR FILTER
13	RUBBER FOOT	46	REAR PANEL
14	CONDENSER	47	INTAKE GRILLE
15	EVAPORATOR	48	INTAKE GRILLE
16	DISCHARGE PIPE	49	COVER
17	SUCTION PIPE	50	FIXTURE
18	CAPILARY TUBE	51	COVER
19	FILTER DRYER	52	BRACKET
20	FAN HOUSING	53	PLUG
21	FAN HOUSING	54	SENSOR
22	FAN HOUSING	55	CONTROL PANEL
23	FAN HOUSING	56	HEAT EXHAUST HOSE
24	BLOWER WHEEL	57	DUCT CONNECTOR
25	BLOWER WHEEL	58	DUCT CONNECTOR
26	FAN MOTOR	59	GRATED ADAPTER
27	CAPACITOR FOR COMPRESSOR	60	EXHAUST COVER
28	BRACKET	61	REMOTE CONTROL
29	CAPACITOR FOR FAN	62	BATTERY
30	MAIN PCB	63	WINDOW PLATE
31	CONTROL BOARD	64	WINDOW PLATE W/ HOLE
32	MAIN PCB BRACKET	65	SCREW
33	MAIN PCB COVER	66	CARBON FILTER

### 3 Wiring Diagram



### 4 Refrigerant System Diagram





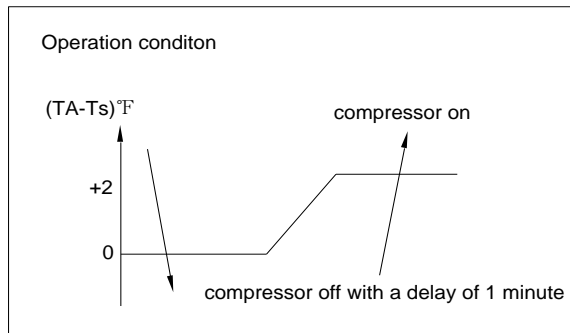
# 5 Modes and Operating Conditions

## 5.1 Terms and Definitions

- TA: Ambient indoor temperature.
- TS: Set temperature.

## 5.2 Cooling Mode (Blue Light)

- The cooling temperature can be set from 61 to 89°F (16 to 32°C.)
- The timer function works in cooling mode.
- The compressor will run when the difference between the set temperature and the actual ambient room temperature conforms to the chart below:



- When  $TA \leq TS$  (for 1 minute) the compressor turns off.
- When  $TA > TS + 2^\circ\text{F}$  the compressor turns on.

## 5.3 Fan Only Mode (Green Light)

- If the temperature can't be controlled by the selected mode and the room ambient temperature is shown on the display the unit will default to fan only mode.
- The readout can only display a temperature of 32 to 99 °F (0 to 37°C.) If the temperature is out of that range the display will show LO or HI.
- The Timer function works in fan only mode.

## **5.4 Dehumidify Mode (Amber Light)**

- In this mode, the air conditioner will operate as a dehumidifier. Because the conditioned space is closed or sealed, some degree of cooling will continue to occur.
- If the room temperature is below 77°F, the fan will always run on low speed while in dehumidify mode.
- If you do not use the exhaust hose in Dehumidifying mode, you must manually drain the water from the unit. Additionally, the ambient temperature in the room will probably rise by a few degrees if you do not use the exhaust hose.
- You will be not be able to change the thermostat temperature or fan speed while in dehumidify mode.

## **5.5 Overflow Prevention**

- When water is detected in the reservoir for 3 seconds overflow prevention will occur.
- The water light turns on.

## **5.6 Compressor Protection**

- If power is interrupted, the compressor will only restart after a 3 minute delay.

## 6 Troubleshooting

Problem	Possible Cause	Solution
Unit does not turn on.	Wall plug is disconnected.	Insert plug firmly into proper wall outlet.
	House fuse blown or circuit breaker tripped.	Replace fuse with time delay type or reset circuit breaker.
	Power cord is tripped.	Press the RESET button on the power cord. If power cord is damaged replace power cord.
	Unit is turned OFF.	Turn unit ON and set to desired setting.
	Ribbon cable to control panel is disconnected.	Remove outer shell and reconnect cable.
	Loose or disconnected wiring on main PCB.	Remove outer shell. Check all connections to the PCB and reconnect any loose or disconnected leads.
	Condensate water tray is full and/or water light is on.	Drain condensate water. Make sure water level switch is operating correctly and not stuck in "full" position or being interfered with.
Unit does not blow cold air.	Room temperature is below 61°F(16°C.)	Cooling will not occur until room temperature rises above 61°F(16°C.)
	Unit is not in cooling mode.	Set the unit to cooling mode – blue light is on.
	Set temperature is too high.	Set to a Lower temperature.
	Air filter is dirty.	Clean filter.
	Exhaust air duct is installed incorrectly or blocked.	Connect exhaust duct so it functions correctly. Clear blockage.
	Refrigerant leak.	Find leak and repair. Recharge with refrigerant.
	Evaporator is frosted.	The unit needs to defrost and will resume normal operation after it is finished.
Unit blows cold air but does not lower room temperature.	Fan speed is set too low.	Increase fan speed to improve air flow.
	Exhaust air duct is not installed, is installed incorrectly or blocked.	Connect exhaust duct so it functions correctly. Clear blockage.
	Room area is too large.	Reduce room size, add another unit or larger unit.
	Open windows or doors.	Close all open windows and doors.
	Ambient temperature is too high.	The unit may not work if the room temperature is above 90°F.
	Room has too many heat sources.	Remove or shut off additional heat sources. Close curtains or blinds to minimize the amount of direct sunlight entering the room.

	Filter is dirty.	Clean filter.
	The condenser coils are dirty.	Carefully vacuum the coils clean.
Unit continues to operate after water tray is full or water full protection occurs frequently.	Water level switch is open or short circuited.	Check water level switch connections or replace water level switch if defective.
	Water level switch is stuck in "empty" position.	Make sure water level switch is operating correctly and not stuck or being interfered with.
Unit leaks.	Drain plug is removed.	Attach the drain plug.
	Base plate is cracked.	Replace base plate.
Sounds or vibration.	When unit is turned on or off the outer shell "pops" or "clicks."	Normal sound. Outer shell is contracting or expanding and will stop after a few minutes.
	When unit is turned on or off "boiling" or "running water" is heard.	Normal sound. The cause is refrigerant flowing inside the system and will stop after a few minutes.
	Foreign objects inside the unit are interfering with fans or other moving parts.	Remove foreign objects.
	Unit is not level.	Make sure unit is on a level surface.
	Compressor vibration.	Tighten bolts holding compressor to chassis.
Room too cold.	Set temperature is too low.	Adjust the set temperature.

DATE	REVISION NOTES
04/11/2018	INITIAL DOCUMENT