









Air Purifiers Distribution and Maintenance – QRG

What are Air Purifiers?

- Air Purifiers are portable air filtration devices that remove particles from the air.
- They use a fan to draw in air which passes through a HEPA (high-efficiency particulate air) filter that traps very small particles.
- Air Purifiers are very effective. They can clear a small smoke-filled room of aerosolised particles within 10 minutes.
- The unit types in the fleet are shown below:

Types of Air Purifier Units – left to right in increasing order of capacity							
Breville small	Samsung 40T	Breville 508	Samsung 60T	InovaAir E20	Samsung 90T	InovaAir E500	Carrier CLK
							

Why are we using Air Purifiers?

- Western Health has several different air handling (Heating, Ventilation, Air Conditioning - HVAC) systems of varying age and condition. HVAC Systems were generally designed for comfort and efficiency rather than infection prevention and control (IPC).
- WH has conducted extensive Air Exchange Surveys of all COVID, sCOVID wards and other high risk areas to ensure HVAC systems airflows are optimised.
- In some areas, due to the age and design of the HVAC systems Air Purifiers are used as an additional safety measure for IPC. They are one of many IPC measures to mitigate risks, along with PPE, distancing, etc.

Note: Air Purifiers are NOT required for patients in negative pressure rooms nor where a personal ventilation (McMonty) Hood is being used. These rooms and tools are designed specifically for infection prevention and control.

Air Purifiers in Designated Covid / sCovid Streaming Wards

- As part of the WH readiness process to sign off of wards as designated COVID and sCOVID wards, Air Purifiers have been deployed to rooms/areas where there may be a HVAC system shortfall. The unit tops up the air performance in that room. The units are matched to specific rooms according to their specifications.
- This type of Air Purifier deployment to a location is referred to as '**by room**'. The unit stays with the room area, until there is a change in that room's air performance.
- Ward staff should **not move, switch off, or tamper with** any unit.
- AHAs should not request any Ward staff to move any unit that is deployed **by room**.
- If an Air Purifier in a room needs attention from Engineering Services, lodge a BEIMS describing the issue, ward, room, and a unit description, stating the unit brand as indicated on the unit.

Processes to request an Air Purifier – to a Patient Room

- The Western Health Infection Prevention and Control (IPC) Department is responsible for ensuring that the Air Purifier fleet is allocated based on highest need.
- Western Health currently owns approximately 400 Air Purifiers, most of which are allocated to specific areas (by room).
- In designated streaming wards, units are fully deployed to their permanent positions and these rooms can be used with confidence to support COVID/sCOVID patients.
- There are also several Air Purifiers located on each site to support COVID/sCOVID patients who cannot be cared for in a COVID/sCOVID ward – these units form the Air Purifier Pool.
- This type of Air Purifier deployment is referred to as '**by patient**' – the unit is issued to the patient's room and bed, until either
 - a) the patient is discharged/transferred, or
 - b) patient test results confirm that there is no longer a COVID/sCOVID risk – in which case the Air Purifier returns to the pool.
- To access the Air Purifier Pool for a '**by patient**' deployment follow these steps:

During business hours: Monday – Friday 8am – 4pm

- The Bed Manager allocates a COVID/sCOVID patient to a bed in a non-designated COVID streaming ward.

- The receiving Ward Staff have been notified by IPC of this incoming patient, and been provided approval by the IPC team to request a pool Air Purifier. The IPC approval email contains the name of the IPC approver, date, patient, bed number, room and ward.
- The receiving Ward staff lodges a BEIMS request containing all of the 'by patient' deployment the information, including IPC approver name, date of approval.
- In Engineering Services, the BEIMS is allocated to an Air Purifier Facilitator (APF) in the Air Purifiers Team.
- The APF deploys an Air Purifier unit to the room and updates master tracker of unit location, date, room, asset number and COVID/ sCOVID status.
- IPC and receiving Ward staff can also use the WHS-Airpurifiers@wh.org.au mailbox address during business hours, to the APF team alert of the incoming BEIMS.
- When the 'by patient' Air Purifier status changes (patient is discharged, transferred to an isolation room or McMonty Hood, or results have removed the risk), the unit needs to be returned to the pool immediately.
- Ward staff must wipe the unit clean and place in their equipment store, with a green tag to indicate 'I Am Clean' in accordance with [OP-GC5 Cleaning of Patient Care Equipment](#).
- Ward staff shall lodge a [BEIMS request to Engineering Services \(ES\)](#) to request that the unit is collected from the ward equipment store and returned to the pool. Use the task 'AIRHEPA' in the menu to request this.

AIRHEPA

Air Purifiers and Monty Hoods Deployment Collection and Maintenance

- If any technical issues with the unit have been noted, these should be described in the BEIMS request.

After hours: Monday – Friday after 4pm, Weekends and Public Holidays

- The Bed Manager allocates a COVID/sCOVID patient to a bed in a non-designated COVID streaming ward, and notifies the receiving Ward staff.
- The receiving Ward staff lodges a [BEIMS request to Engineering Services \(ES\)](#) record the bed, room number and ward of the overnight deployment '**by patient**'. This provides the after-hours record of the Air Purifier deployment.
- The Bed Manager notifies the PSA Pool via phone call stating details of ward and room/bed number where an Air Purifier is to be deployed '**by patient**'. This is the Bed Manager's authorisation for a PSA to collect and deploy the unit.
- PSA Pool staff member collects a unit from the PPE store room and signs out the unit to the Ward using the sign out sheet, recording the **yellow WH asset number, date, time and ward**. (Note: A low bed trolley is required to collect the unit).
- PSA Pool staff delivers the Air Purifier unit into required room and powers it on.
- Before the patient is admitted into the room, the Ward Nursing staff verify that the Air Purifier is operational.

- The following business day, the APF checks the after-hours installation is correct, confirms asset numbers, updates the Air Purifier master tracker and reconciles the BEIMS requests.
- If no BEIMS request exists, the APF will ask the receiving ward to confirm details and create a BEIMS record.
- Air Purifiers should not be returned to the pool until business hours resume. If removal from a ward is required after hours, a BEIMS must be lodged by the AHA or Ward staff to record the movement.
- Ward staff must wipe the unit clean and place in their equipment store, with a green tag to indicate 'I Am Clean' in accordance with [OP-GC5 Cleaning of Patient Care Equipment](#).

Installation guide for Ward Staff

- Ensure the Air Purifier is placed in the room somewhere close to the patient's head if possible, and ideally out of the way of staff movements.
- Ensure the unit is plugged into a power point with the cord secured to the wall or ground in a location that minimises risk of tripping.
- Ensure at least 60cm clear space from each side and 25cm at the front.
- Ensure that the windows and doors are kept closed when in use.
- Ensure the unit is operating – air flow should be felt emanating from the unit vents.
- If unit is not running: Press the power button on the unit. The air purifier turns on and automatically begins operation. Some have a notification sound when they are powered up.
- Some units have the power switch on the back, but most are on the top.
- The fan speed can be adjusted to Low, Med, High or Auto. The unit will work best if set to high.
- In Auto mode, the fan speed will adjust depending on the levels of particles detected in the air.
- The unit will start on the last fan speed setting used.
- If the unit loses power (by a brief power outage) it will need to be manually restarted by Ward Staff.
- See this video: [Air Purifier Tips For Western Health - YouTube](#)

Air Purifier Allocations – Other WH areas

- The WH Air Purifier fleet is currently fully allocated.
- As new units are received, these are being deployed to areas as assessed as highest need by Engineering and IP. As a guide, these units will be now be allocated to Patient rooms, Ward Corridors, High Risk Clinical areas (as identified by IP) and Staff Tea Rooms.
- Please do not submit general requests for Air Purifiers to Engineering. There is no need to lodge a request, unless a sCOVID or COVID patient is being cared for outside of a streaming ward (in which case, the BEIMS shall include name and date of IPC approval).

What do the LED indicators mean?

Monitoring particulate matter – for information only

- Some types of Air Purifiers are fitted with an indicator to monitor the amount of particulate matter in the air. It shows the different levels for each of the particle size. It sits on 10µm in normal operation. You can scroll through to see the other values:
- PM10 – Particles with a diameter of 10µm or less (1/5 of the diameter of a human hair)
- PM2.5 – Particles with a diameter of 2.5µm or less (1/20 of the diameter of a human hair)
- PM1.0 – Particles with a diameter of 1.0µm or less (1/50 of the diameter of a human hair)
- *Diameter of a human hair- 50 to 70 µm

Air Quality Levels

This is for information only

- The air quality is indicated by a coloured LED on the display unit. This will give a visual indication of the condition of the room and how the unit is working to filter the air.

Commissioning and Maintenance of Air Purifiers - Ward

- Between use 'by patient', Air Purifiers must be cleaned between patient usage and "green tagged" as per hospital procedure [OP-GC5 Cleaning of Patient Care Equipment](#).
- All other Maintenance is managed by Engineering Services and must be requested via a BEIMS.

Commissioning and Maintenance of Air Purifiers – Engineering Services

- Air Purifiers are equipment that forms part of the WH HVAC system. Engineering Services is accountable to assess, procure, commission, maintain and track the fleet.
- Engineering Services assesses the existing HVAC systems' condition and performance and in conjunction with IPC, determines the numbers and types of Air Purifiers for each room/area.
- All Air Purifiers require electrical testing and tagging (EST) prior to use and an annual maintenance check. This is the responsibility of Engineering Services (ES). The units are to be assembled, cleaned tested and tagged prior to first use.
- The management and maintenance of the HEPA filter in the Air Purifier units is the responsibility of Engineering Services.
- At times the unit pre-filter may need a clean to remove dust. This requires a BEIMS request.
- Each device is assigned a designated unique WH asset number. A yellow asset label is applied to each unit to enable asset lifecycle management.