

GEN III

FRESH AIR

PURE AIR

OTHER CONTROLS

A/C UNITS

AIR DIFFUSION

RETURN AIR GRILLES

EXACT AIR REGULATORS

FLEXIBLE DUCT

SUNDRIES

DESCRIPTION

Generation III is essentially a control system for small and medium ducted reverse cycle air conditioning systems.

The controls are modular and can be configured from a single temperature sensor to control a single damper up to a temperature control system for 32 zones with static pressure control, air conditioning unit and fan control, schedules, timers, web and SMS access and many options and combinations in between.

The system can be configured as a wired control system or wireless system or a combination of both wired and wireless.

The control system uses a patented communications network called *AAIRNET™* which stands for **A**dvantage **A**ir **I**ntegrated **R**adio frequency **n**etwork.

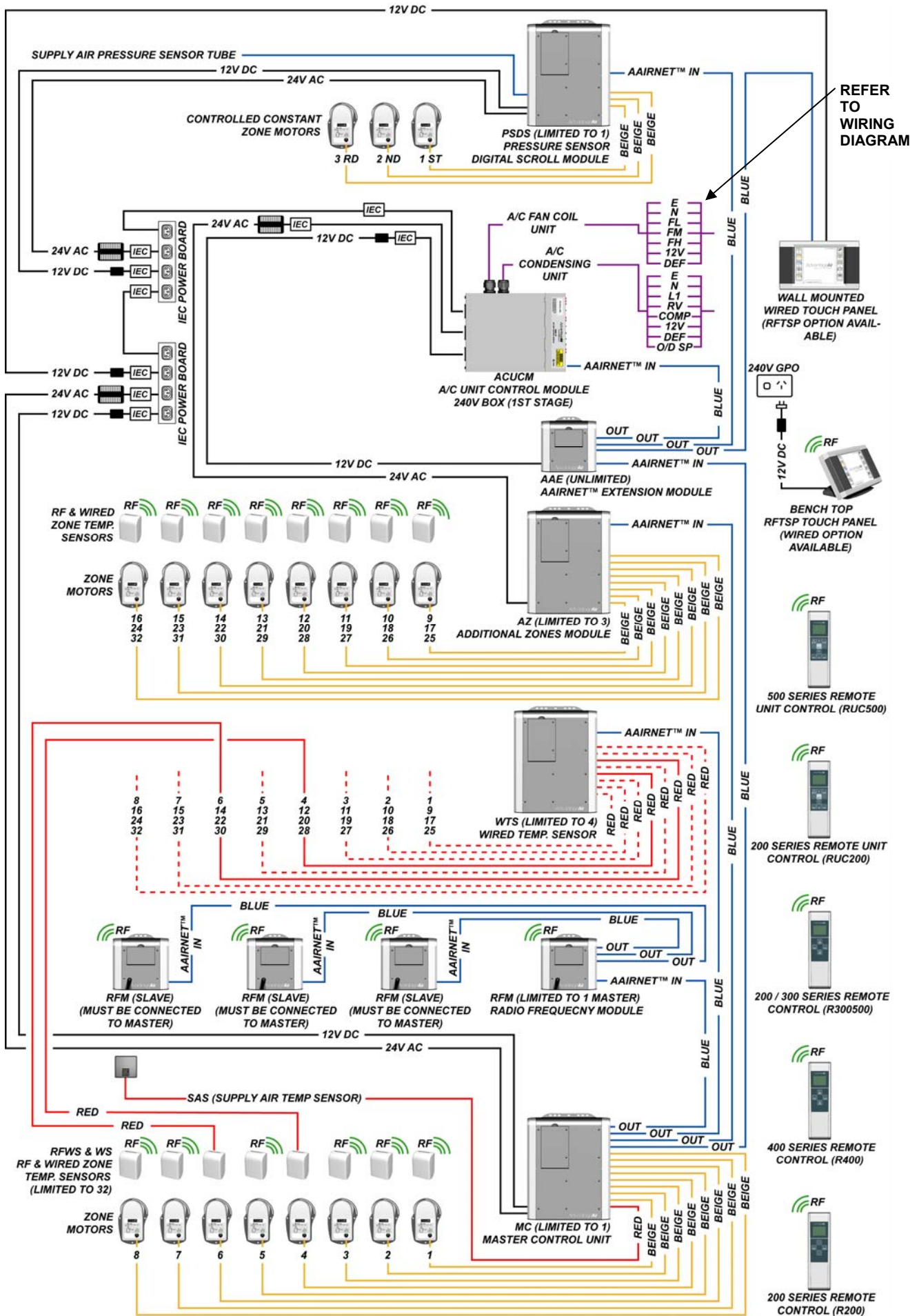
The user interface is just as flexible from a simple single handheld remote up to 32 zone controllers, 8 RF colour touch panels, unlimited wired touch panels, SMS and web access. The system is also able to interfaced with other building and home automation systems via various interface options.

One of the best features of the Generation III control system is the ability to upgrade it from a very basic to advanced functionality.

Due to the large number of options available it is recommended you contact Advantage Air regarding the design, pricing, installation and commissioning of a suitable control system for your application.

GENERATION III GENERAL DESCRIPTION 1st STAGE

AdvantageAir

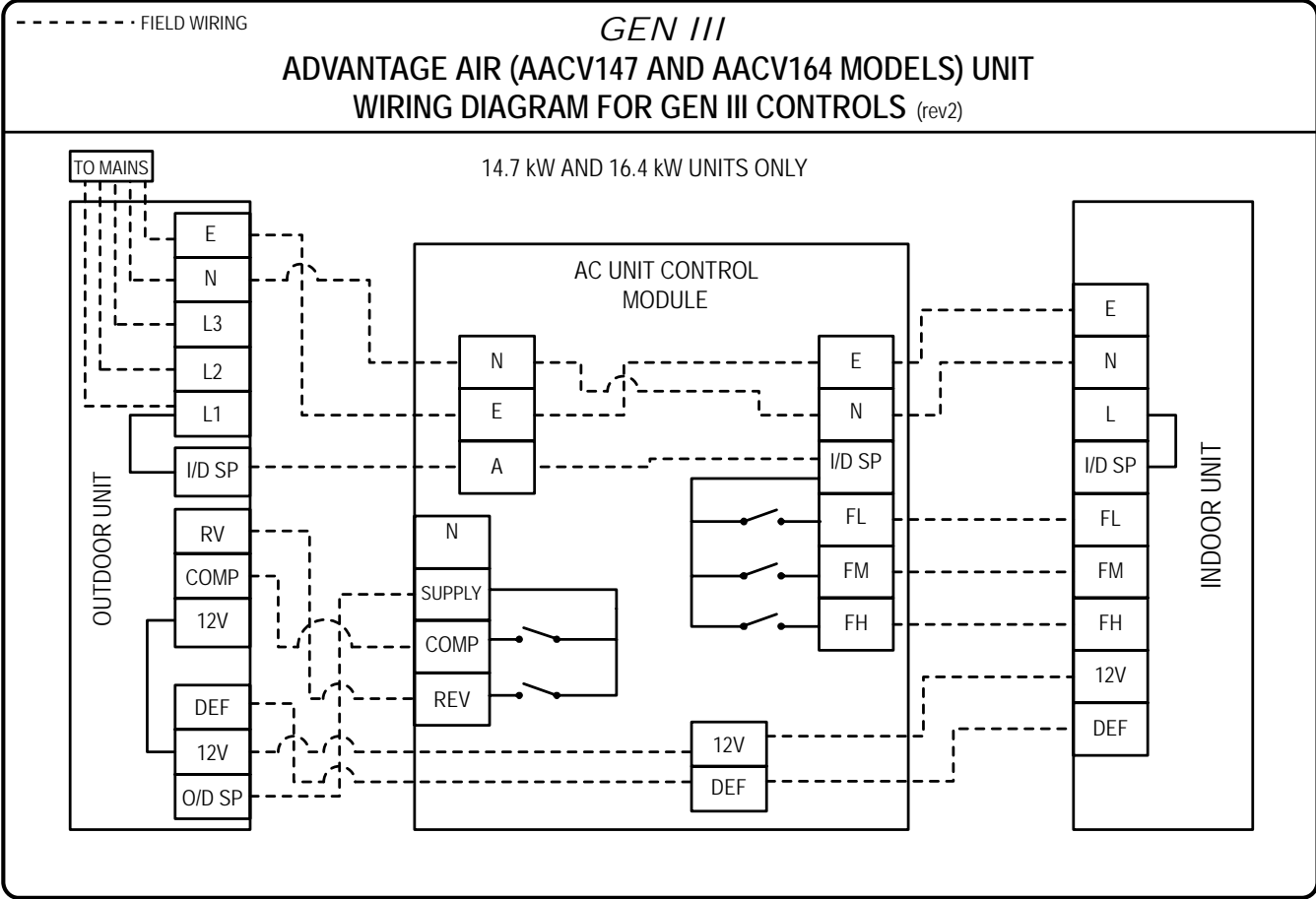


GENERIC SYSTEM SCHEMATIC. NOT ALL MODULES ARE APPLICABLE FOR DIFFERENT PRODUCT SERIES.

*Advantage***Air**



GENERATION III
A/C UNIT CONTROL MODULE
AACV 147 / 164 AIR CONDITIONER WIRING DIAGRAM



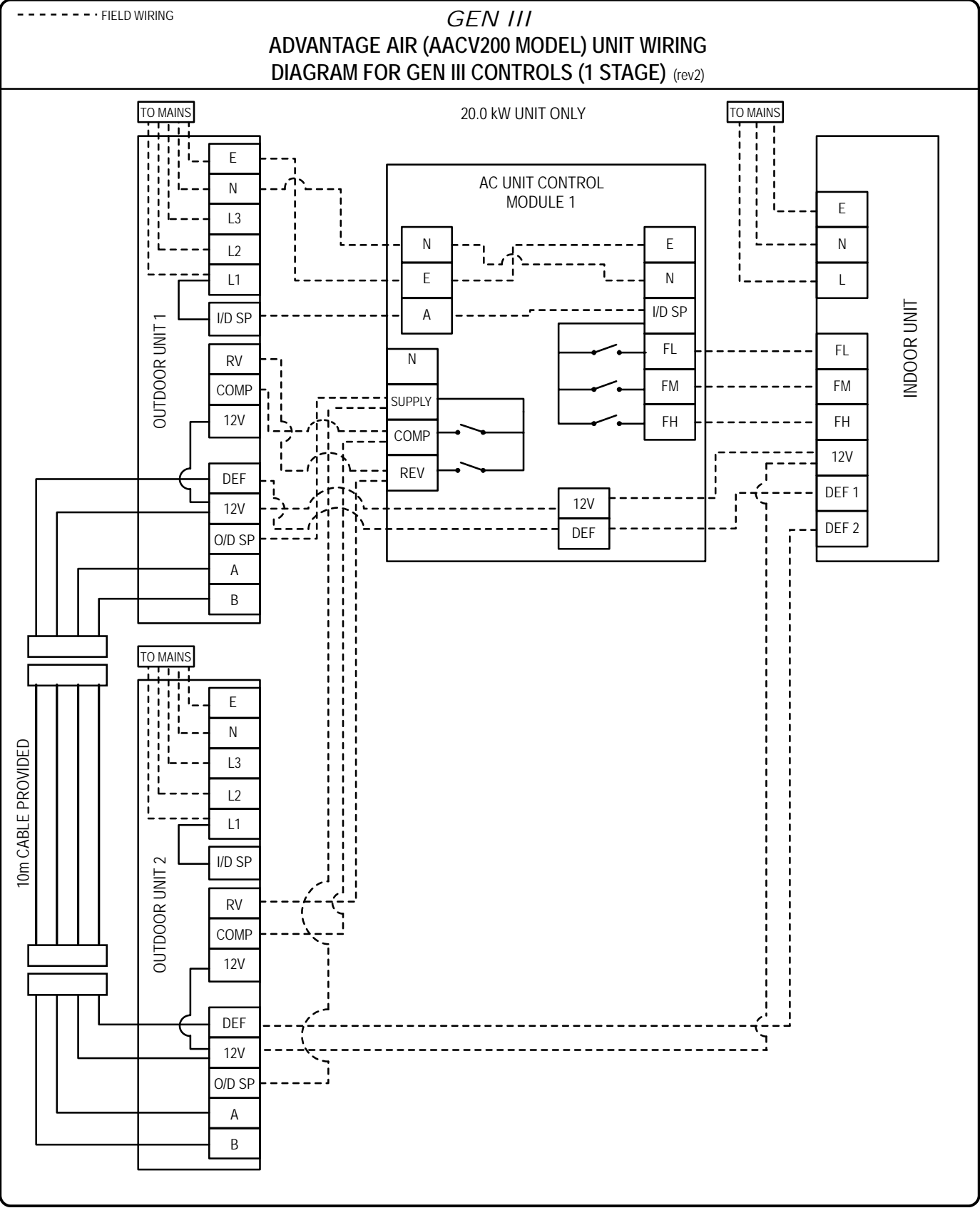
No liability

Make sure you read and understand all the installation instructions before you install this Air Conditioner. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Air Conditioner.

GENERATION III

A/C UNIT CONTROL MODULE

AACV 200 AIR CONDITIONER WIRING DIAGRAM 1 STAGE

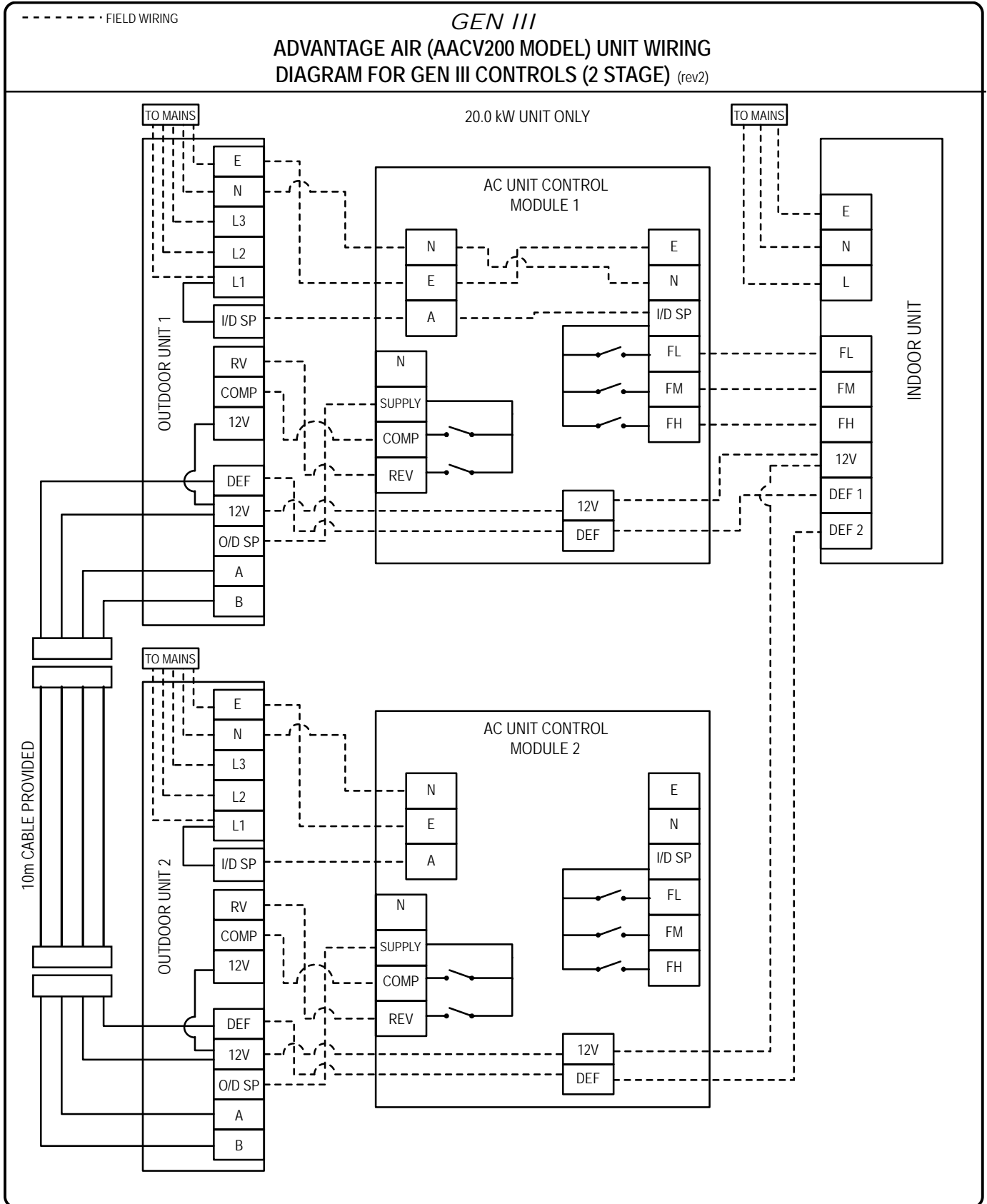


No liability
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GENERATION III A/C UNIT CONTROL MODULE

AACV 200 AIR CONDITIONER WIRING DIAGRAM 2 STAGE

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No liability

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GENERATION III A/C UNIT CONTROL MODULE

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A/C UNIT CONTROL MODULE (ACUCM)

DESCRIPTION

- The A/C unit control module 240V box contains all the relays and terminals for connecting and controlling standard air conditioning units.
- For standard single stage air conditioning units one A/C unit control module 240V box is used. However for two stage units a second box is used for the second stage.

LOCAL CONTROL

- 1st Stage, 2nd Stage and Test Mode.
- Cool, Heat and Vent.
- Fan Low, Med and High.
- 10amp fuse protection of IEC power points.

INPUTS / OUTPUTS

- 3 x 240V IEC power supplies for use by control system.
- 1 x AAIRNET™ input communication ports.
- Wiring to fan coil unit (see diagram).
- Wiring to condensing unit (see diagram).

POWER REQUIREMENTS

- 1 x 12 VDC power supply. This is used for testing only prior to connecting the AAIRNET™ communications.

LOCAL INDICATION

- Fan High, Med, Low.
- Compressor, Reversing valve.
- Delay timer active.
- AAIRNET™ transmit (Tx) and receive (Rx).

GENERATION III MASTER CONTROL UNIT

AdvantageAir



MASTER CONTROL UNIT (MC)

DESCRIPTION

- The master control unit (MC) receives and process information from all other modules via AAIRNET™ for the purposes of interactive control and display.
- A maximum of one MC can be installed in one system.

INPUTS / OUTPUTS

- 8 x zone motors (Zone 1 to 8).
- 4 x AAIRNET™ output communication ports.
- 1 x Supply air temp sensor input.

LOCAL CONTROL

- System reset button.

LOCAL INDICATION

- Motor drive open , drive close.
- Power.
- MC OK.
- MC busy.
- MC error.
- Run mode—Cool, Heat, Vent.
- AAIRNET™ transmit (Tx) and receive (Rx).
- Scheduler OK.
- Scheduler busy.
- Scheduler running.
- Scheduler AAIRNET™ transmit (Tx) and receive (Rx).

POWER REQUIREMENTS

- 1 x 24 VAC power supply.
- 1 x 12 VDC power supply.

WARNING: USE ONLY SPECIFIED ADVANTAGE AIR POWER SUPPLIES AND CABLES FOR THIS PRODUCT.

GENERATION III WIRED TEMPERATURE SENSOR MODULE

AdvantageAir



WIRED TEMPERATURE SENSOR MODULE (WTS)

DESCRIPTION

- The wired temperature sensor module is used when wired temperature sensors are to be used in the system, as opposed to wireless sensors.
- Each wired temperature sensor module will cater for up to 8 zones.

LOCAL CONTROL

- System reset button.
- Zone dip switch. To change from (Zone 1-8) or (Zone 9-16) or (Zone 17-24) or (Zone 25-32).

INPUTS / OUTPUTS

- 1 x AAIRNET™ input communication ports.
- 8 x wired temperature sensors. The correct port must be used for the correct zone.

POWER REQUIREMENTS

- No dedicated power supply is required for this module.

LOCAL INDICATION

- AAIRNET™ transmit (Tx) and receive (Rx).
- WTS busy.
- WTS error.

GENERATION III ADDITIONAL ZONE MODULE

AdvantageAir



ADDITIONAL ZONE MODULE (AZ)

DESCRIPTION

- The zone extension module (AZ) allows the system zone capacity to be increased by an additional 8 zones.
- A maximum of three AZ modules can be installed in one system taking the total number of zones up to 32.

LOCAL CONTROL

- System reset button.
- Zone extension dip switch. To change from (Zone 9-16) or (Zone 17-24) or (Zone 25-32).

INPUTS / OUTPUTS

- 1 x AAIRNET™ input communication ports.
- 8 x zone motors.

POWER REQUIREMENTS

- 1 x 24 VAC power supply.

WARNING: USE ONLY SPECIFIED ADVANTAGE AIR POWER SUPPLIES AND CABLES FOR THIS PRODUCT.

LOCAL INDICATION

- Motor drive open , drive close.
- Power.
- AZ OK.
- AZ busy.
- AZ error.
- AAIRNET™ transmit (Tx) and receive (Rx).

GENERATION III AAIRNET™ EXTENSION MODULE

AdvantageAir



AAIRNET™ EXTENSION MODULE (AAE)

DESCRIPTION

- The AAIRNET™ Extension module is used when there are insufficient AAIRNET™ ports available to service the control system. This module is similar to a computer HUB.

INPUTS / OUTPUTS

- 1 x AAIRNET™ input communication port.
- 4 x AAIRNET™ output communication ports.

LOCAL INDICATION

- AAIRNET™ input transmit (Tx) and receive (Rx).
- AAIRNET™ output transmit (Tx) and receive (Rx).
- AAE OK.

LOCAL CONTROL

- System reset button.

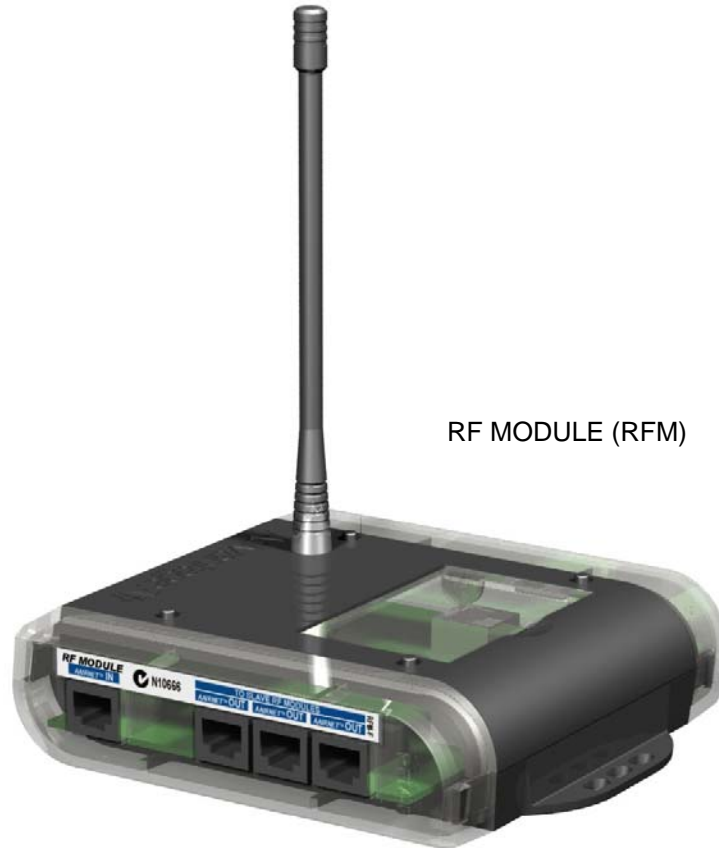
POWER REQUIREMENTS

- 1 x 12 VDC power supply.

WARNING: USE ONLY SPECIFIED ADVANTAGE AIR POWER SUPPLIES AND CABLES FOR THIS PRODUCT.

GENERATION III RF MODULE AND SLAVES

AdvantageAir



RF MODULE (RFM)

DESCRIPTION

The RF module is used when any form of RF control is required on the system. For example:

- RF temperature sensors
- RF touch panel
- RF remote controls
- Up to 3 slave RF modules can be connected to the master RF module to increase the coverage of the RF system.

INPUTS / OUTPUTS

- 1 x AAIRNET™ input communication ports
- 3 x slave outputs. (Note the slave output from the master must be connected into the slave AAIRNET™ input communication ports. Slaves can only be connected to the master RF module (see diagram below).

LOCAL CONTROL

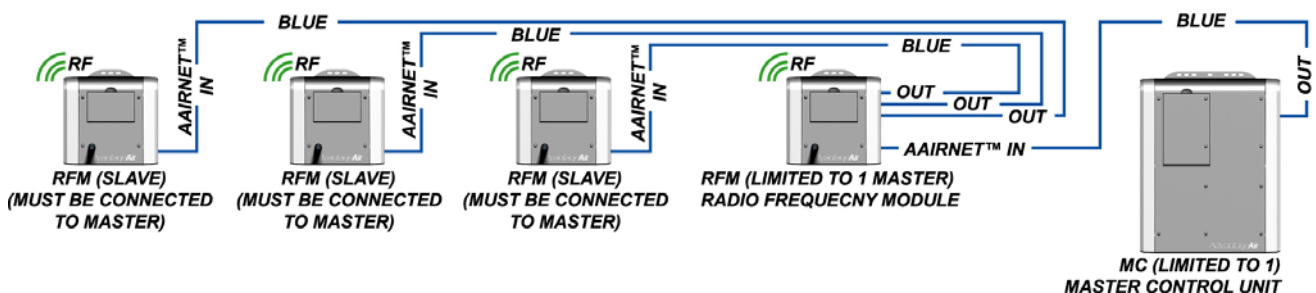
- System reset button.
- Please ensure the antenna is tightly screwed into the module.

POWER REQUIREMENTS

- No dedicated power supply is required for RF master or slave modules.

LOCAL INDICATION

- RF carrier detect.
- Master RFM AAIRNET™ transmit (Tx) and receive (Rx).
- Slave RFM AAIRNET™ input transmit (Tx) and receive (Rx).
- RFM OK.



GENERATION III PRESSURE SENSOR MODULE STAND ALONE

AdvantageAir



PRESSURE SENSOR MODULE (PSDS)

DESCRIPTION

- The pressure sensor module can be used as a standalone module and measures the pressure in the system then modulates the dedicated constant zones to maintain the required set point pressure.
- The technician can change the static pressure set point at any time via the onboard screen and buttons.
- The technician can limit the percent open for any constant zone.

INPUTS / OUTPUTS

- 1 x AAIRNET™ input communication port.
- 3 x zone motors for dedicated constant zones.
- Static pressure tube.

LOCAL INDICATION

- Static pressure set point.
- Current system static pressure.
- Motor drive open , drive close.
- Power.
- PSDS OK.
- PSDS busy.
- PSDS error.
- AAIRNET™ transmit (Tx) and receive (Rx).
- Note: indication will vary depending which mode it is operating in.

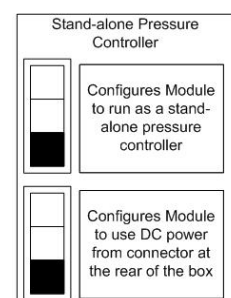
LOCAL CONTROL

- System reset button.
- Mode select (see below).
- Power select (see below).
- Setup controls, UP, DOWN, ENTER.

POWER REQUIREMENTS

- 1 x 24 VAC power supply.
- 1 x 12 VDC power supply.

WARNING: USE ONLY SPECIFIED ADVANTAGE AIR POWER SUPPLIES AND CABLES FOR THIS PRODUCT.



GENERATION III PRESSURE SENSOR MODULE FOR GEN III INTEGRATION

AdvantageAir



PRESSURE SENSOR MODULE (PSDS)

DESCRIPTION

- When the pressure sensor module is being used as part of the Gen III control system for all system configurations.
- The pressure sensor module measures the pressure in the system and modulates the dedicated constant zones to maintain the required set point.
- Changes to the static pressure set point can only be made via the touch screen or service laptop.
- The technician can limit the percent open for any constant zone.

INPUTS / OUTPUTS

- 1 x AAIRNET™ input communication ports.
- 3 x zone motors for dedicated constant zones.
- Static pressure tube.

LOCAL INDICATION

- Static pressure set point.
- Current system static pressure.
- Motor drive open , drive close.
- Power.
- System OK.
- System busy.
- System error.
- AAIRNET™ transmit (Tx) and receive (Rx).
- Note: indication will vary depending which mode it is operating in.

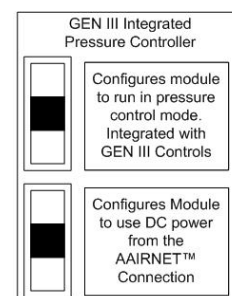
LOCAL CONTROL

- System reset button.
- Mode select (see below).
- Power select (see below).
- Setup controls, UP, DOWN, ENTER.

POWER REQUIREMENTS

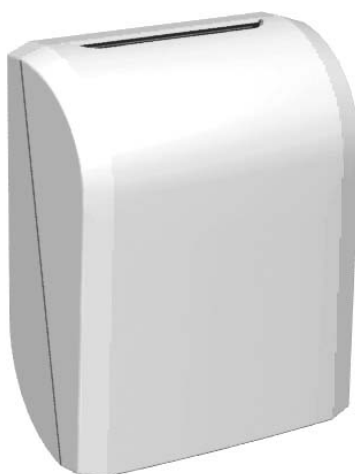
- 1 x 24 VAC power supply.

WARNING: USE ONLY SPECIFIED ADVANTAGE AIR POWER SUPPLIES AND CABLES FOR THIS PRODUCT.



GENERATION III WIRELESS ZONE TEMPERATURE SENSOR

AdvantageAir



RF WALL SENSOR (RFWS)

DESCRIPTION

- The wireless zone temperature sensor is used for measuring the temperature in each temperature controlled zone.
- A maximum of one sensor can be installed for each zone.
- These sensors are normally installed on internal walls or fixed furniture and are therefore not required to be insulated.

INPUTS / OUTPUTS

- All communications are via *AAIRNET™* 433 MHz two way radio frequency.

LOCAL INDICATION

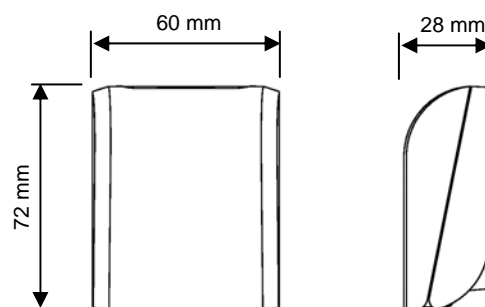
- 1 x green LED for location verification and programming verification.

LOCAL CONTROL

- 1 x multifunction button used during setup and commissioning.

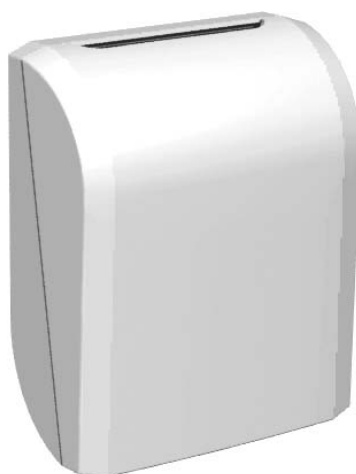
POWER REQUIREMENTS

- 2 X AAA batteries (reverse polarity protected).



GENERATION III WIRED ZONE TEMPERATURE SENSOR

*Advantage***Air**



WALL SENSOR (WS)

DESCRIPTION

- The wired zone temperature sensor is used for measuring the temperature in each temperature controlled zone.
- A maximum of one sensor can be installed for each zone.
- These sensors are normally installed on external cavity walls and are insulated.

LOCAL CONTROL

- No local control facilities.

POWER REQUIREMENTS

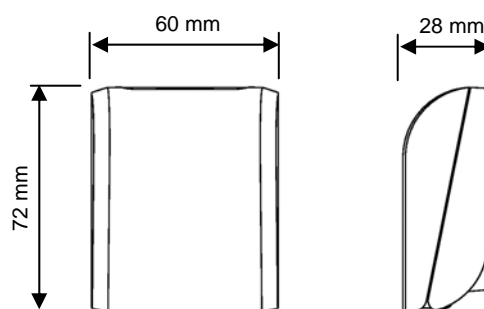
- No dedicated power supply required.

INPUTS / OUTPUTS

- 1 x Keyed RJ 45 jack for connection to the Wired temperature sensor module.

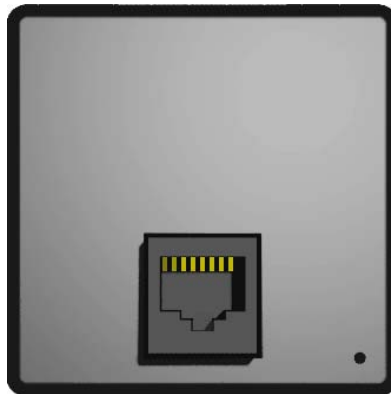
LOCAL INDICATION

- 1 x green LED for location verification.



GENERATION III SUPPLY AIR TEMPERATURE SENSOR

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SUPPLY AIR SENSOR (SAS)

DESCRIPTION

- The wired supply air temperature sensor is used for measuring the temperature of the supply air leaving the fan coil unit.
- A maximum of one sensor can be installed for each system.

INPUTS / OUTPUTS

- 1 x keyed RJ 45 jack for connection to the MC.

LOCAL INDICATION

- No indication.

LOCAL CONTROL

- No local control facilities.

POWER REQUIREMENTS

- No dedicated power supply required.

**GENERATION III
POWERS SUPPLY UNIT— AC ADAPTOR**

*Advantage***Air**



POWER SUPPLY (PSU-AC)

DESCRIPTION

- Power supply for all Gen III AC equipment.
- For indoor use only.
- Supplied with a 1.8 meter long IEC male to IEC female input connector.
- Supplied with an integral 1.0 meter long output cable.

INPUTS / OUTPUTS

- INPUT: 240VAC 50Hz / 0.3A
- OUTPUT: 24VAC 1.8A / 52W MAX

LOCAL INDICATION

- No local indication.

LOCAL CONTROL

- IEC power cable can be locally disconnected from unit.

POWER REQUIREMENTS

- 240VAC 50Hz 0.3A



POWER SUPPLY (PSU-DC)

DESCRIPTION

- Power supply for all Gen III DC equipment.
- For indoor use only.
- Supplied with a 1.8 meter long IEC male to IEC female input connector.
- Supplied with an integral 3.0 meter long output cable.
- 10 meter extender cables can be provided.

LOCAL CONTROL

- IEC power cable can be locally disconnected from unit.

INPUTS / OUTPUTS

- INPUT: 100 to 240VAC 50-60Hz / 0.5A
- OUTPUT: 12VDC 1.5A / 18W MAX

POWER REQUIREMENTS

- 100 to 240VAC 50-60Hz 0.5 A

LOCAL INDICATION

- Green DC output LED indicator.



IEC MULTI POWER BOARD

DESCRIPTION

- Power board that allows 1x IEC male input and 4x IEC female output.
- Used when insufficient IEC points are available on the ACUCM.
- Pin temperature 70 °C, Protection class I

INPUTS / OUTPUTS

- INPUT: 240VAC 50Hz
- OUTPUT: 240VAC 50Hz

LOCAL INDICATION

- No local indication.

LOCAL CONTROL

- IEC power cable can be locally disconnected from unit.

POWER REQUIREMENTS

- 240VAC 50Hz

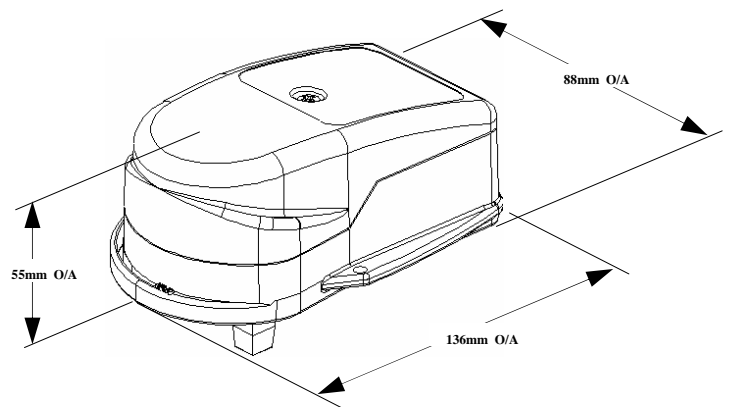


DESCRIPTION

- Grey in colour.
- Drive return.
- Motor switches off when not driving saving energy and running costs.
- External indicator shows damper position.
- Low profile enables damper to fit in tight spaces.
- Comes preinstalled and tested on Advantage Air Exact Air Regulators.
- Fast 16 second open to closed drive time.
- Powerful 2.5Nm-torque motor will drive any Advantage Air damper
- RJ 12 clip in connection.
- Quiet operation.
- Three point positive fixing system allows motor to be installed upside down.
- Tough external casing.
- Plastic shaft adaptor prevents “cold bridging”.

WARNING: USE ONLY SPECIFIED ADVANTAGE AIR POWER SUPPLIES AND CABLES FOR THIS PRODUCT.

DIMENSIONS



GENERATION III WIRED COLOUR TOUCH SCREEN PANEL

AdvantageAir



TOUCH SCREEN PANEL (TSP)
BENCH TOP AND WALL MOUNTED VERSIONS

DESCRIPTION

- Available in both wall or desk top mounted versions.
- Provides all user and limited setup functions.
- See user manual for functionality.

INPUTS / OUTPUTS

- DATA INPUT / OUTPUT: RJ 45 AAIRNET™

LOCAL INDICATION

- No local indication other than screen.

SOFTWARE VERSION

- These touch screens have different software versions for systems with A/C unit control and for systems without A/C unit control. Check the back of the touch screen panel to ensure correct software version. This is not reconfigured on site.

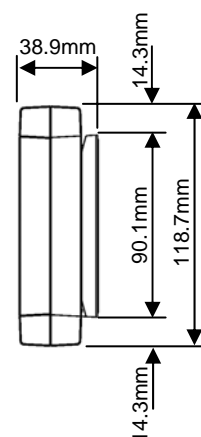
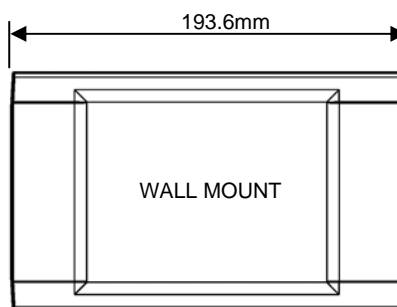
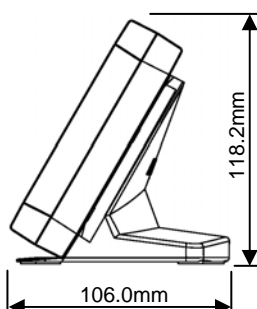
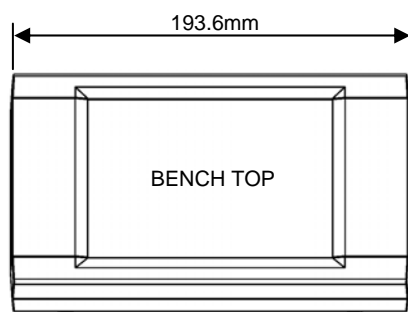
LOCAL CONTROL

- System reset button on back of panel.

POWER REQUIREMENTS

- 12VDC

WARNING THIS PRODUCT IS NOT REVERSE POLARITY PROTECTED. ONLY USE SPECIFIED ADVANTAGE AIR POWER SUPPLIES AND CABLES FOR THIS PRODUCT.



GENERATION III RF COLOUR TOUCH SCREEN PANEL

AdvantageAir



TOUCH SCREEN PANEL (RFTSP)
BENCH TOP AND WALL MOUNTED VERSIONS

DESCRIPTION

- Available in both wall or desk top mounted versions.
- Provides all user and limited setup functions.
- See user manual for functionality.

INPUTS / OUTPUTS

- All communications are via *AAIRNET™* 433 MHz two way radio frequency.

LOCAL INDICATION

- No local indication other than screen.

SOFTWARE VERSION

- These touch screens have different software versions for systems with A/C unit control and for systems without A/C unit control. Check the back of the touch screen panel to ensure correct software version. This is not reconfigured on site.

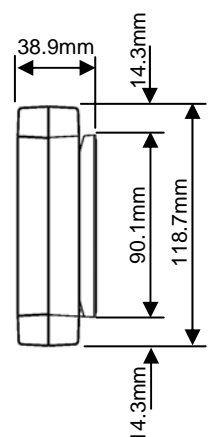
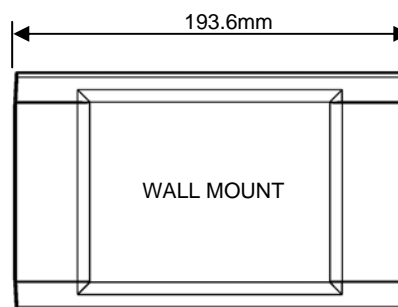
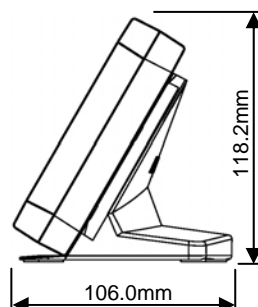
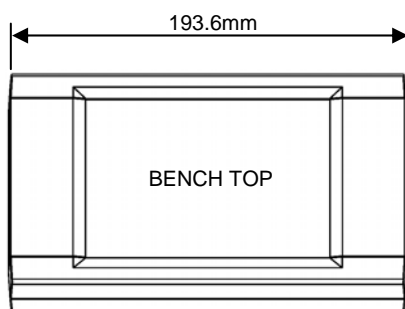
LOCAL CONTROL

- Touch screen panel only reset button on back of panel.

POWER REQUIREMENTS

- 12VDC 1.5A

WARNING THIS PRODUCT IS NOT REVERSE POLARITY PROTECTED. ONLY USE SPECIFIED ADVANTAGE AIR POWER SUPPLIES AND CABLES FOR THIS PRODUCT.



GENERATION III 200/300 SERIES REMOTE UNIT CONTROL

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200/300 SERIES REMOTE UNIT
CONTROL
(RUC200300)

DESCRIPTION

- Provides all unit control functions and switching zones on and off.
- Up to 8 remote controls can be used on a system.
- Provides technician with limited setup functions.

POWER REQUIREMENTS

- 3 X AAA batteries (reverse polarity protected).

INPUTS / OUTPUTS

- All communications are via *AAIRNET™* 433 MHz two way radio frequency .

CONFIGURATION

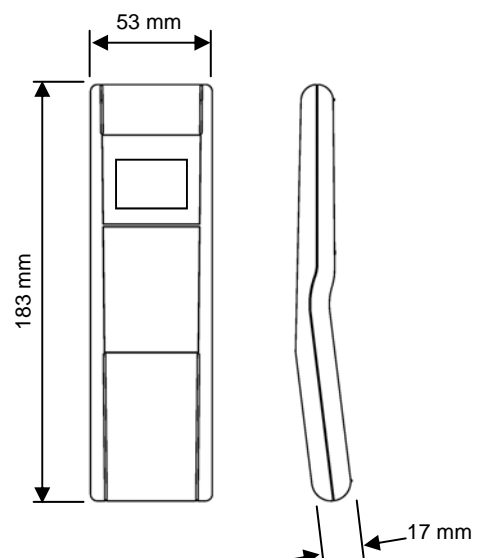
- To configure this remote to perform these functions in the Advanced menu on the remote set the control type to **UC**. For details refer to the installation instructions.

LOCAL INDICATION

- No local indication other than screen.

LOCAL CONTROL

- Remote controller reset button on back of handset.



GENERATION III 300/500 SERIES REMOTE CONTROL

AdvantageAir



300/500 SERIES REMOTE UNIT
CONTROL
(RUC300500)

DESCRIPTION

- One remote controller can be installed in each zone if required.
- Provides all A/C unit control functions.
- Provides master zone temperature control.
- Provides limited control on all other zones.
- Provides some technician setup functions.
- See user manual for functionality.

POWER REQUIREMENTS

- 3 X AAA batteries (reverse polarity protected).

INPUTS / OUTPUTS

- All communications are via *AAIRNET™* 433 MHz two way radio frequency.

LOCAL INDICATION

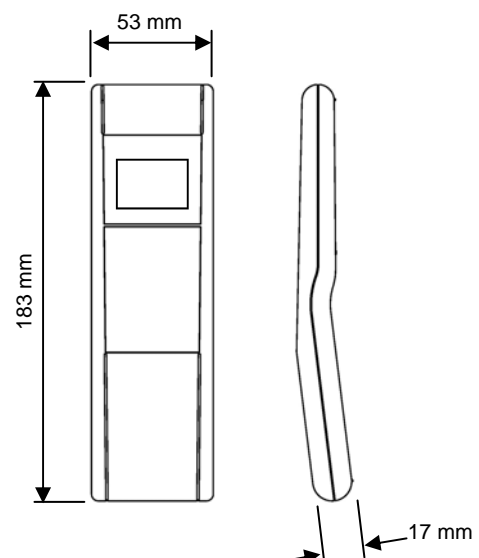
- No local indication other than screen.

LOCAL CONTROL

- Remote controller reset button on back of panel.

CONFIGURATION

- To configure this remote to perform these functions in the Advanced menu on the remote set the control type to **VAV**. For details refer to the installation instructions.



GENERATION III 300/500 SERIES REMOTE CONTROL

AdvantageAir



300/500 SERIES REMOTE CONTROL
(R300500)

DESCRIPTION

- One remote control per zone can be installed on a system.
- Provides zone controls for the associated zone.
- Provides some technician setup functions.
- Displays system settings (on selected system).
- See user manual for functionality.

INPUTS / OUTPUTS

- All inputs and outputs are via AAIRNET™ 433 MHz two way radio frequency.

LOCAL INDICATION

- No local indication other than screen.

LOCAL CONTROL

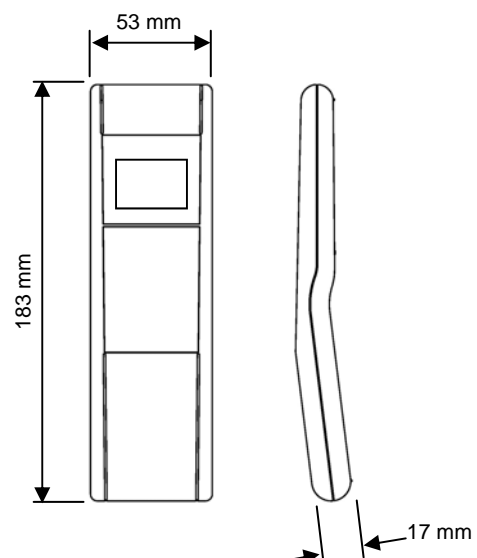
- Remote controller reset button on back of handset.

POWER REQUIREMENTS

- 3 X AAA batteries (reverse polarity protected).

CONFIGURATION

- To configure this remote to perform these functions in the Advanced menu on the remote set the control type to **VAV**. For details refer to the installation instructions.



GENERATION III 400 SERIES REMOTE CONTROL

AdvantageAir



400 SERIES REMOTE CONTROL
(R400)

DESCRIPTION

- This remote is used for temperature control of a single zone CAPS A/C unit control. The A/C unit will have been provided with its own propriety controls and controlling thermostat.
- Provides temperature control for a single zone.
- Provides some technician setup functions.
- See user manual for functionality.

INPUTS / OUTPUTS

- All communications are via *AAIRNET™* 433 MHz two way radio frequency.

LOCAL INDICATION

- No local indication other than screen.

LOCAL CONTROL

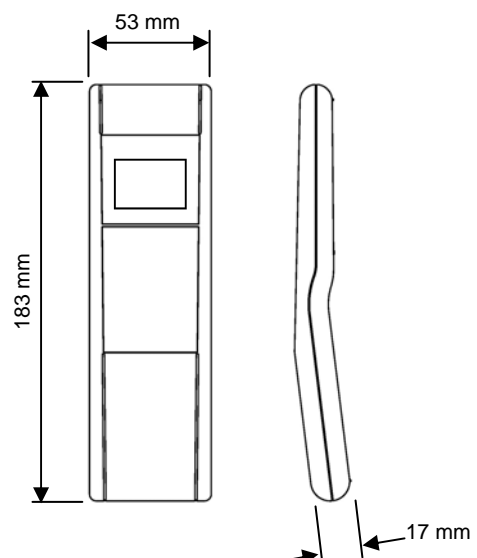
- Remote controller reset button on back of handset.

POWER REQUIREMENTS

- 3 X AAA batteries (reverse polarity protected).

CONFIGURATION

- To configure this remote to perform these functions in the Advanced menu on the remote set the control type to **VAV**. For details refer to the installation instructions.



GENERATION III 200 SERIES REMOTE CONTROL

AdvantageAir



200 SERIES REMOTE CONTROL
(R200)

DESCRIPTION

- This remote is used for simple open / close zoning without A/C unit control. The A/C unit will have been provided with its own propriety controls and controlling thermostat.
- Provides OPEN, CLOSE control for all the zones in a system.
- Provides some technician setup functions.
- See user manual for functionality.

INPUTS / OUTPUTS

- All communications are via *AAIRNET™* 433 MHz two way radio frequency.

LOCAL INDICATION

- No local indication other than screen.

LOCAL CONTROL

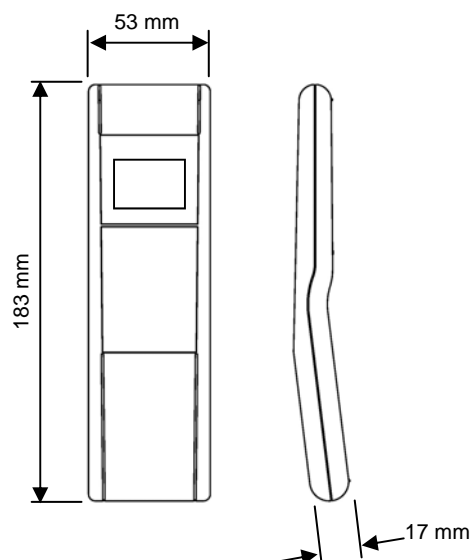
- Remote controller reset button on back of handset.

POWER REQUIREMENTS

- 3 X AAA batteries (reverse polarity protected).

CONFIGURATION

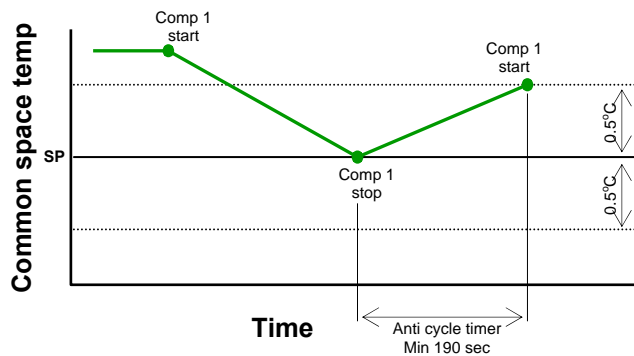
- To configure this remote to perform these functions in the Advanced menu on the remote set the control type to **CAV**. For details refer to the installation instructions.



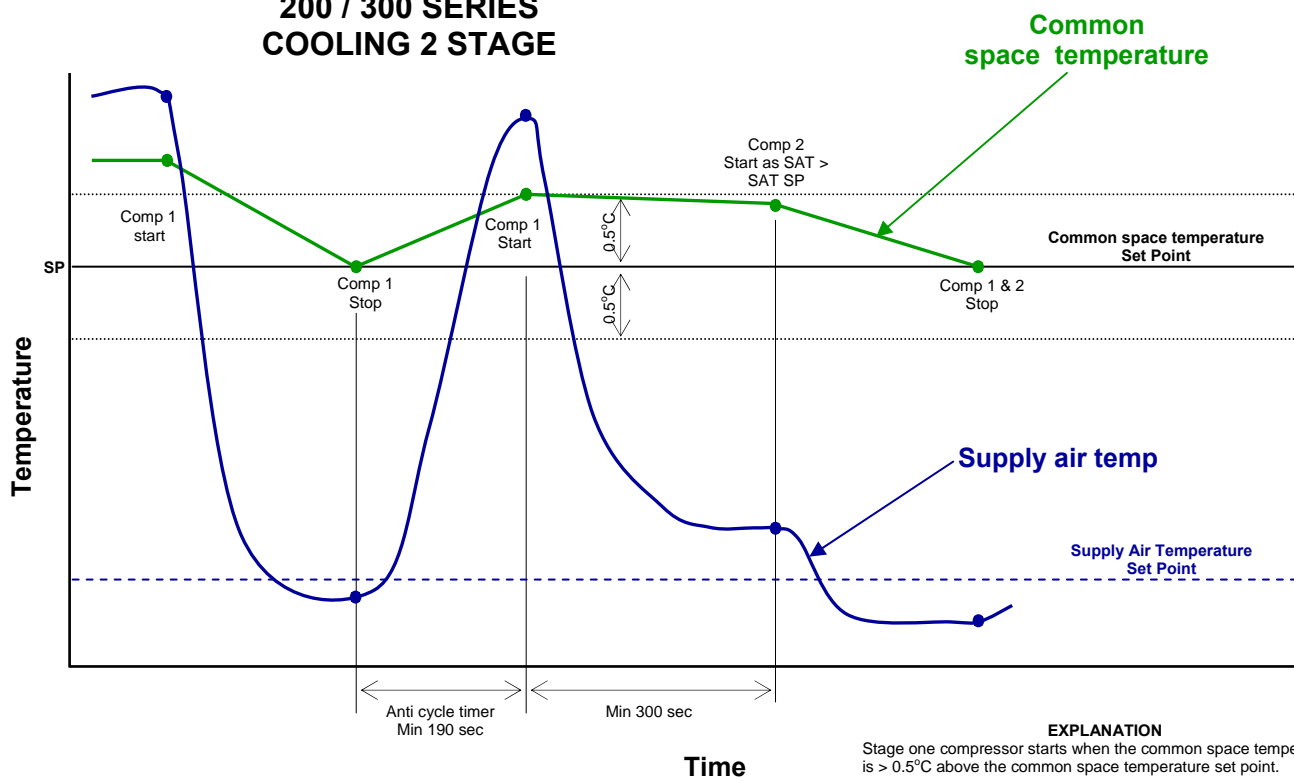
GENERATION III 200 / 300 SERIES CONTROL SEQUENCES

AdvantageAir

200 / 300 SERIES COOLING 1 STAGE



200 / 300 SERIES COOLING 2 STAGE



EXPLANATION

Stage one compressor starts when the common space temperature is $> 0.5^{\circ}\text{C}$ above the common space temperature set point.

Stage two compressor will start if stage one compressor has been running for a minimum of 300 seconds and the supply air temperature is above the supply air temperature set point.

Stage one and two compressors will stop when the common space temperature achieves set point temperature.

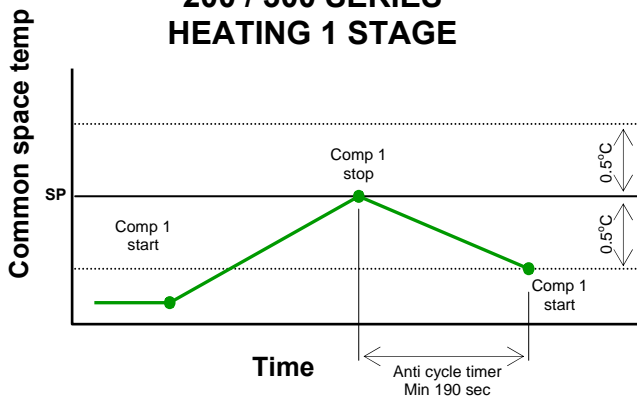
Notes:

SP denotes Set Point
Comp denotes Compressor
RV denotes Reversing valve
SA denotes Supply air
SAT denotes Supply air temperature
SAT SP denotes Supply air temperature Set Point
Min denotes Minimum
Sec denotes Seconds
Error denotes (Actual zone temp— zone set point)
2nd stage only applicable on 2 stage units

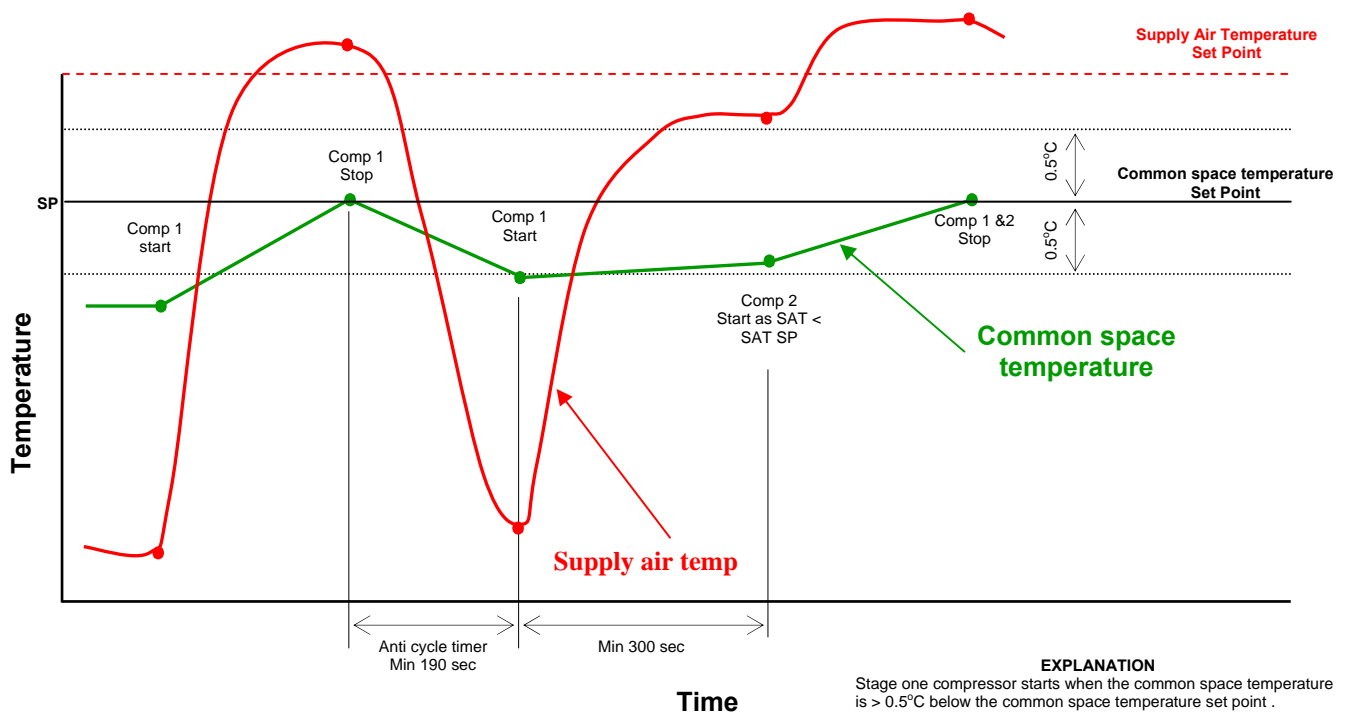
GENERATION III 200 / 300 SERIES CONTROL SEQUENCES

AdvantageAir

200 / 300 SERIES HEATING 1 STAGE



200 / 300 SERIES HEATING 2 STAGE



EXPLANATION

Stage one compressor starts when the common space temperature is $> 0.5^{\circ}\text{C}$ below the common space temperature set point.

Stage two compressor will start if stage one compressor has been running for a minimum of 300 seconds and the supply air temperature is below the supply air temperature set point.

Stage one and two compressors will stop when the common space temperature achieves set point temperature.

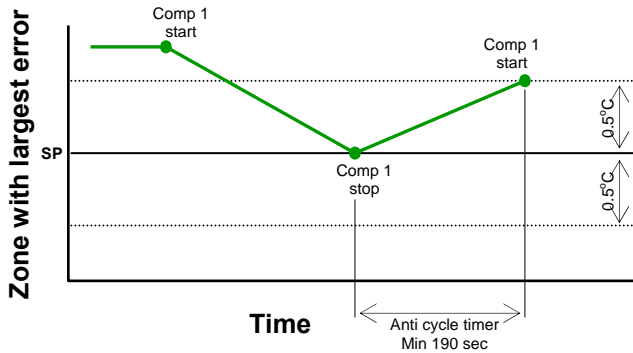
Notes:

SP denotes Set Point
Comp denotes Compressor
RV denotes Reversing valve
SA denotes Supply air
SAT denotes Supply air temperature
SAT SP denotes Supply air temperature Set Point
Min denotes Minimum
Sec denotes Seconds
Error denotes (Actual zone temp— zone set point)
2nd stage only applicable on 2 stage units

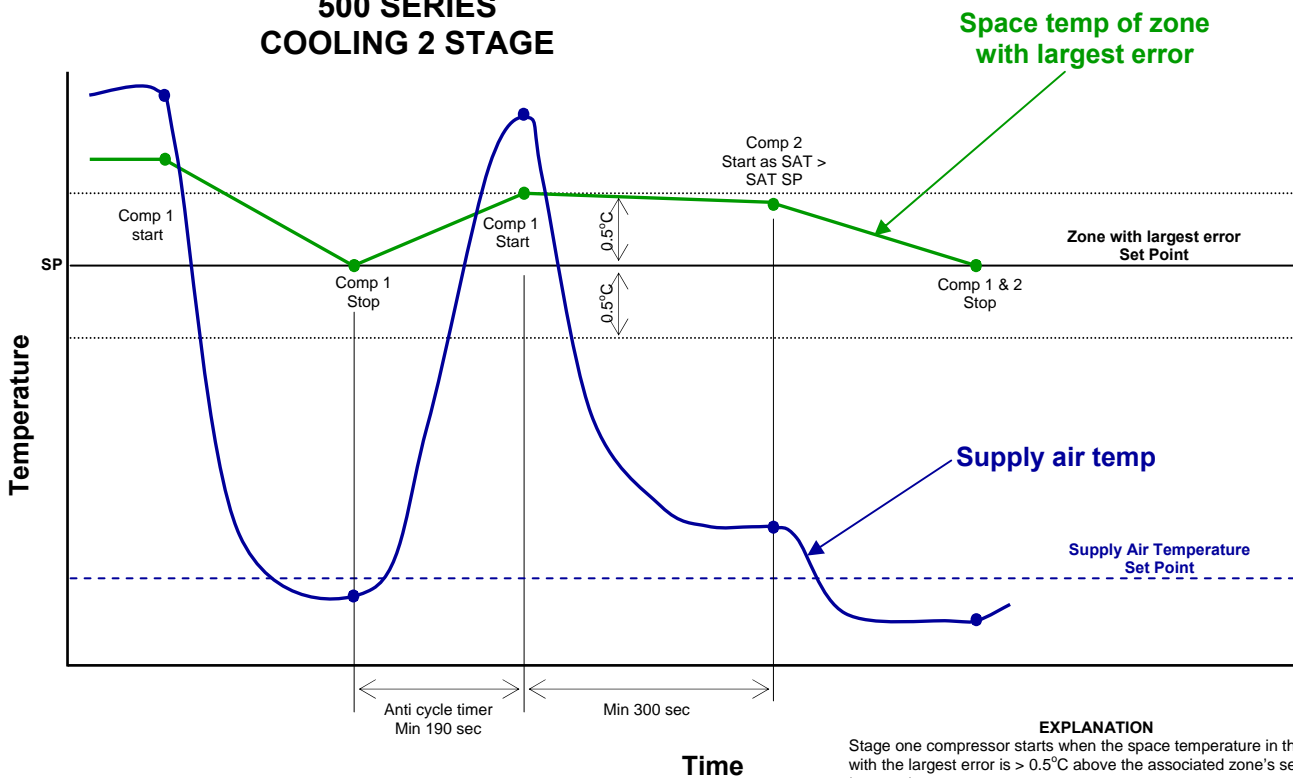
GENERATION III 500 SERIES CONTROL SEQUENCES

AdvantageAir

500 SERIES COOLING 1 STAGE



500 SERIES COOLING 2 STAGE



EXPLANATION

Stage one compressor starts when the space temperature in the zone with the largest error is $> 0.5^{\circ}\text{C}$ above the associated zone's set point temperature.

Stage two compressor will start if stage one compressor has been running for a minimum of 300 seconds and the supply air temperature is above the supply air temperature set point.

Stage one and two compressors will stop when the space temperature in the zone with the largest error achieves set point temperature.

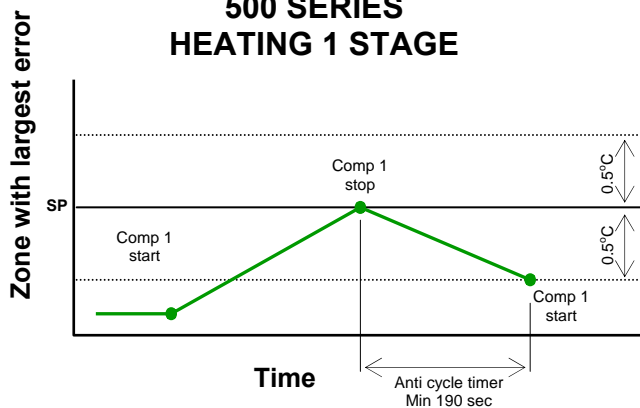
Notes:

SP denotes Set Point
Comp denotes Compressor
RV denotes Reversing valve
SA denotes Supply air
SAT denotes Supply air temperature
SAT SP denotes Supply air temperature Set Point
Min denotes Minimum
Sec denotes Seconds
Error denotes (Actual zone temp— zone set point)
2nd stage only applicable on 2 stage units

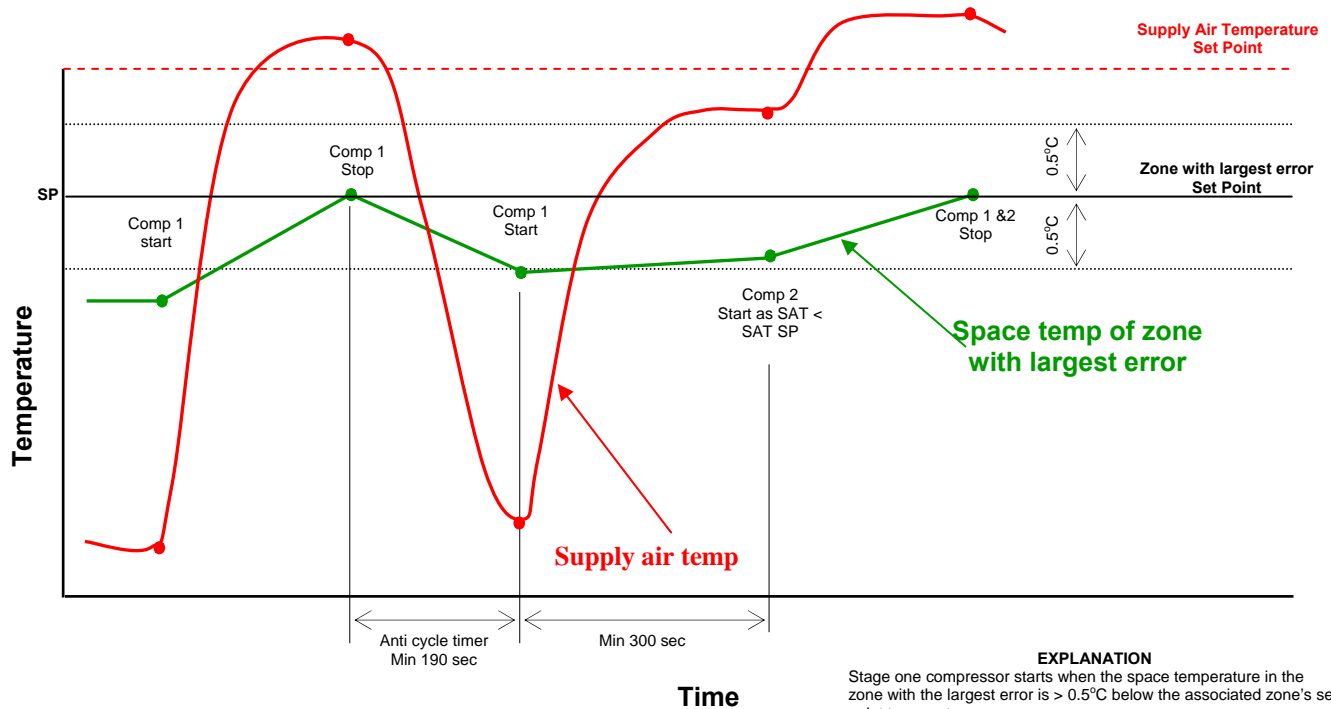
GENERATION III 500 SERIES CONTROL SEQUENCES

AdvantageAir

500 SERIES HEATING 1 STAGE



500 SERIES HEATING 2 STAGE



EXPLANATION

Stage one compressor starts when the space temperature in the zone with the largest error is $> 0.5^{\circ}\text{C}$ below the associated zone's set point temperature.

Stage two compressor will start if stage one compressor has been running for a minimum of 300 seconds and the supply air temperature is below the supply air temperature set point.

Stage one and two compressors will stop when the space temperature in the zone with the largest error achieves set point temperature.

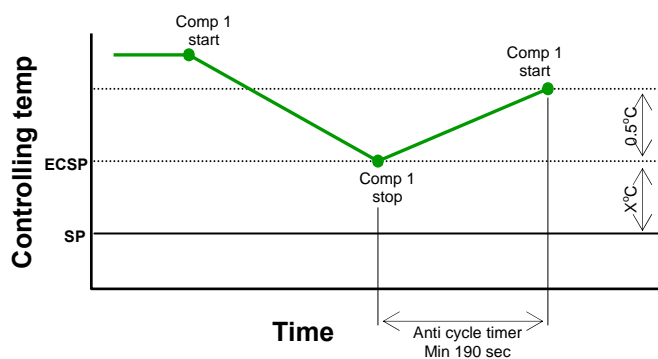
Notes:

SP denotes Set Point
Comp denotes Compressor
RV denotes Reversing valve
SA denotes Supply air
SAT denotes Supply air temperature
SAT SP denotes Supply air temperature Set Point
Min denotes Minimum
Sec denotes Seconds
Error denotes (Actual zone temp— zone set point)
2nd stage only applicable on 2 stage units

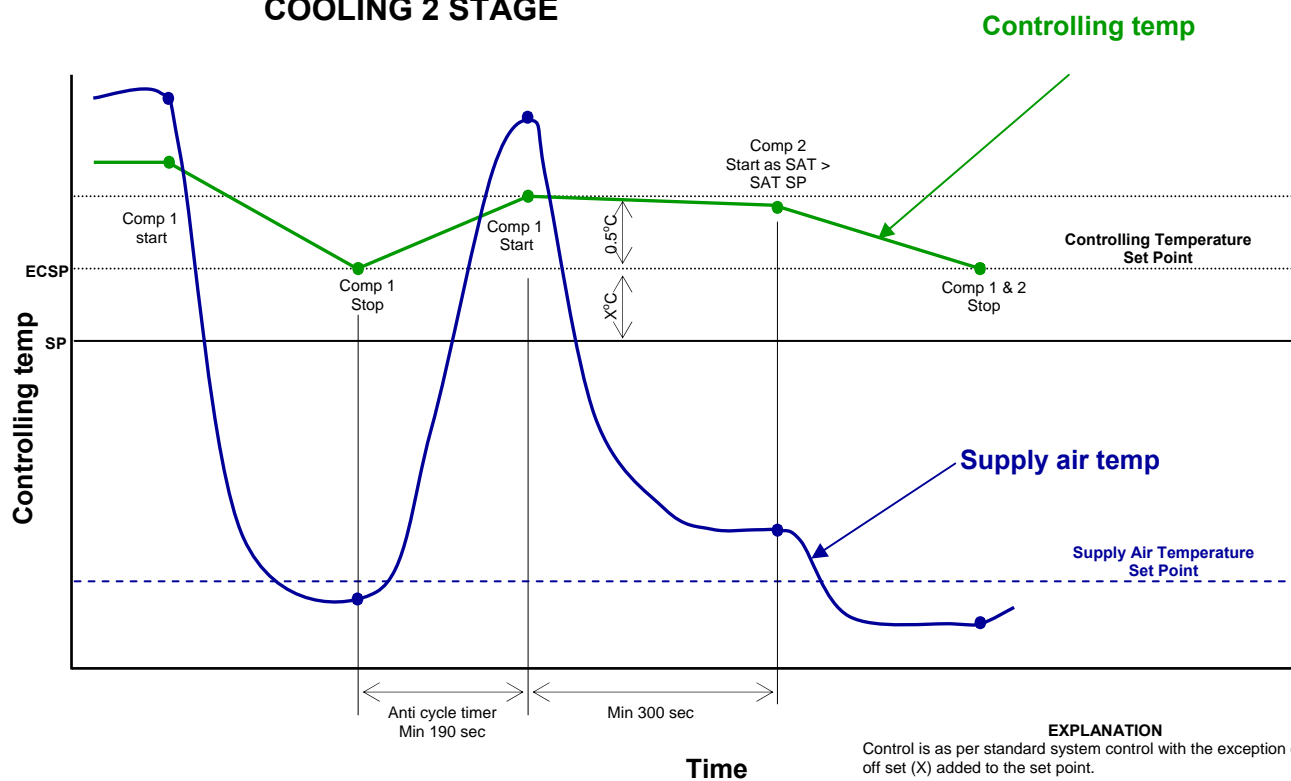
GENERATION III 500 SERIES ECONOMY CONTROL SEQUENCES

AdvantageAir

COOLING 1 STAGE



COOLING 2 STAGE



EXPLANATION

Control is as per standard system control with the exception of an off set (X) added to the set point.

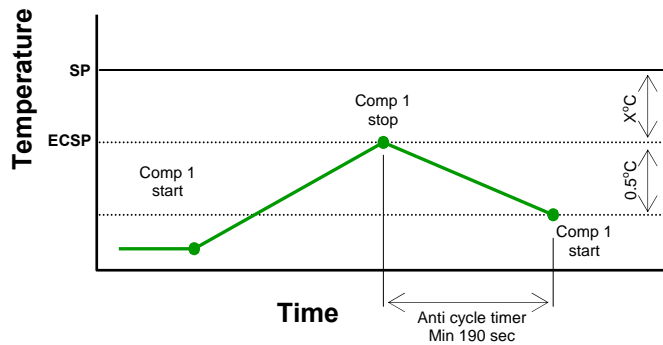
Notes:

$X^{\circ}\text{C}$ is a technician selected off set
ECSP denotes Economy set point
SP denotes Set Point
Comp denotes Compressor
SA denotes Supply air
SAT denotes Supply air temperature
SAT SP denotes Supply air temperature Set Point
Min denotes Minimum
Sec denotes Seconds
Error denotes (Actual zone temp— zone set point)
2nd stage only applicable on 2 stage units

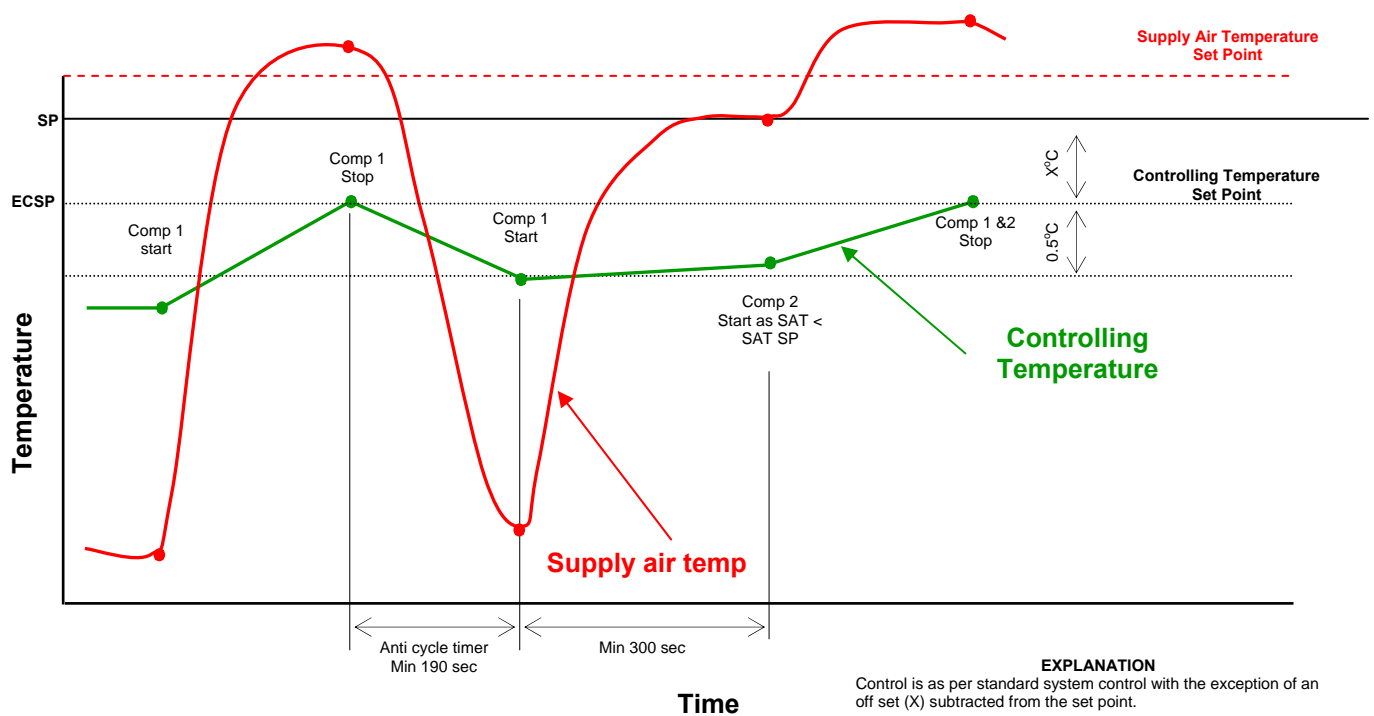
GENERATION III 500 SERIES ECONOMY CONTROL SEQUENCES

AdvantageAir

HEATING 1 STAGE



HEATING 2 STAGE

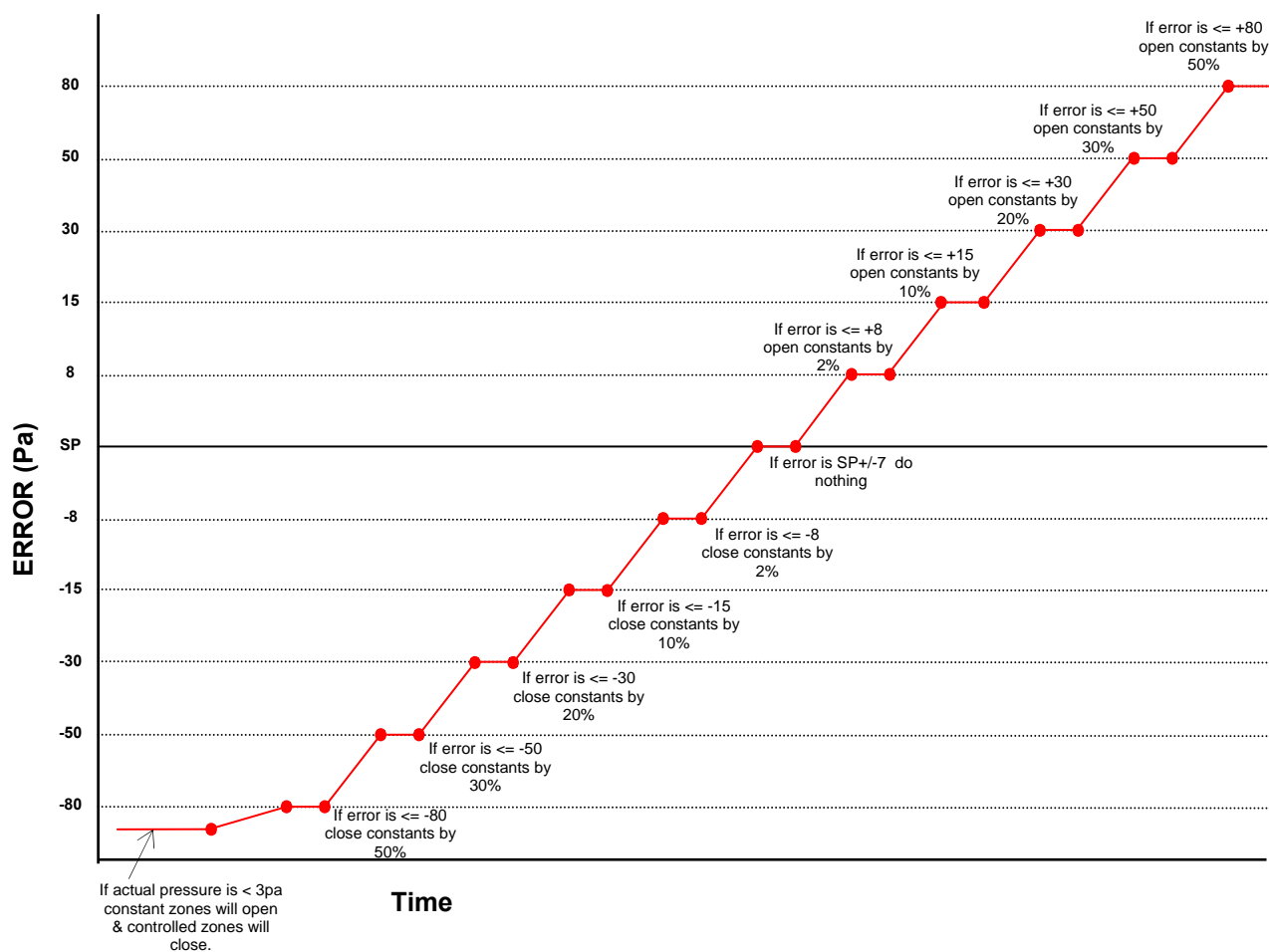


Notes:
 X°C is a technician selected off set
 ECSP denotes Economy set point
 SP denotes Set Point
 Comp denotes Compressor
 SA denotes Supply air
 SAT denotes Supply air temperature
 SAT SP denotes Supply air temperature Set Point
 Min denotes Minimum
 Sec denotes Seconds
 Error denotes (Actual zone temp— zone set point)
 2nd stage only applicable on 2 stage units

GENERATION III PRESSURE SENSOR MODULE CONTROL SEQUENCES

AdvantageAir

CONSTANT DAMPER CONTROL



Notes:

Error is a moving average of Actual pressure — set point pressure
Minimum damper movement is 5%. Movements less than 5% will accumulate over time until 5% is achieved.

If more than 1 constant is installed they will open in order and close in reverse order. I.e. opening. Constant 1, 0-100% then constant 2, 0-100% then constant 3, 0-100%. Closing constant 3, 100 - 0% then constant 2, 100-0% then constant 1, 100-0%.

If pressure drops below 3 Pa pressure controller will assume the system has stopped and the 1st constant will open in readiness for the system restarting.

SP denotes Set Point
Min denotes Minimum
Sec denotes Seconds

ZONE DAMPERS— CLIMATE CONTROL COOLING MODE

- When the system is off all dampers are set to fully close.
- Damper maximum and minimum positions are technician selected. (default is 100% and 0% respectively) .
- System must be “on”.
- The actual zone temperature must be > the zone set point.
- The supply air temperature must be < the actual zone temperature.
- Once all the above conditions have been met the damper will be permitted to open and will modulate using a PID control loop.

ZONE DAMPERS— CLIMATE CONTROL HEATING MODE

- When the system is off all dampers are set to fully close.
- Damper maximum and minimum positions are user selected. (default is 100% and 0% respectively)
- System must be “on”.
- The actual zone temperature must be < the zone set point.
- The supply air temperature must be > than 30°C for 30 seconds.
- The supply air temperature must be > the actual zone temperature.
- Once all the above conditions have been met the damper will be permitted to open and will modulate using a PID control loop.

LOGIC CONSTANT CONTROL

- The number of dampers fully* open in the system must be \geq the number of constant zones.
- If the number of dampers fully open is < the number of constants one of the constant dampers will open fully.

ZONE SENSOR FAULT

- If there is a fault with a zone sensor the associated zone will not be permitted to operate in climate control mode, however the zone is still permitted to operate in a manual mode.

Notes:

* If a damper is set to have a maximum open position of 80% the damper will be deemed to be fully open at 80% for the purposes of logic constant control.

GENERATION III HOME AUTOMATION MODULE

AdvantageAir



HOME AUTOMATION MODULE (CA3-HAM)

DESCRIPTION

- The home automation module can be used as an interface between 3rd party home automation systems and / or GPRS and SMS communication with the Gen III control system.

INPUTS / OUTPUTS

- 1 x AAIRWEB™ input communication port.
- 1 x RS232 port for 3rd party home automation interface or Advantage Air dongle.
- 1 x GPRS power jack.
- 1 x GPRS data jack.
- 1 x RS485 port for 3rd party home automation interface
- 1 x RS422 port for 3rd party home automation interface

LOCAL INDICATION

- Power.
- GPRS ON.
- System OK.
- GPRS STATUS
- GPRS transmit (Tx) and receive (Rx).
- RS232 transmit (Tx) and receive (Rx).
- SERVICE transmit (Tx) and receive (Rx).
- RS485 transmit (Tx) and receive (Rx).
- AAIRWEB™ transmit (Tx) and receive (Rx).
- Note: indication will vary depending which mode it is operating in.

LOCAL CONTROL

- System reset button.
- Mode select (see below).

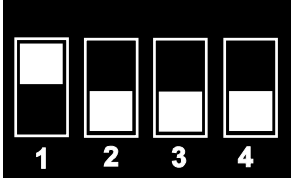
POWER REQUIREMENTS

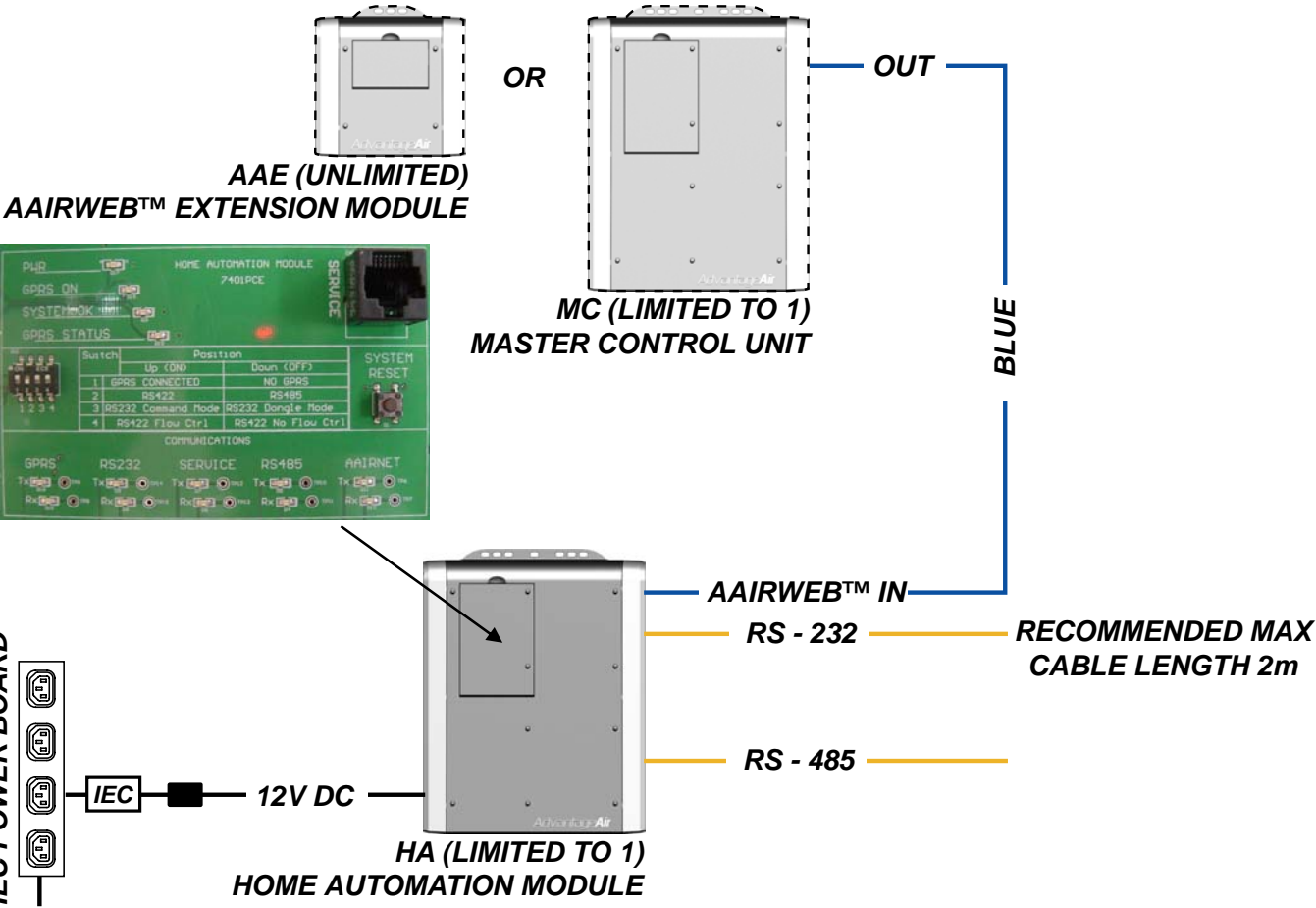
- 1 x 12 VDC power supply.

WARNING: USE ONLY SPECIFIED ADVANTAGE AIR POWER SUPPLIES AND CABLES FOR THIS PRODUCT.

GENERATION III HOME AUTOMATION MODULE



	Switch	Position	
		Up (ON)	Down (OFF)
	1	GPRS CONNECTED	NO GPRS
	2	RS422	RS485
	3	RS232 Command Mode	RS232 Dongle Mode
	4	RS422 Flow Ctrl	RS422 No Flow Ctrl



GENERATION III GPRS MODEM

AdvantageAir



GPRS MODEM

DESCRIPTION

- GPRS modem can be connected to the Home Automation module to enable external communication with the Gen III control system via the internet or via SMS text messaging.

LOCAL INDICATION

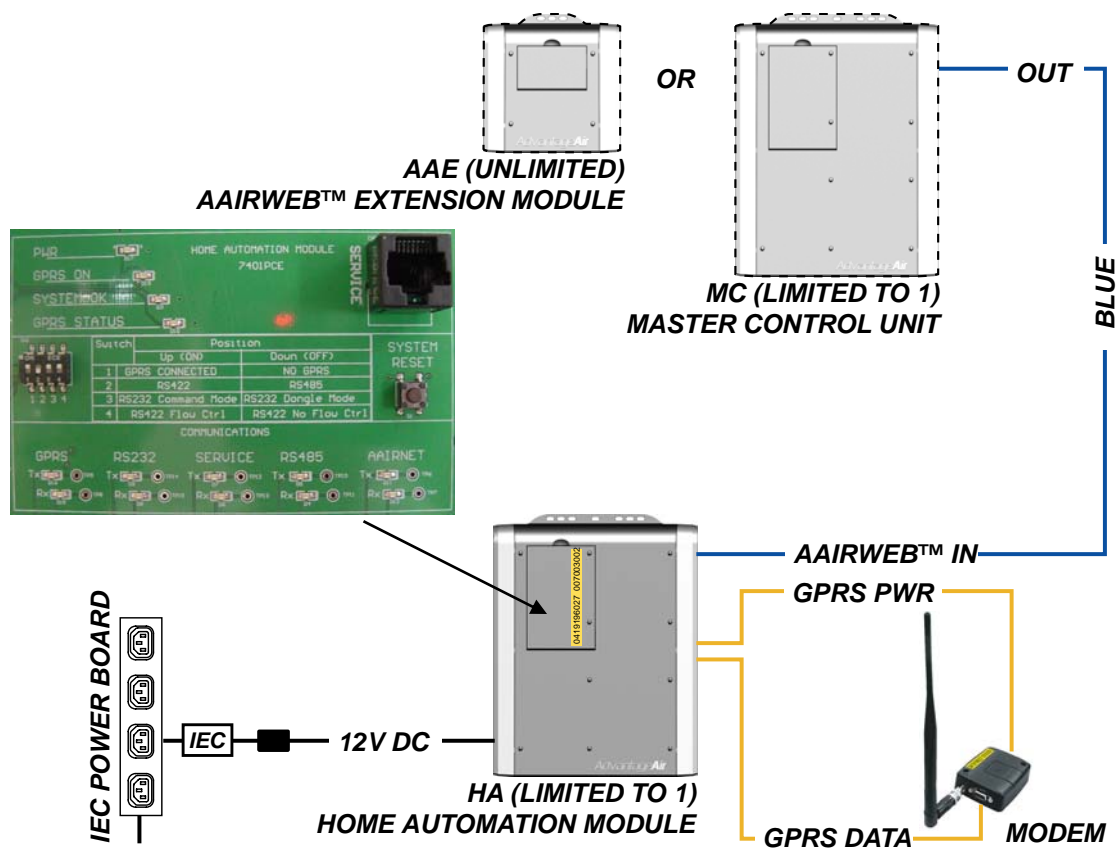
- GPRS OK.
- Note: indication will vary depending which mode it is operating in.

INPUTS / OUTPUTS

- 1 x GPRS power.
- 1 x GPRS data.
- 1 x antenna.

LOCAL CONTROL

- Insert and removal of GPRS SIM card.



GENERATION III USER MANUAL 500 SERIES TOUCH SCREEN BASIC NAVIGATION

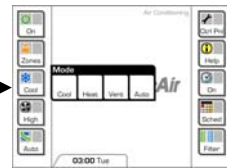
AdvantageAir



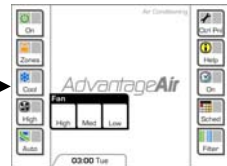
**MAIN MENU
(FIG 1)**



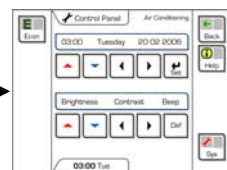
**ZONES
(FIG 2 - 4)**



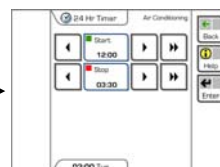
**MODE
(FIG 5)**



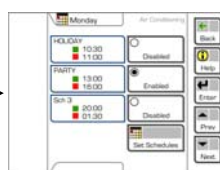
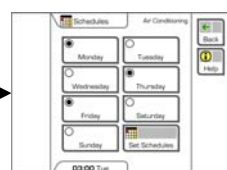
**FAN SPEED
(FIG 6)**



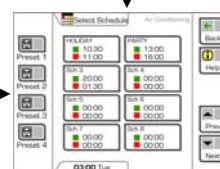
**CONTROL PANEL
(FIG 7)**



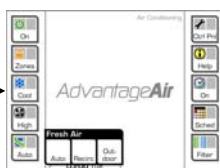
**24 HR TIMER
(FIG 8 & 9)**



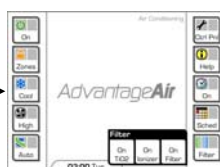
**SCHEDULES / PRESETS
(FIG 10 - 16)**



**OPTIONAL
FRESH AIR
(FIG 17)**



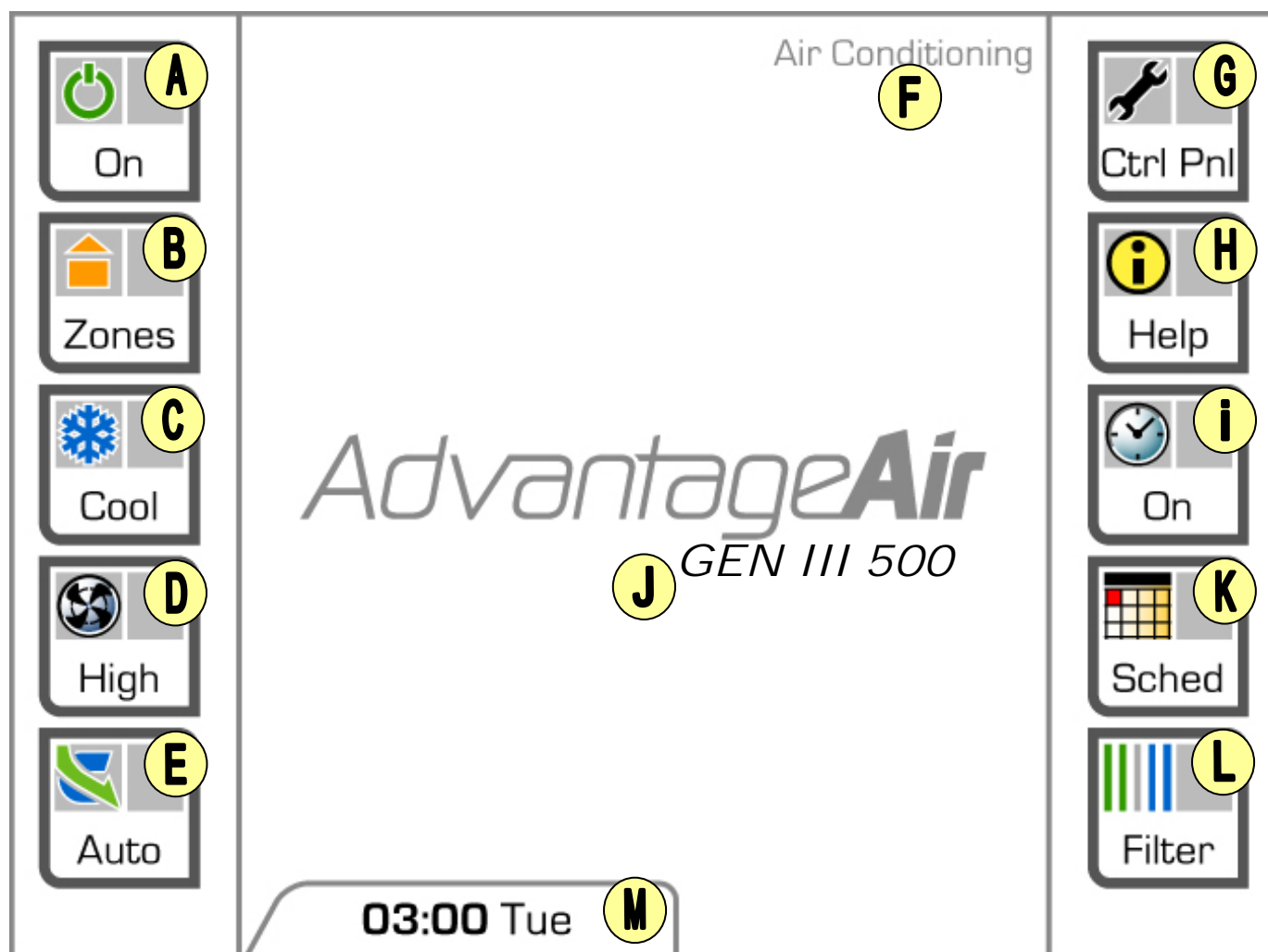
**OPTIONAL
FILTRATION
(FIG 18)**



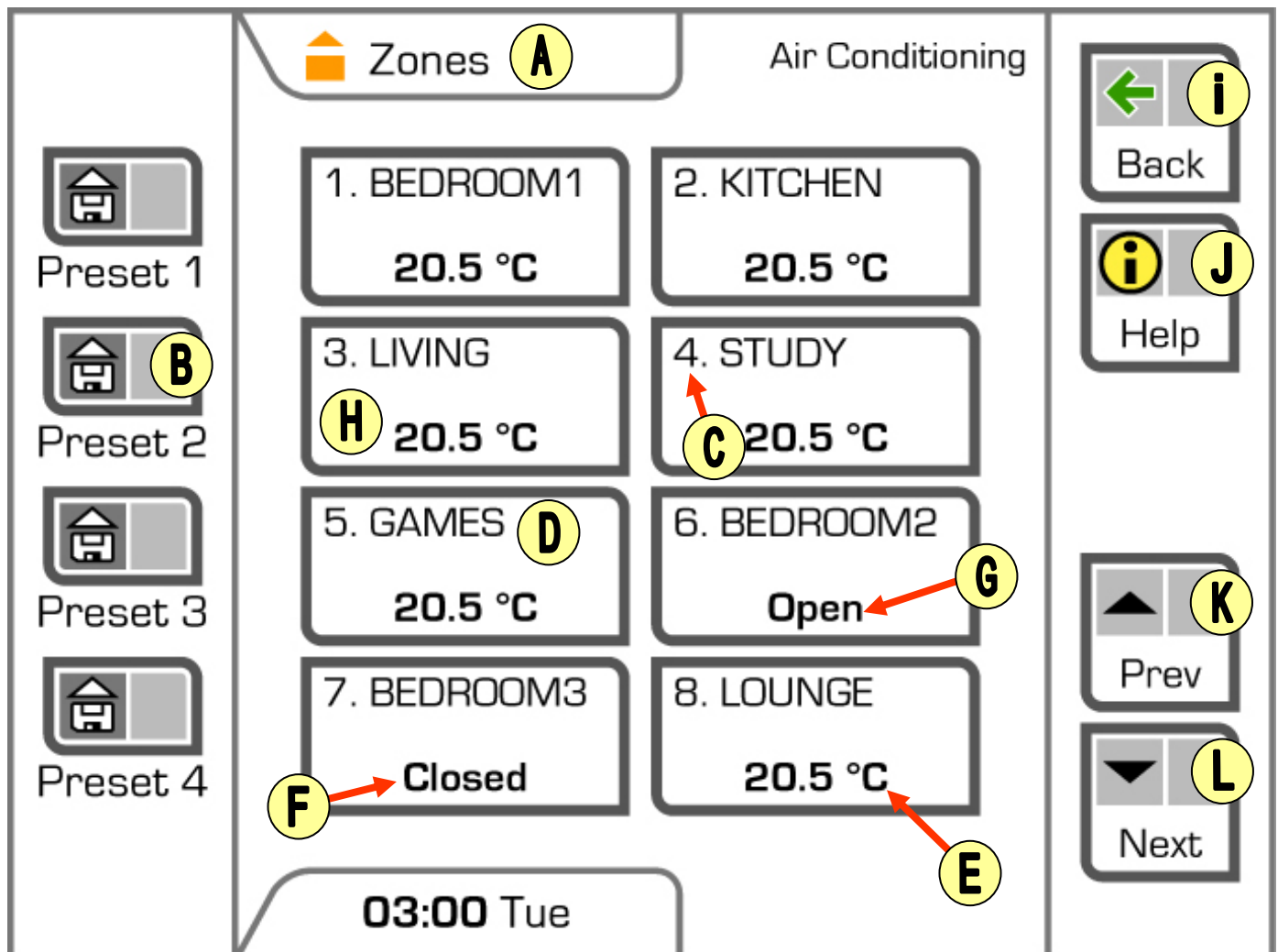
GENERATION III USER MANUAL - 500 SERIES TSP (FIG 1)

AdvantageAir

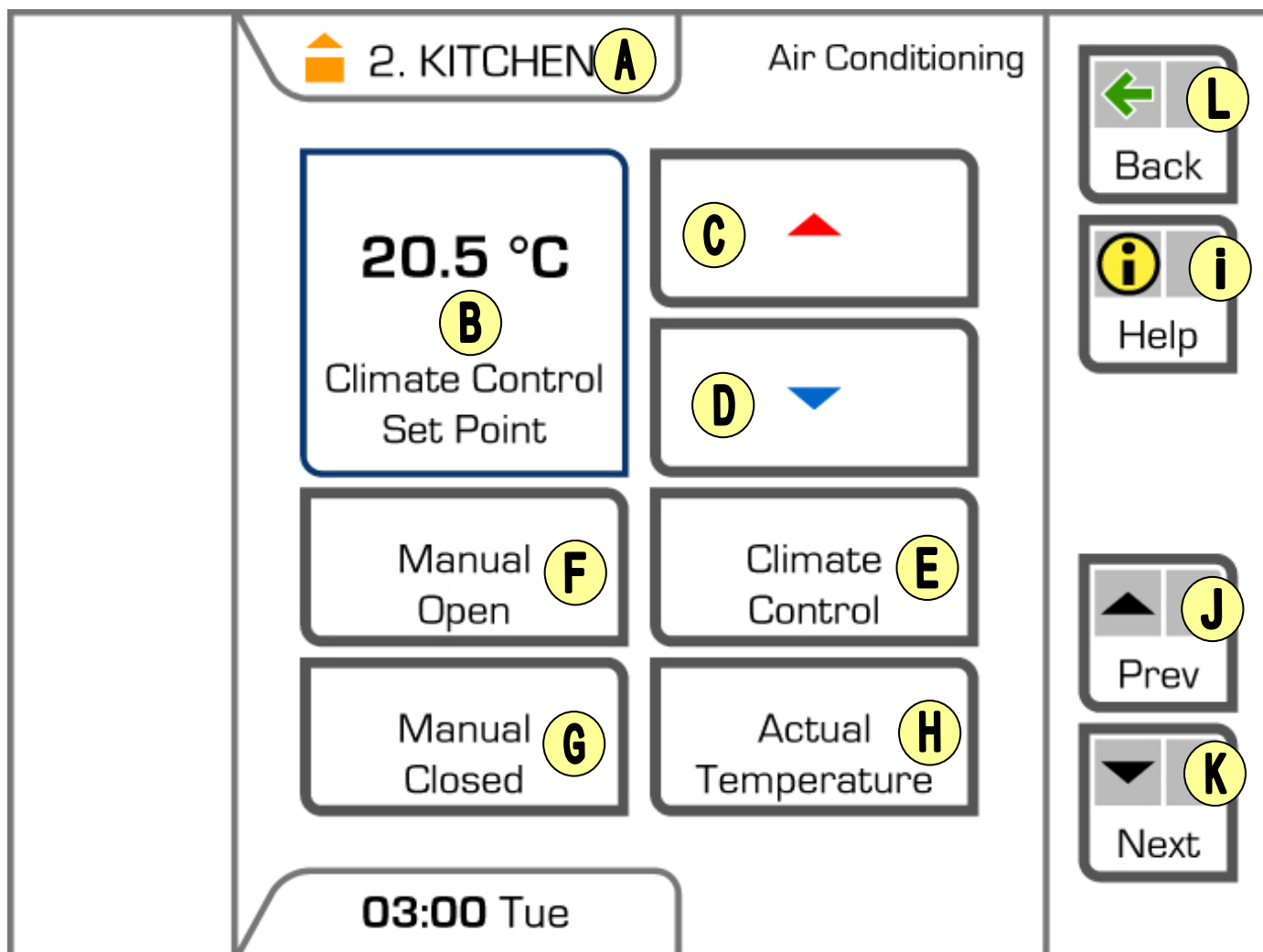
The Advantage Air control panel uses “touch screen technology”. Using your finger or a soft object simply touch the function you require to switch a function on or off, or to view a menu. Do not use sharp metallic objects to touch the screen as they may damage the surface.



- A. Main system “ON / OFF” button.
- B. Use this button to access zones: change zone temperature set point, open a zone, close a zone and view the temperature. (FIG 2)
- C. Use this menu to access the mode: Cool, Heat, Vent and Auto. (FIG 5)
- D. Use this menu to access fan speed: High, Medium or Low. (FIG 6)
- E. Optional - Use this menu to access Fresh Air System: Fresh, Recirculation or Auto modes. (FIG 17)
- F. Displays service currently accessed
- G. Use this menu to access system settings: change time , beep volume, contrast and brightness. (FIG 7)
- H. Press this button to access on screen help.
- I. Use this menu to set, enable or disable 24 hour timer. (FIG 8)
- J. Displays type of control system installed.
- K. Use this button to access Schedules: set, enable or disabled. (FIG 10)
- L. Optional - Use this menu to access High Efficiency Filter. (FIG 18)
- M. Displays current system day and time. Use Ctrl Pnl to change.



- A. Indicates the touch screen panel is in the Zones menu.
- B. These buttons allow the user to have preset zone configurations that can be changed at the push of a single button. See schedules menu for information on how to set up Preset buttons and change the names of each button. (FIG 12)
- C. Zone number.
- D. Zone name.
- E. Zone is in climate control mode and the desired set point is 20.5°C.
- F. Zone has been manually closed.
- G. Zone has been manually fully opened.
- H. Press zone button to change and view settings. (FIG 3)
- I. Press to go back to main menu. (FIG 1)
- J. Press to access on screen help.
- K. Press to view previous 8 zones (if applicable).
- L. Press to view next 8 zones (if applicable).



- A. Indicates the touch screen panel is in Zone number 2 “KITCHEN” menu. Press this tab to change the zone name. (FIG 4)
- B. Current Zone Climate Control set point temperature is 20.0°C.
- C. Press to increase temperature.
- D. Press to decrease temperature.
- E. Press for automatic Climate Control.
- F. Press to open the zone fully.
- G. Press to close zone.
- H. Press to view actual zone temperature.
- I. Press for HELP screen.
- J. Press to view previous zone’s settings.
- K. Press to view next zone’s settings.
- L. Press to go back to zone summary. (FIG 2)

House icon Name Zone 2 **A** Air Conditioning

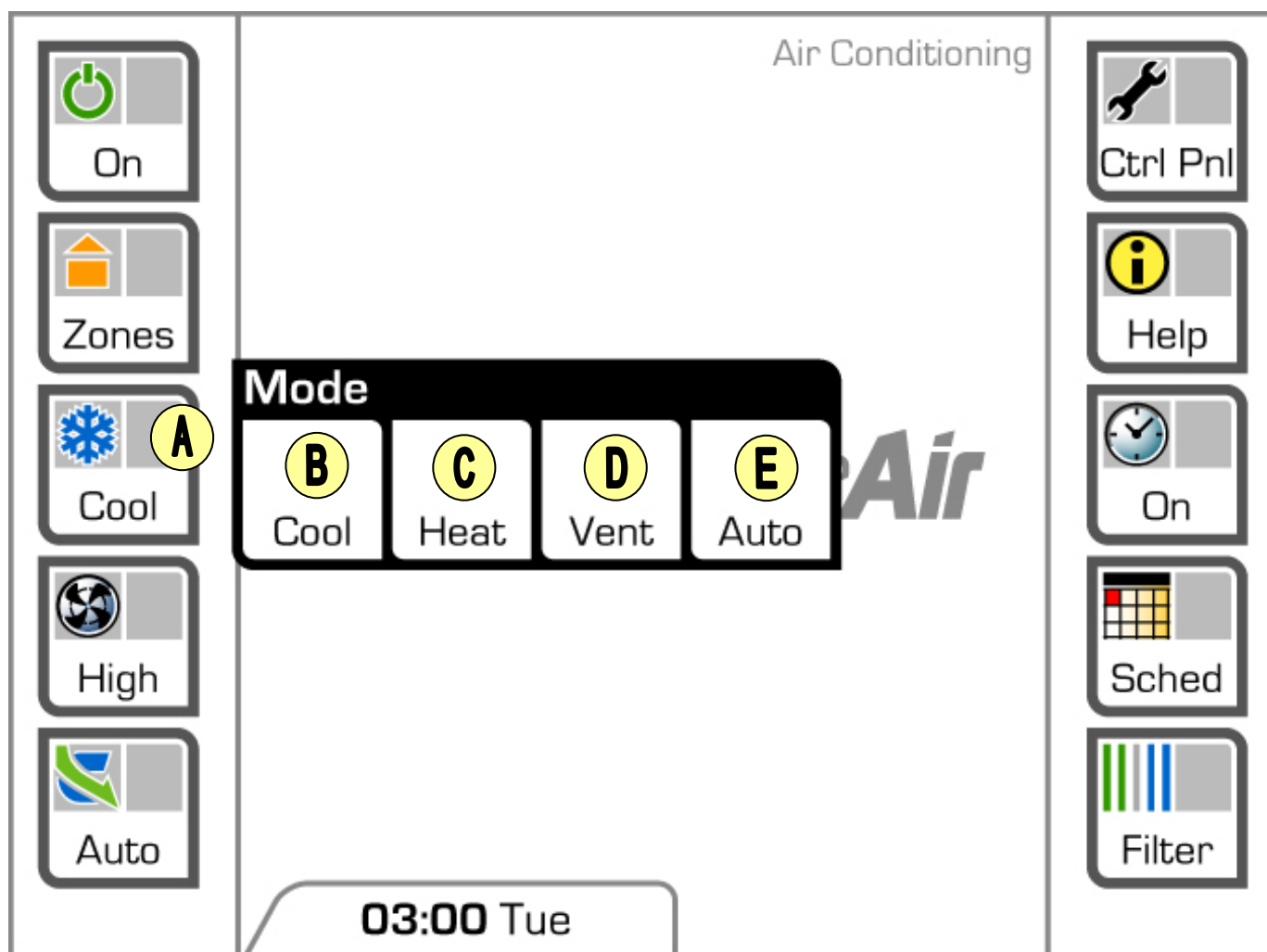
KITCHEN **C**

Back **D**

Enter **E**

1	2	3	4	5	6	7	8	9	0
Q	W	E B	R	T	Y	U	I	O	P
A	S	D	F	G	H	J	K	L	SPC F
Z	X	C	V	B	N	M	,	-	DEL G

- A. Indicates the zone name you are about to change.
- B. Type in the name you require using touch keyboard.
- C. Indicates the new name you have typed in.
- D. Press to go Back to zone settings (FIG 3) without making any changes.
- E. Press Enter to save the changes you have made.
- F. SPC is the Space bar.
- G. DEL is the Backspace / Delete key. You must first delete an existing name before you can type in a new one.



A. When in the main menu (FIG 1) press this button and the mode menu will roll out for you to select one of four options described below.

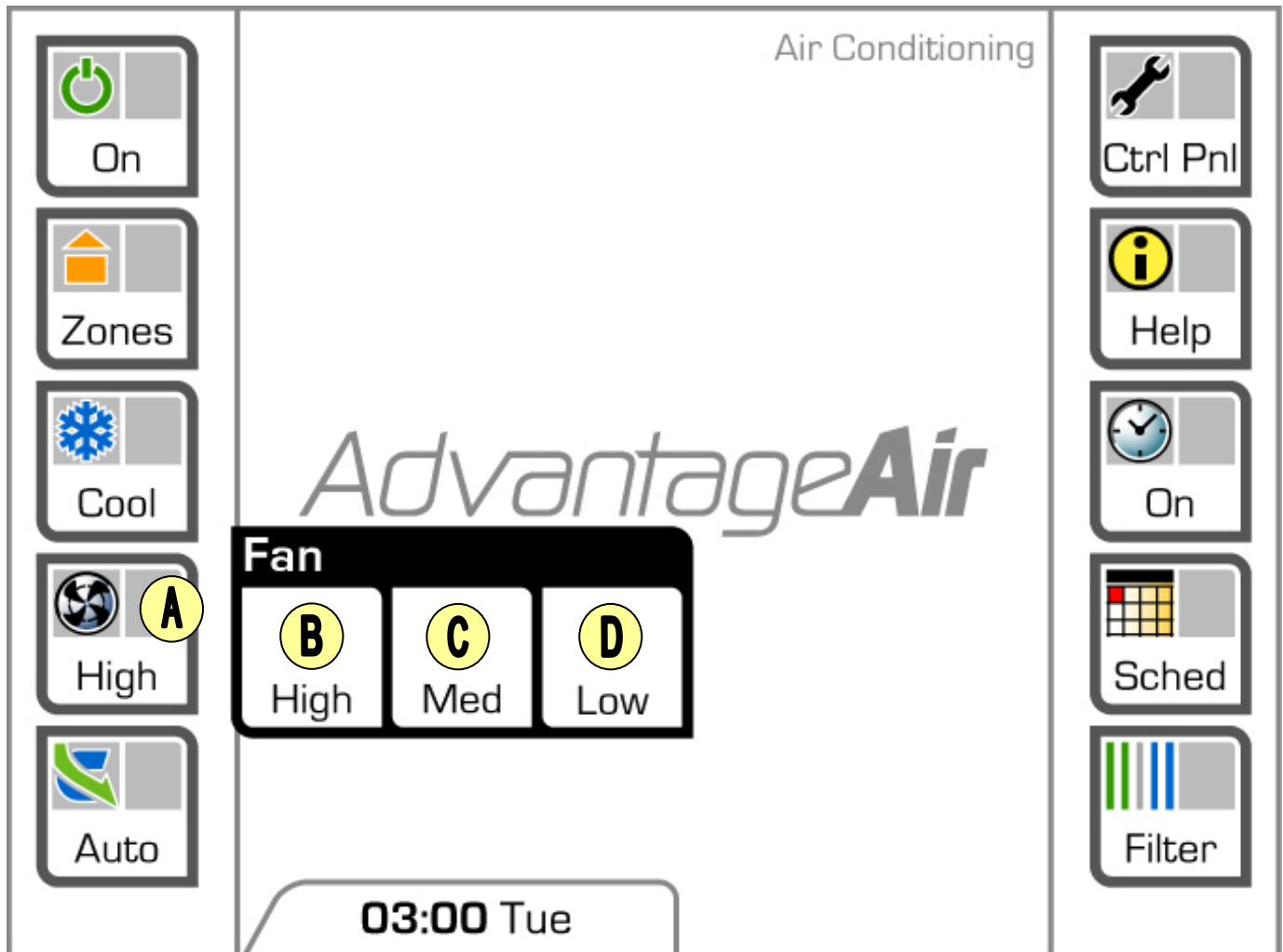
B. In Cool mode the system will run in a cooling mode only. It will not run unless there is a cooling requirement from one of the zones.

C. In Heat mode the system will run in a heating mode only. It will not run unless there is a heating requirement from one of the zones.

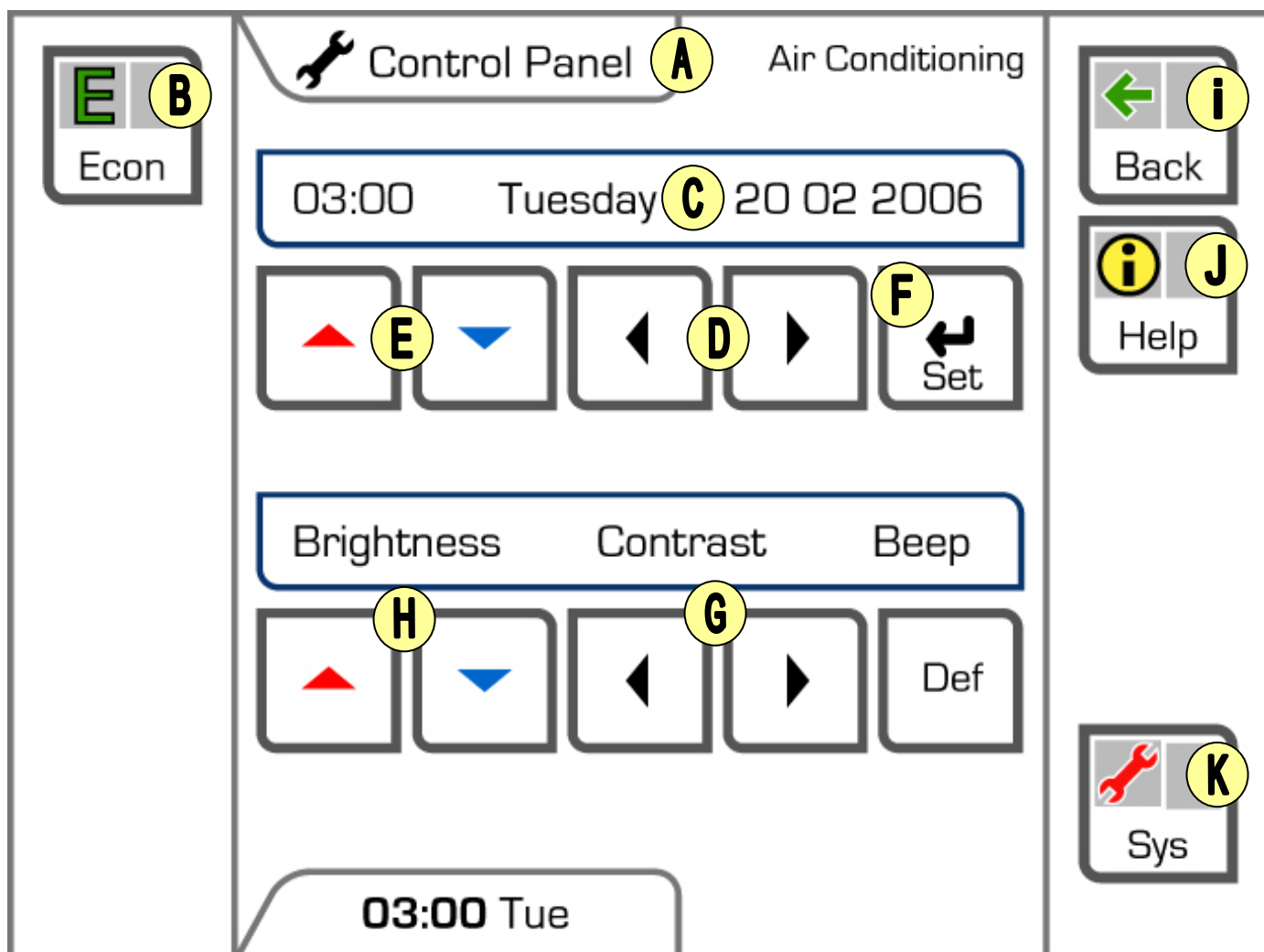
D. In Vent mode the Supply Air fan will run but the heating and cooling will be suspended. It is recommended that the required zones are manually opened when operating in a vent mode.

E. In Auto mode the system will automatically select to run in a cooling or heating mode. It will select the most appropriate mode depending on the number of zones requiring cooling and the number requiring heating. If the number of zones requiring cooling and

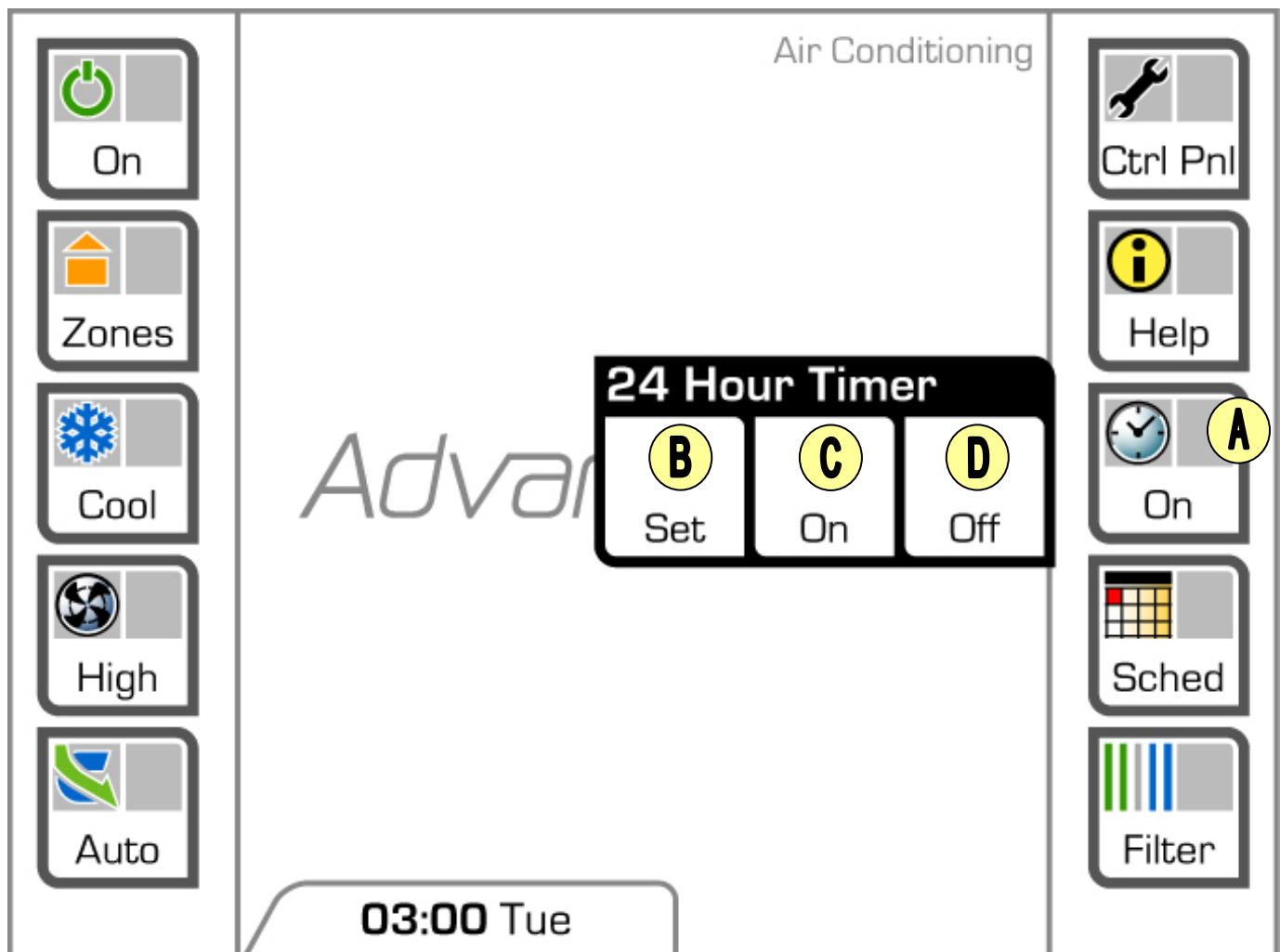
heating are equal the system will use the last mode it ran in.



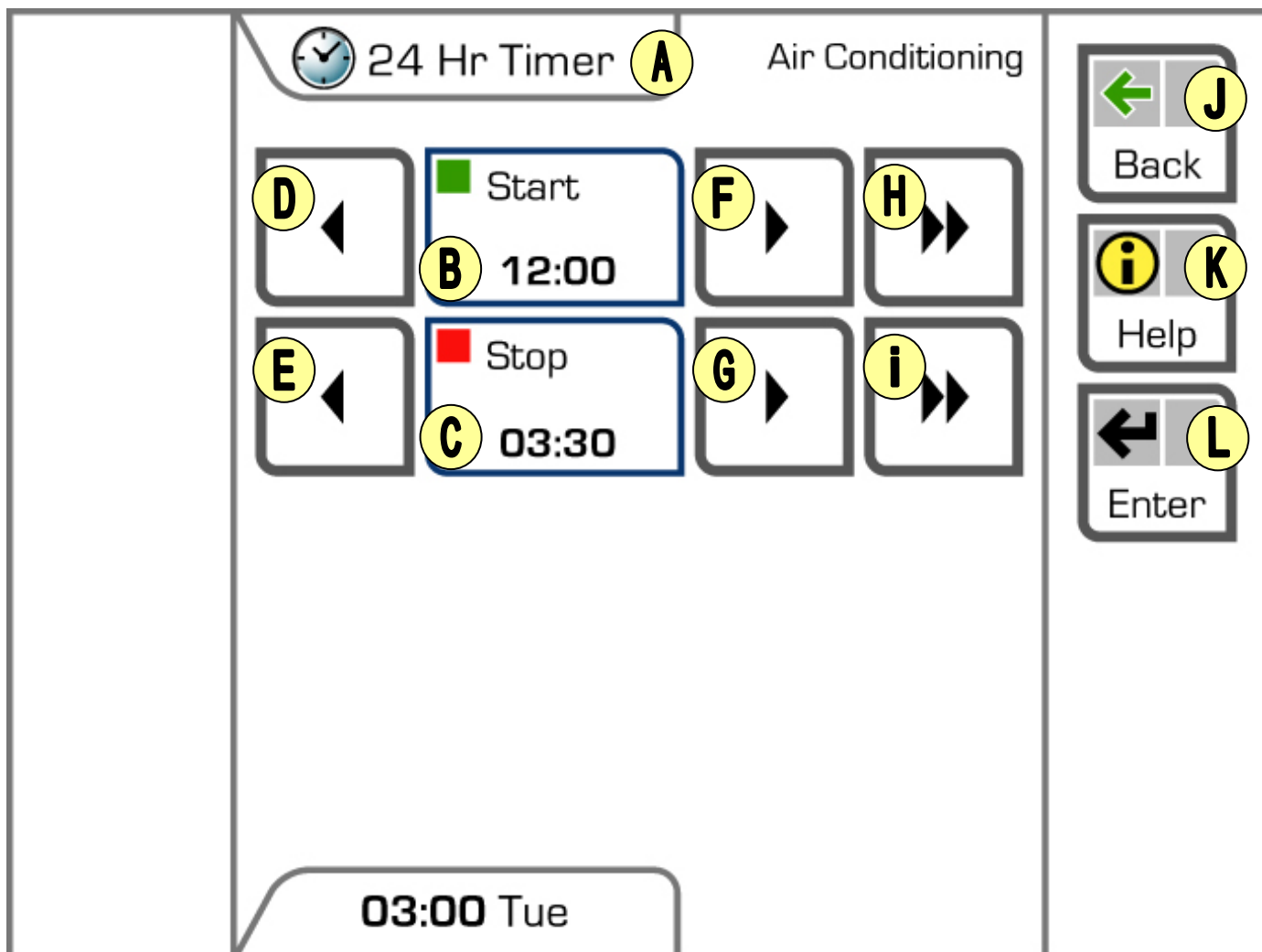
- A. When in the main menu (FIG 1) press this button and the fan menu will roll out for you to select one of three options described below.
- B. The fan will run at its highest speed. Recommended in times of extreme outdoor temperatures.
- C. The fan will run at its medium speed. System capacity will be reduced when running in this mode.
- D. The fan will run at it's lowest speed. Recommended for quiet or night time operation. System capacity will be reduced when running in this mode.



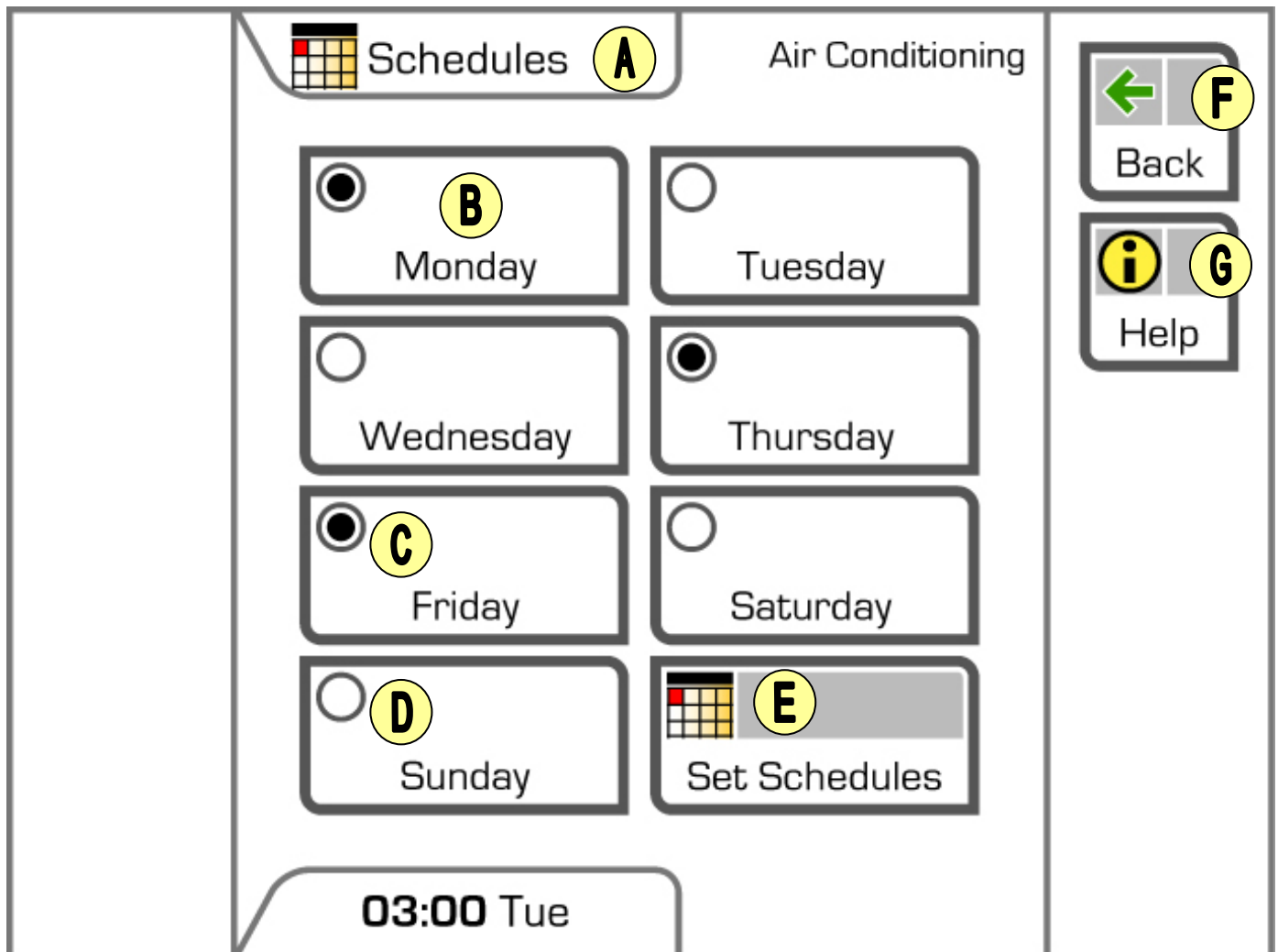
- A. Indicates you are in the Control Panel menu.
- B. Press this button to enable or disable the system in an "Economy Mode". Please note when operating in this mode temperature control is less accurate than in the normal mode. When Economy is enabled, the icon 'E' will appear highlighted in green. When the Economy is disabled the icon 'E' will be appear in grey.
- C. Current time, day and date setting.
- D. Use left and right arrows to highlight the hour, minute, day or date you would like to change.
- E. Then press the up and down arrows to change the highlighted time / day setting.
- F. Press Set to accept new time, day or date.
- G. Use left and right arrows to move the highlight to the item you would like to change (Screen brightness, contrast or the volume of the "Beep").
- H. Use the up and down arrows to increase or decrease the highlighted item.
- I. Go back to main menu. (FIG 1)
- J. Press to access on screen help.
- K. Access for technician only. This area is locked. Entering this area may change critical settings and may damage your system.



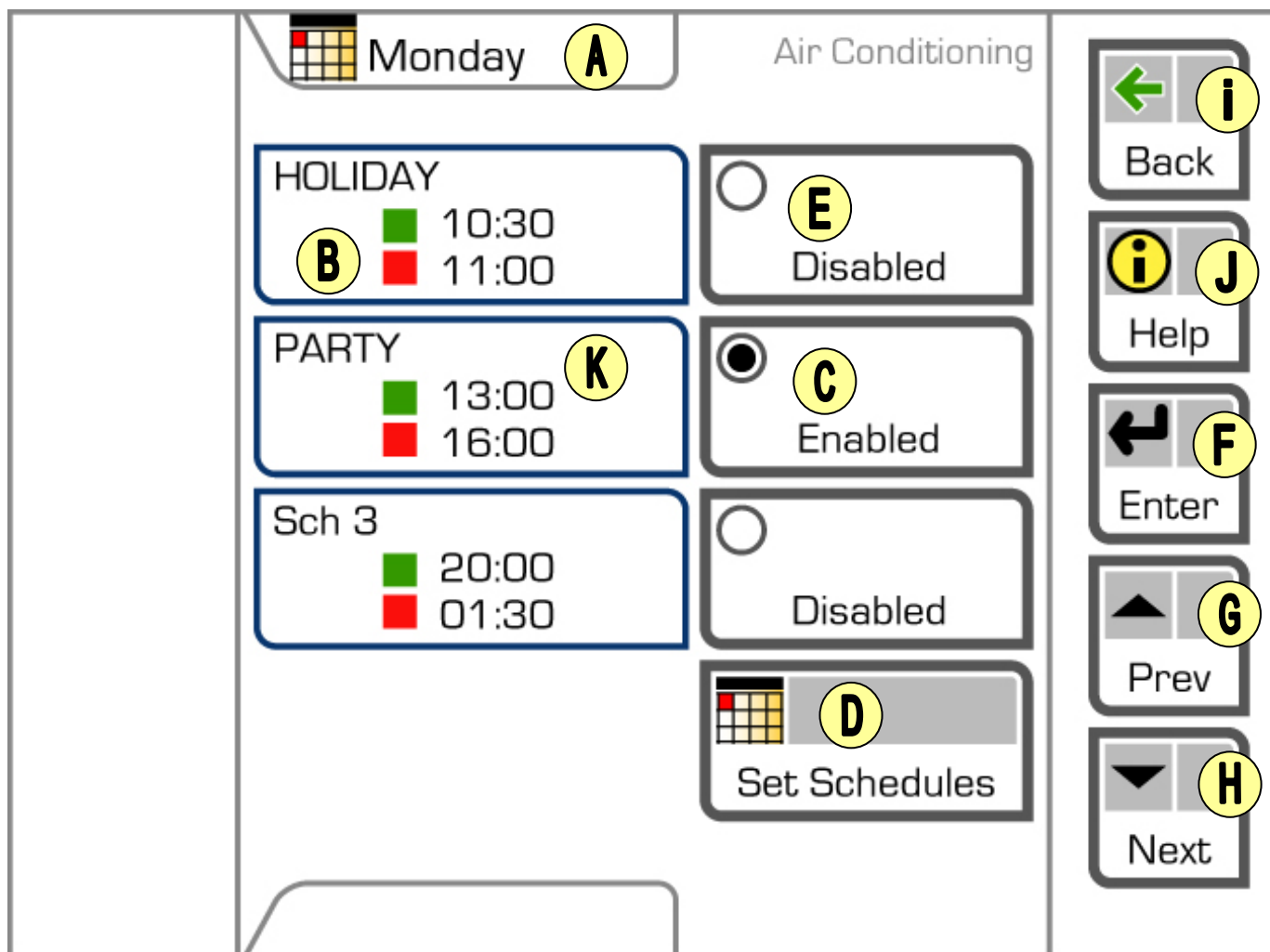
- A. When in the main menu (FIG 1) press this button and the 24 hour timer menu will roll out for you to select one of three options described below.
- B. Press Set to access the 24 hour timer set up screen where you can set new Start and Stop times. (FIG 9)
- C. Press On to enable the current 24 hour timer settings. Note when 24 hour timer is enabled, it will start and stop the air conditioning unit at the times set everyday until the 24 hour timer is disabled by using the Off button (D) see below.
- D. Press Off to disable the current 24 hour timer settings. Note, setting it off will not turn off the system if it is currently running.



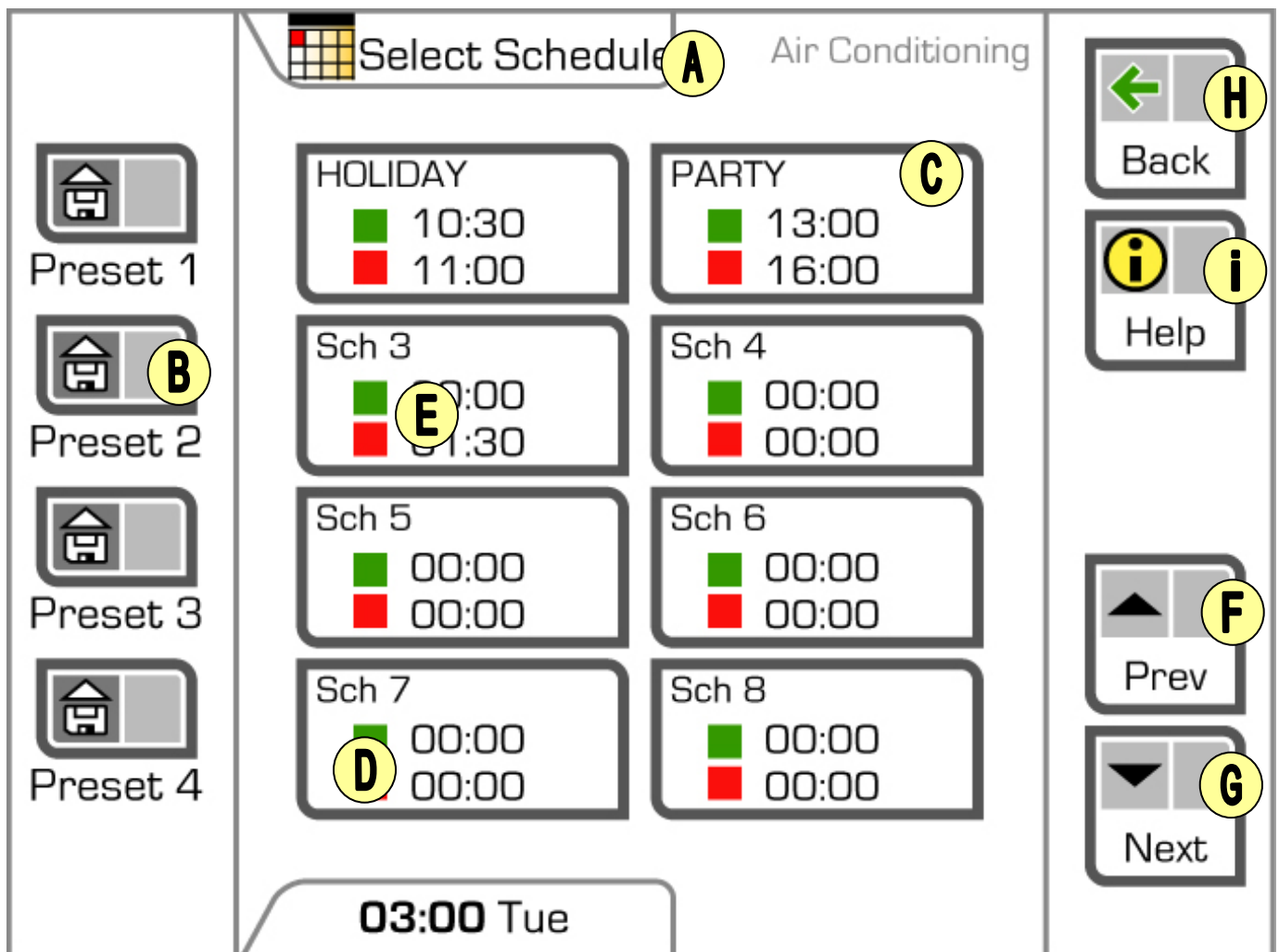
- A. Indicates you are in the 24 hr timer set up menu.
- B. Current 24 hr timer "Start" time. A/C system will switch On automatically at this time.
- C. Current 24 hr timer "Stop" time. A/C system will switch off automatically at this time.
- D. Decrease "Start" time in 15 minute intervals.
- E. Decrease "Stop" time in 15 minute intervals.
- F. Increase "Start" time in 15 minute intervals.
- G. Increase "Stop" time in 15 minute intervals.
- H. Increase "Start" time in 1 hour intervals.
- I. Increase "Stop" time in 1 hour intervals.
- J. Go back to main menu without making changes.
- K. Press to access on screen help.
- L. Enter to accept new settings.



- A. Indicates you are in the schedules menu.
- B. Press the day of the week you want to enable or disable schedules for. This will take you to a detailed screen for Monday. (FIG 11)
- C. Black dot indicates schedules have been set to automatically start the system on Friday.
- D. No dot indicates no schedules have been set for Sunday.
- E. Press this button to set new schedules or change existing schedules or preset buttons.
- F. Press back to return to the main menu.
- G. Press to access on screen help.

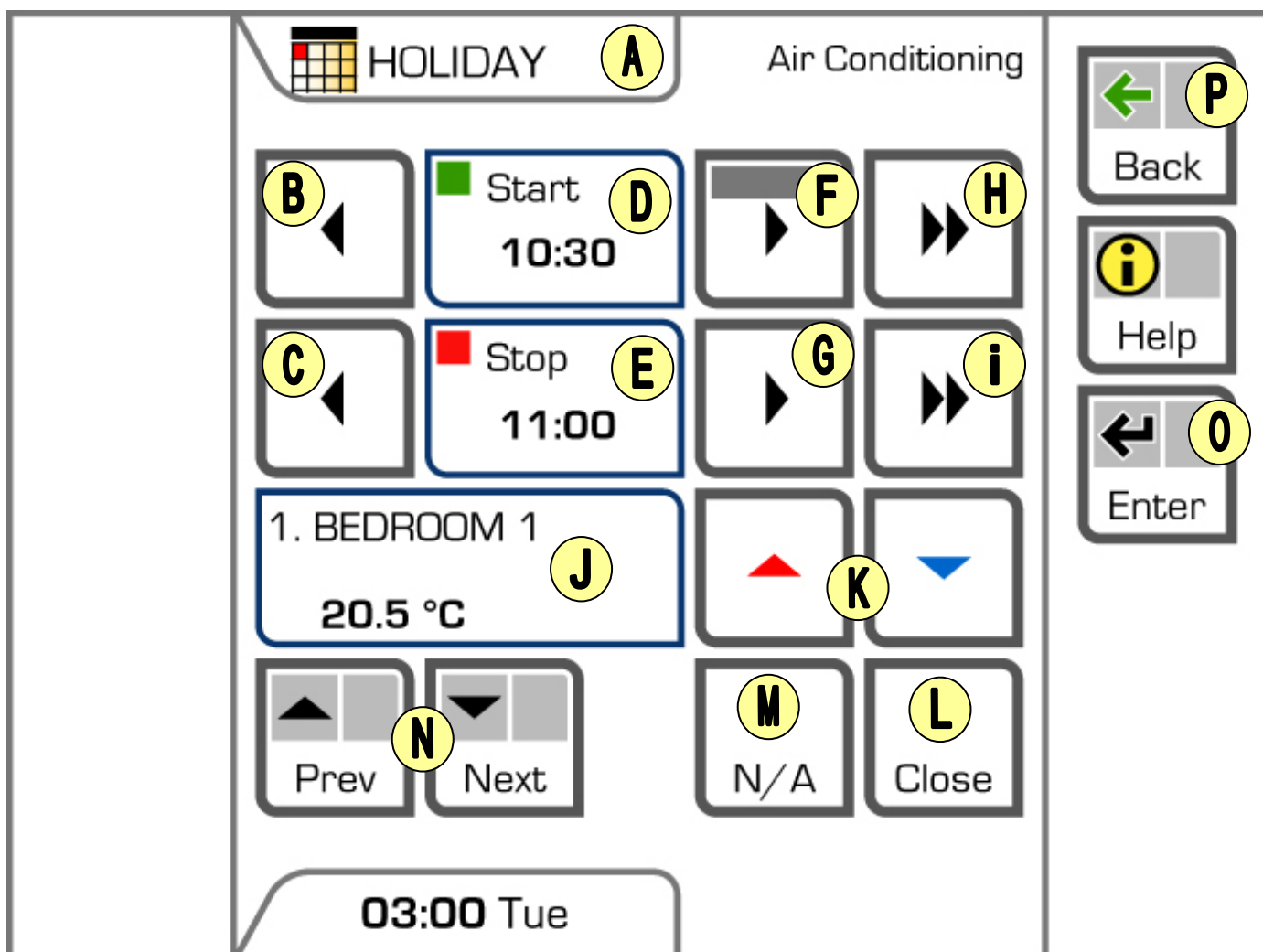


- A. Indicates you are in Monday's screen where you can enable or disable preset schedules for Monday.
- B. Indicates a summary of schedule HOLIDAY start and stop times.
- C. Indicates schedule PARTY has been enabled.
- D. Press this button to set new schedules or change existing schedules or preset buttons.
- E. Indicates schedule No. 1 has been disabled.
- F. Enter to accept new settings.
- G. Press to view previous schedules.
- H. Press to view next schedules.
- I. Press to go back to weekly summary.
- J. Press to access on screen help.
- K. Schedule No. 2 named "PARTY". To change schedule see (Fig 14).



- A. Indicates you are in the Set Schedules Summary screen.
- B. Press Preset button to set up or change its details (Fig 15).
- C. Summary of Schedule 2 PARTY Start and stop times.
- D. Summary of Schedule 7. No Start and Stop times have been set.
- E. Press required Schedule button to set up or change its details.
- F. Press Prev to scroll to previous schedules.
- G. Press Next to scroll to next schedules.
- H. Press back to return to the Main Menu.
- I. Press to access on screen help.

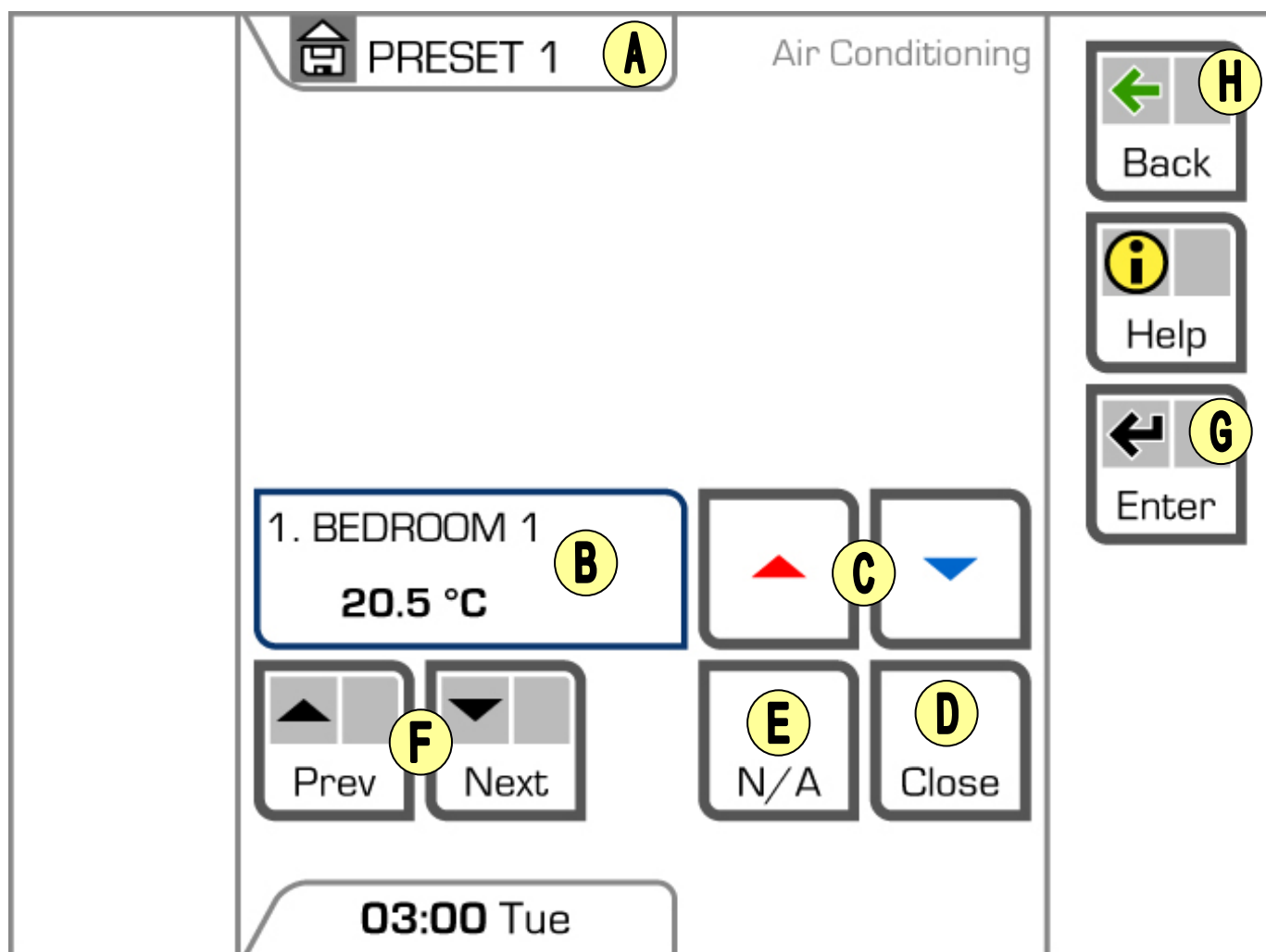
Note: There are 16 schedules and 4 presets in total.



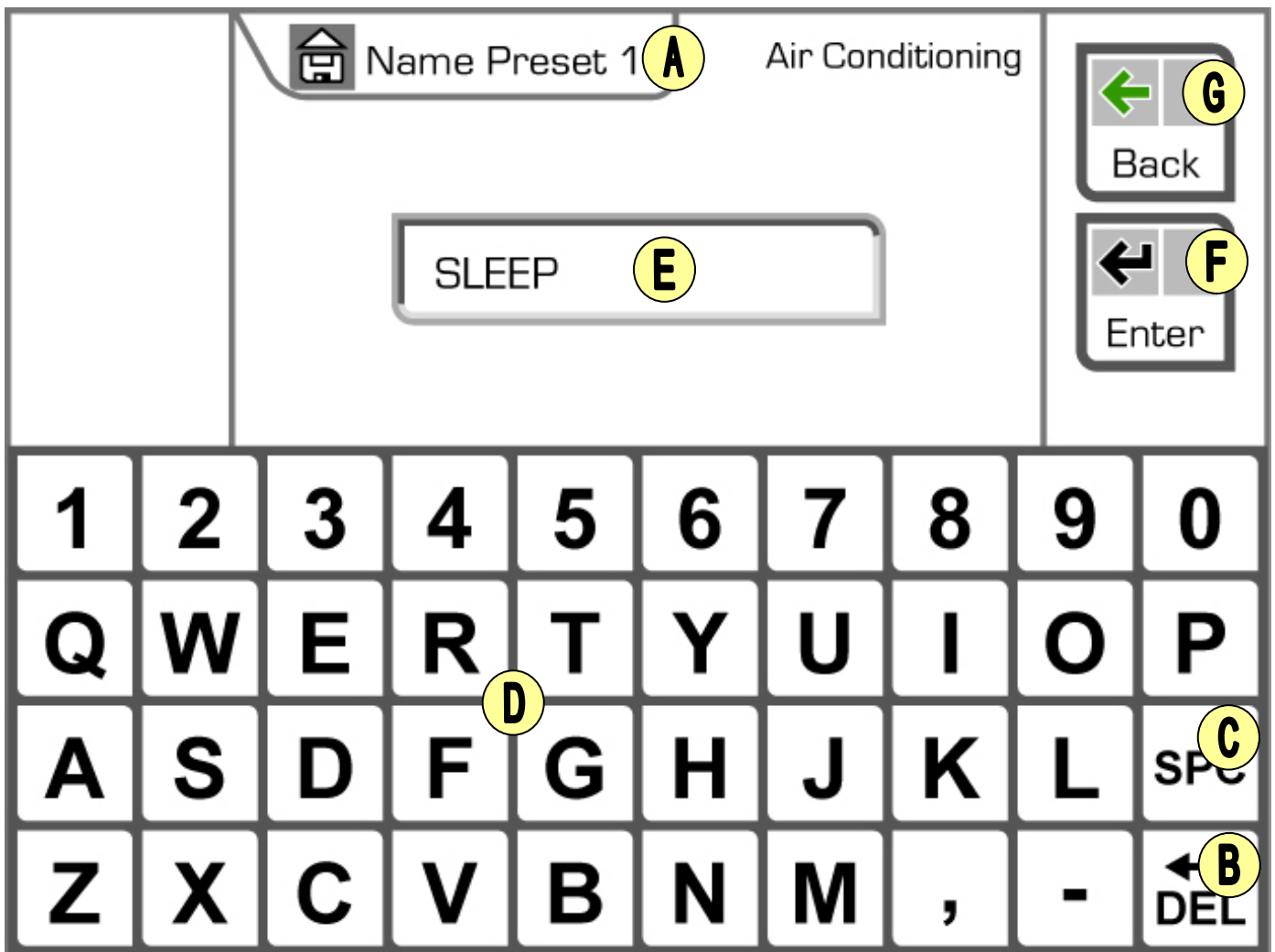
- A. Indicates you are in the set up screen for HOLIDAY schedule .Press this tab to rename Schedule. (FIG 14)
- B. Decrease schedule “Start” time in 15 minute intervals.
- C. Decrease schedule “Stop” time in 15 minute intervals.
- D. HOLIDAY schedule “Start” time.
- E. HOLIDAY schedule “Stop” time.
- F. Increase “Start” time in 15 minute intervals.
- G. Increase “Stop” time in 15 minute intervals.
- H. Increase “Start” time in 1 hour intervals.
- I. Increase “Stop” time in 1 hour intervals.
- J. Required setting for Zone 1 (Bedroom 1) when this is operating.
- K. Press up and down arrows to increase or decrease Climate Control set point temperature in zone 1 during schedule active.
- L. Press close to close this zone during the schedule.
- M. Press n/a if no action is required for this zone during schedule.
- N. Press Prev or Next to go to other zones.
- O. Enter to accept new settings.
- P. Press back to return to schedule summary without saving changes.

The diagram illustrates the control interface for the AdvantageAir 500 Series TSP. It features a top section with a calendar icon, a text field labeled "Name Sched 1" (marked with a yellow circle A), and the text "Air Conditioning". Below this is a text field labeled "HOLIDAY" (marked with a yellow circle E). To the right of these fields are two buttons: "Back" (marked with a yellow circle G) and "Enter" (marked with a yellow circle F). Below the text fields is a full QWERTY keyboard. The keyboard includes a numeric row (1-0), a QWERTY row (Q-P), a row with A-S-D-F-G-H-J-K-L and a "SPC" key (marked with a yellow circle C), and a final row with Z-X-C-V-B-N-M, comma/underscore, hyphen/apostrophe, and a "DEL" key (marked with a yellow circle B). A yellow circle D is placed over the letter 'T' on the keyboard.

- A. Indicates the Schedule name you are about to change.
- B. DEL is the Backspace / Delete key.
- C. SPC is the Space bar.
- D. Type in the name you require using touch keyboard.
- E. Indicates the new name you have typed in.
- F. Enter the changes you have made.
- G. Press to go back to zone settings without making any changes. (FIG 13)



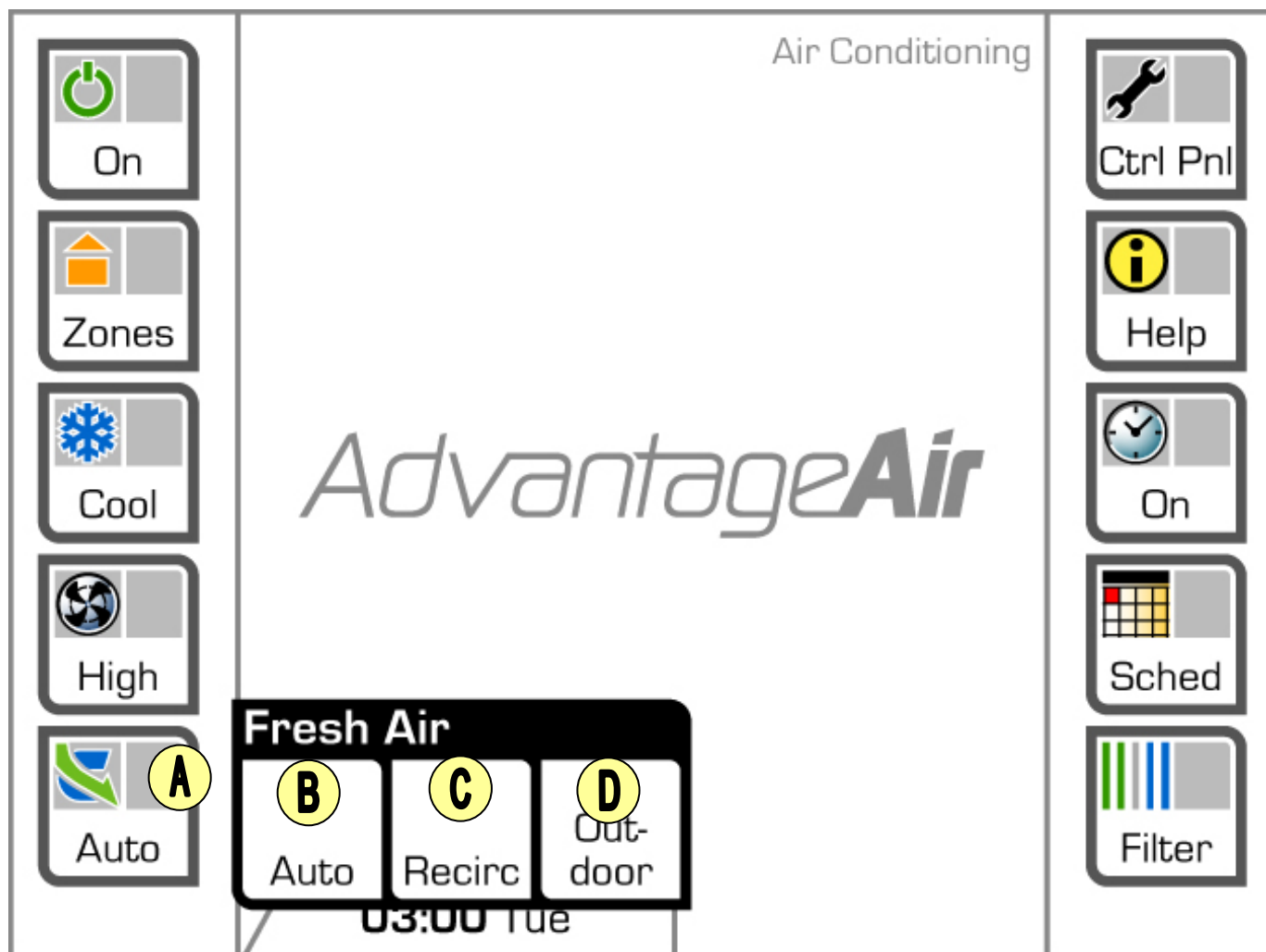
- A. Indicates you are in the set up screen for PRESET 1 .Press this tab to rename this Preset. (FIG 16)
- B. Required setting for Zone 1 (Bedroom 1) when this is operating.
- C. Press up and down arrows to increase or decrease Climate Control set point temperature in zone 1 during preset active.
- D. Press close to close this zone during the preset.
- E. Press n/a if no action is required for this zone during preset.
- F. Press Prev or Next to go to other zones.
- G. Enter to accept new settings.
- H. Press back to return to schedule summary without saving changes.



- A. Indicates the Preset name you are about to change.
- B. DEL is the Backspace / Delete key.
- C. SPC is the Space bar.
- D. Type in the name you require using touch keyboard.
- E. Indicates the new name you have typed in.
- F. Enter the changes you have made.
- G. Press to go back to preset settings without making any changes. (FIG 15)

GENERATION III USER MANUAL - 500 SERIES TSP (FIG 15) OPTIONAL

AdvantageAir

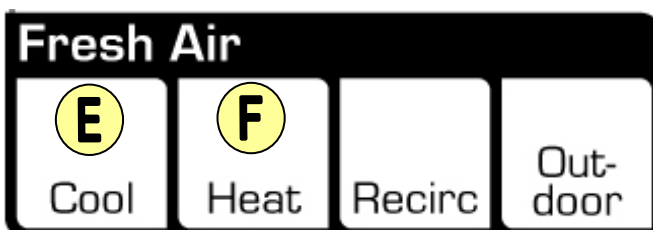


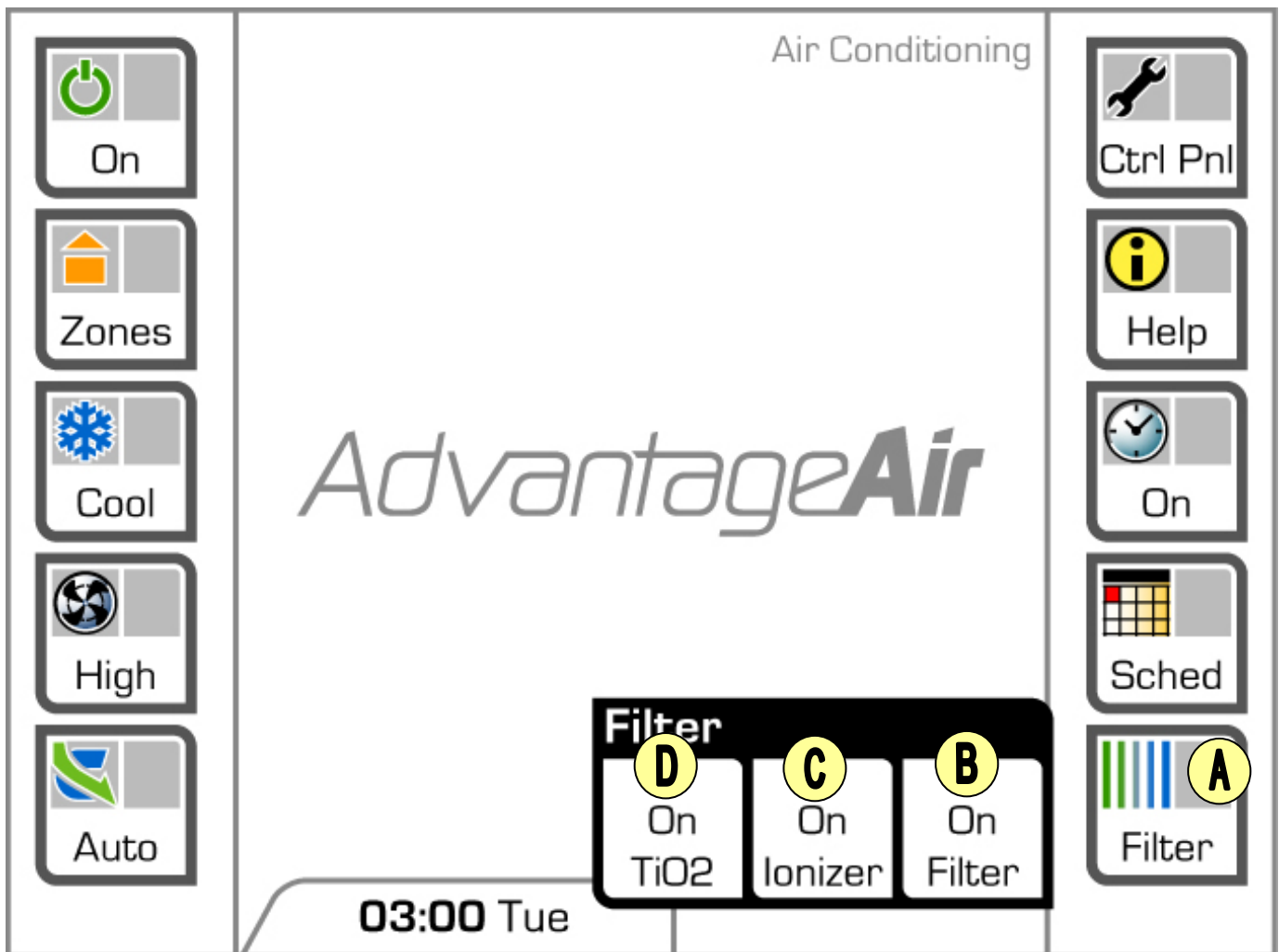
- A. When in the main menu (FIG 1) press this button and the Fresh Air menu will roll out for you to select one of three options described below. This feature is optional and will not appear if the Fresh Air module is not installed.
- B. In Auto Fresh Air mode the system will choose to introduce the coolest air or warmest air available depending on the current system mode setting. If the system is in cool mode the Fresh Air Auto will select the coolest indoor or outdoor air. If the system is in heating mode the Fresh Air Auto will select the warmest recirculated or outdoor air.
- C. In Recirc mode the system will recirculate 100% indoor air.
- D. In Outdoor mode the system will introduce 100% outdoor air.
- E. The Fresh Air Cool will appear in place of Auto if the system is in Vent mode. In Fresh Air

Cool mode the system will automatically select to introduce 100% of the coolest air available either from recirculate or outdoor air into the system.

- F. The Fresh Air Heat will appear in place of Auto if the system is in Vent mode. In Heat mode the system will automatically select to introduce 100% of the warmest air available either from recirculated or outdoor air into the system.

Note: When in Fresh Air mode conditions indoors may drift due to the influence of outdoor air.

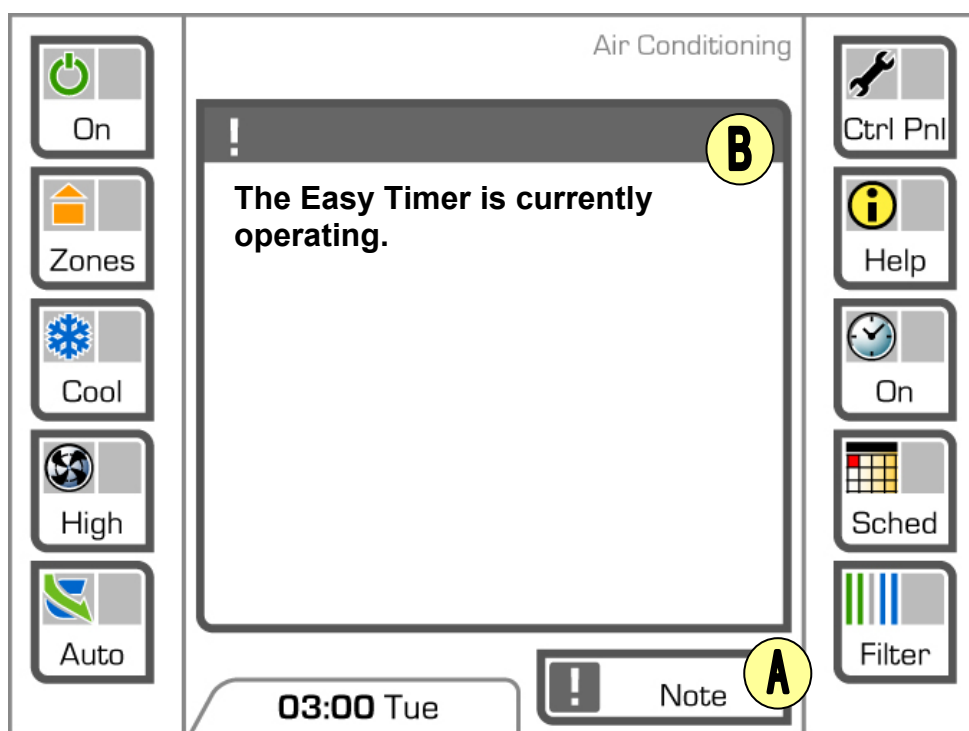




- A. When in the main menu (FIG 1) press the this button and the Filter menu will roll out for you to select one of three options described below. This feature is optional and will not appear if this system is not installed.
- B. When Filter is on, the system will circulate a portion of the air through a High Efficiency Filter. When Filter is off, all other filter options automatically turn off. Filter must be on for the UV and Ionizer to operate.
- C. Select to turn Ionizer on or off.
- D. Select to turn UV Titanium Dioxide antibacterial lamps TiO2 on or off.

GENERATION III USER MANUAL - 500 SERIES TSP TROUBLE SHOOTING

AdvantageAir



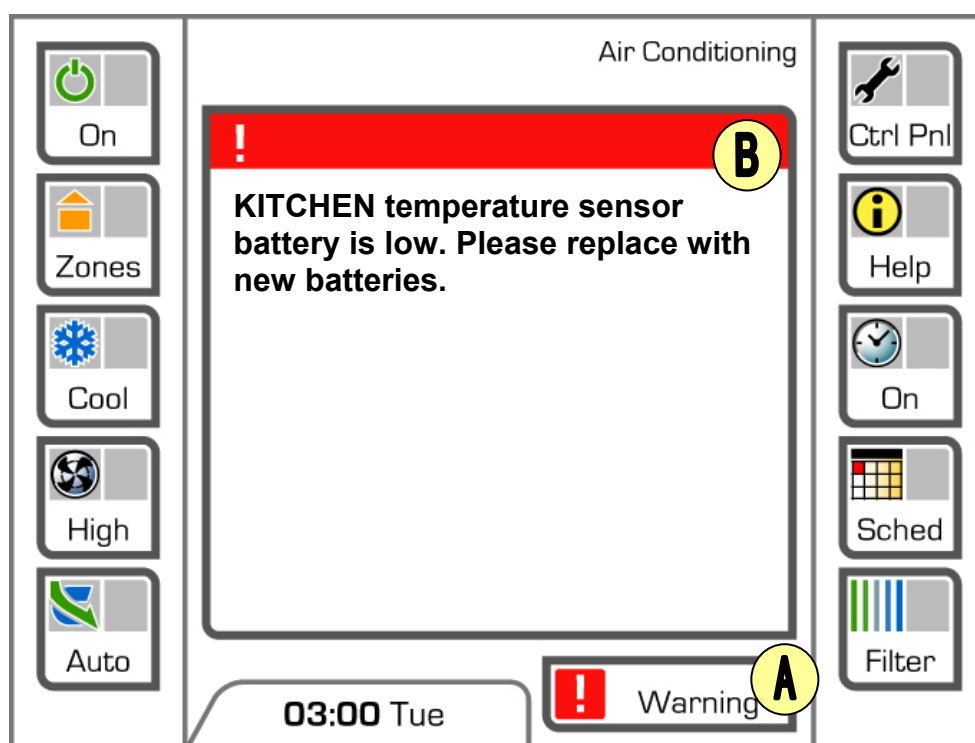
NOTE MESSAGES

If a Note tab appears at the bottom of the main menu (A) press the tab to read the message (B). Note messages are of a non critical nature and are informative only to try and ensure you get the best possible comfort conditions from your AC system. When the reason for the message is rectified the message will automatically clear after a few minutes. Below is more detail relating to the note messages and suggested action

SCREEN MESSAGE	REASON FOR THE MESSAGE	SUGGESTED ACTION
Zones may not reach temperature as there are too many open. Please close some zones.	You're A/C unit was sized to air condition a specified area under specified ambient conditions. The current area of the zones currently in operation exceeds the specified area. The system is advising you that your zones may not reach temperature because of the increased area.	If the ambient temperatures are not excessive the system may operate quite satisfactorily, however if temperatures are drifting and your comfort level is not being maintained you should consider closing some of the zones.
All zones are closed. System will automatically turn off.	If all the zones are closed the system will automatically turn itself off and display this message.	To restart the system first open or set to Climate Control one or more zones. Then press the main system ON / OFF button located on the top left corner of the main menu (FIG 1)
The Easy Timer is currently operating	The system has automatically been started and will automatically stop according to the Easy Timer setting	No action is required if you want the easy time to run at this time. If you want to make changes to the settings you are able to do so. If you want to disable the Easy Timer or change the settings refer to (FIG 9 & 10)
[Schedule Name] Schedule is currently operating	The system has automatically been started and the zone settings altered according to the Schedule mentioned.	No action is required if you want this schedule to operate. If you want to make change to the settings you are able to do so. If you want to disable the Schedule or change the settings refer to (FIG 10 - 14)

GENERATION III USER MANUAL - 500 SERIES TSP TROUBLE SHOOTING

AdvantageAir



WARNING MESSAGES

If a Warning tab appears at the bottom of the main menu (A) press the tab to read the message (B). Warning messages are of a critical nature and some action is required to ensure the continued operation of the system. When the reason for the message is rectified the message will automatically clear after a few minutes. Below is more detail relating to the warning messages and suggested action

SCREEN MESSAGE	REASON FOR THE MESSAGE	SUGGESTED ACTION
[Zone Name] temperature sensor battery is low. Please change sensor batteries	You have one or more radio frequency (RF) zone sensors fitted to your system. The batteries in the sensor located in the zone described in the message are low and require replacement.	Replace the sensor batteries with good quality AAA batteries. Access to the batteries is by unclipping the front cover at the top and allowing it to swing down on the hinge. It is always a good idea to change all the batteries in all zone sensors at this time. After replacing the batteries allow a few minutes for the warning message to clear.
Sensor fault in [Zone Name] Climate Control mode disabled. Please change sensor batteries	You have one or more radio frequency (RF) zone sensors fitted to your system. The system is no longer receiving a signal from the sensor in the zone described. This may be due to a number of reasons. Such as: The batteries in the sensor are flat and require replacement. The sensor has been removed from the house The sensor has an electronic fault. When displaying this message the zone can only be manually opened or closed but cannot be placed in a Climate Control mode.	1. Replace the batteries as described above. After replacing the batteries allow a few minutes for the warning message to clear. 2. Check to ensure the sensor is still in its correct location 3. If warning does not clear contact Advantage Air for service.
[Zone Name] damper faulty. Switch zone open & closed to confirm operation.	The system suspects there may be a fault with the respective zone damper.	1. Turn the system on vent ensuring one other zone is open. Confirm the damper is faulty by manually opening and closing it several times via the touch panel. Wait a few minutes to see if warning is cleared. 2. Reset the control system power supply either by switching the isolator at the AC unit isolator or the mains. Wait for system to initiate and then check if warning has cleared. If warning does not clear then contact Advantage Air for repair.
High efficiency filters are dirty please arrange replacement.	This warning is only applicable if the system is fitted with a high efficiency filtration system. The filters have become clogged and require replacement.	1. Contact Advantage Air for replacement filter media or to visit your home to replace the filters for you.
Communications Error. Re-set control system power supply.	The control system is having problems communicating with various electronic components.	1. Reset the touch panel via the reset button at the back of the panel. (use a pen or similar object to access the button) 2. Reset the control system power supply either by switching the isolator at the AC unit isolator or the mains. Wait 5 minutes for system to initiate and then check if warning has cleared. If warning does not clear contact Advantage Air for service.

GENERATION III USER MANUAL - 500 SERIES TSP TROUBLE SHOOTING

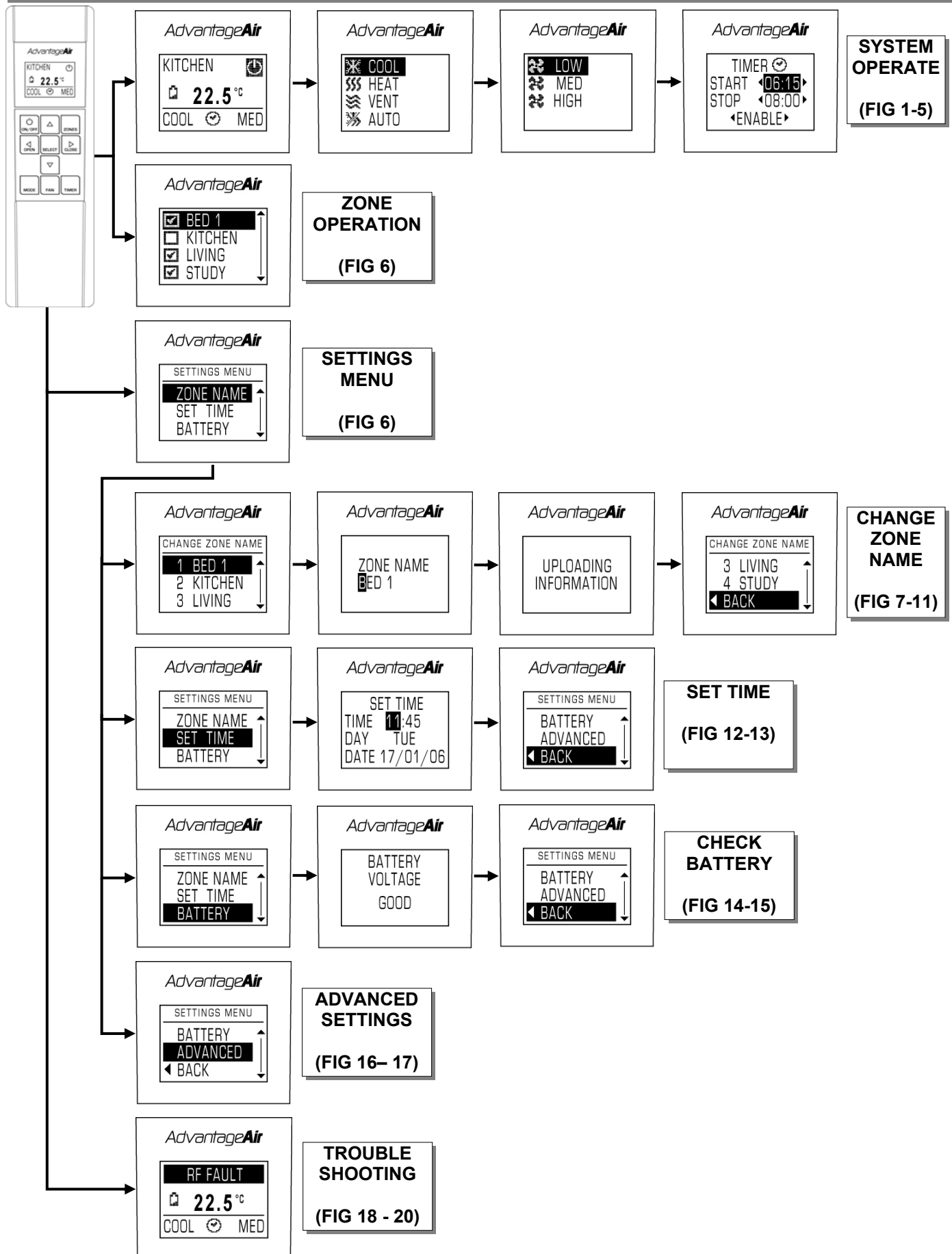


It is useful to keep in mind the limitations of air conditioning systems. Most systems are designed to maintain zone temperatures down to a minimum of 24°C in summer and up to a maximum of 21°C in winter. This is based on maximum and minimum outdoor temperature that will vary slightly across Australia but is generally accepted to be around 7°C in winter and 35°C in summer. Unless you specifically asked your consultant to over size your system for different indoor and outdoor temperatures it would be unrealistic to expect your zones to be held at 22°C on a 38°C. In addition when a home has been exposed to very hot or very cold outdoor temperatures without the air condition operating, the air conditioned rooms will take a considerable time to reduce in temperature due to the thermal inertia of the building structure.

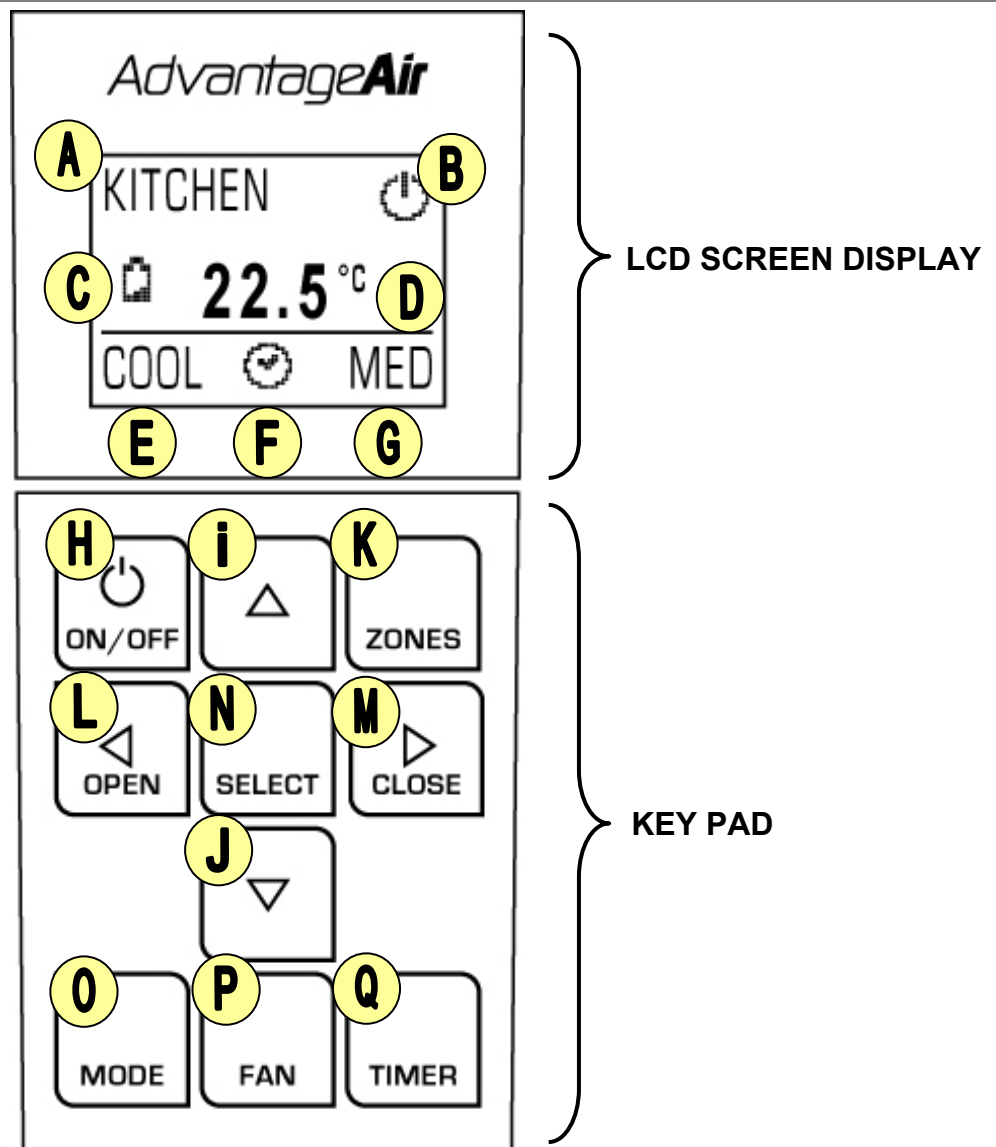
PROBLEM	POSSIBLE CAUSE	ACTION
ZONE IS TOO COLD	A/C unit has not been started	Start A/C unit
	Zone is closed	Open required zone or set to Climate Control
	A/C unit is set to run in a cooling mode	Set A/C unit mode to Heat
	Zone temperature set point is too low	Increase Zone unit temperature set point
	Maximum permitted number of open zones may have been exceeded	Close some zones
	Fan speed is set to medium or low	Set fan speed to high
	Ambient temperatures may be below the design ambient temperature	Close some zones
	External doors and windows may be open	Close all external doors and windows when A/C is running
	Return air path is blocked.	Open all internal doors between the zone and the return air grille.
	Zone temperature sensor is being influenced by an external heat source	Ensure the sensor is in a location that is representative of the average temperature in the zone
	Zone has not been running long enough to heat the area	Allow the zone to run for approximately 1-2 hours then check again.
	Air flow around the outdoor section of the A/C unit may be obstructed	Ensure free airflow into and out of the outdoor unit
ZONE IS TOO HOT	A/C unit has not been started	Start A/C unit
	Zone is closed	Open required zone or set to Climate Control
	A/C unit is set to run in a heating mode	Set A/C unit mode to Cool
	Zone temperature set point is too high	Lower zone temperature set point
	Maximum permitted number of open zones may have been exceeded	Close some zones
	A/C unit fan speed is set to medium or low	Set A/C unit fan speed to high
	Ambient temperatures may exceed the design ambient temperature	Close some zones
	External doors and windows may be open	Close all external doors and windows when A/C is running
	Return air path is blocked.	Open all internal doors between the zone and the return air grille.
	The zone temperature sensor is being influenced by an external heat source	Ensure the sensor is in a location that is representative of the average temperature in the zone
	Zone has not been running long enough to remove sufficient heat from the area	Allow the zone to run for approximately 1-2 hours then check again.
	Air flow around the outdoor section of the A/C unit may be obstructed	Ensure free airflow into and out of the outdoor unit
THE SCREEN IS BLANK	Screen has gone to sleep.	Press screen to awaken
	Screen has locked up	Insert a pen in the reset hole on the back of the touch screen panel to reset the screen Switch off the power to the panel for 5 minutes then switch back power back on

GENERATION III USER MANUAL 300/500 SERIES REMOTE UNIT CONTROLLER BASIC NAVIGATION

AdvantageAir



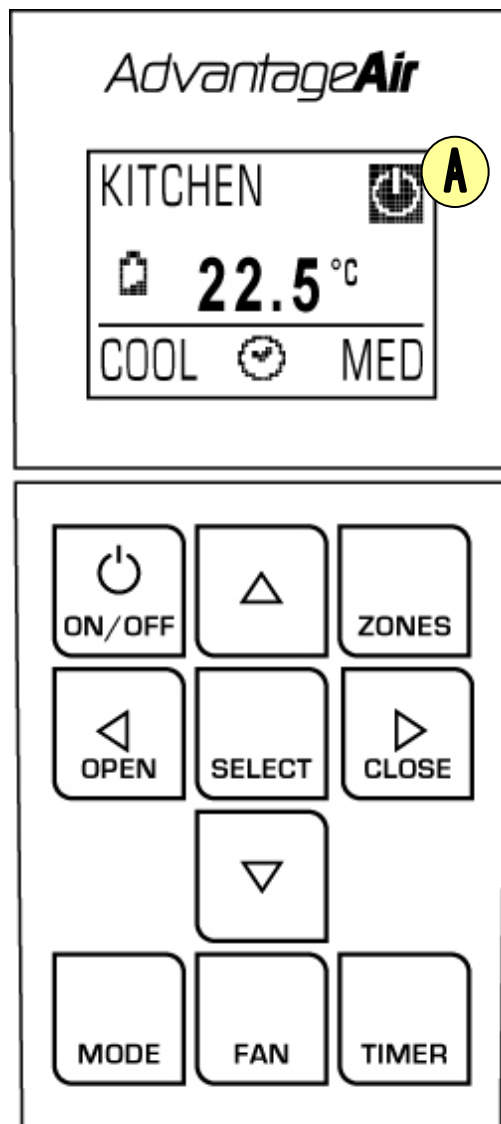
300/500 SERIES REMOTE UNIT CONTROLLER (FIG 1)



- A.** Indicates the zone name that this remote will control. In this case it is the KITCHEN.
- B.** Indicates the A/C unit is currently OFF.
- C.** Indicates RFWS batteries are low and require replacement. This icon is not displayed if the batteries are good. Note, if the remote control battery condition is low, a message will be displayed on the screen when the remote is woken up from sleep mode.
- D.** Indicates the KITCHEN set point as 22.5°C. To change press the up or down keys (I or J).
- E.** Indicates the A/C unit is currently in a Cooling MODE. (See FIG 3 To change).
- F.** Indicates the 24 hour timer has been enabled to automatically start and stop the system at a particular time. (See FIG 5 To change).
- G.** Indicates the FAN is set to run at Medium speed. (See FIG 4 To change).
- H.** Press to switch the A/C unit ON or OFF. You

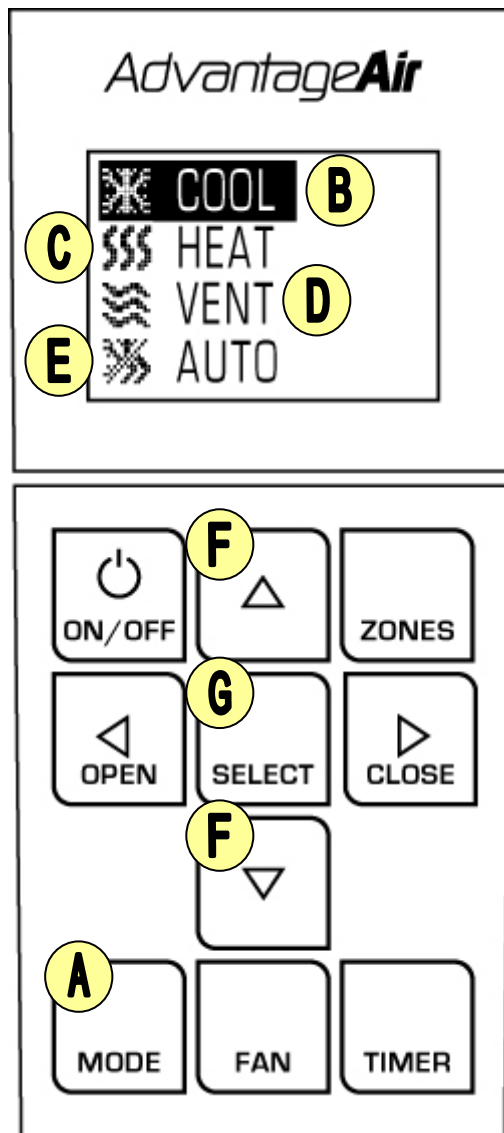
will notice a change to icon B.

- I.** Press to increase the KITCHEN set point temperature. (or to scroll up in some functions).
- J.** Press to decrease the KITCHEN set point temperature. (or to scroll down in some functions).
- K.** Press to access ZONES menu.
- L.** Press to OPEN zone KITCHEN fully (or to scroll left in some functions).
- M.** Press to CLOSE zone KITCHEN fully (or to scroll right in some functions).
- N.** Press to select choice.
- O.** Press to access MODE menu.
- P.** Press to access FAN menu.
- Q.** Press to access 24 hour timer menu.

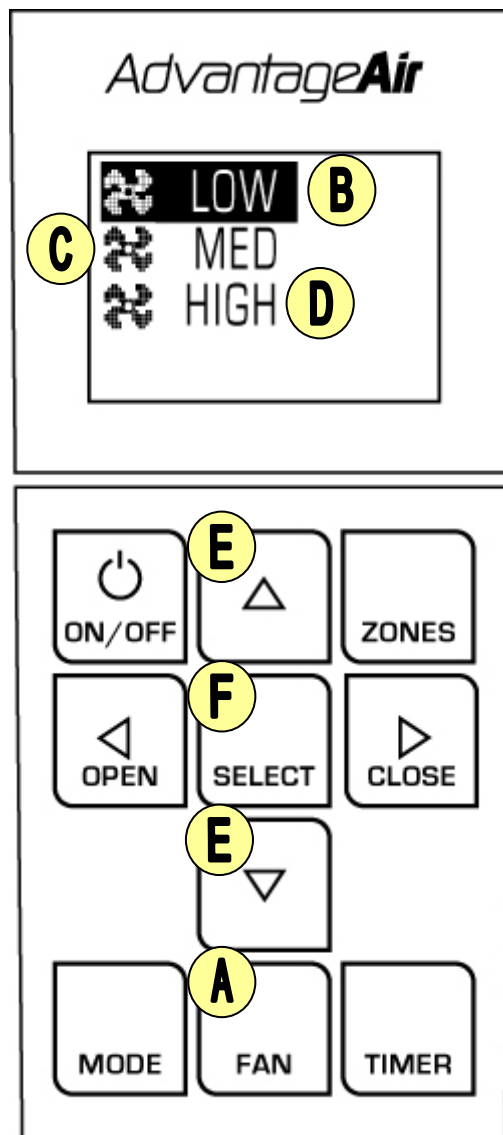


- A. Icon indicates the A/C unit is ON. See (FIG 1) for indication when unit is OFF.

300/500 SERIES REMOTE UNIT CONTROLLER (FIG 3)

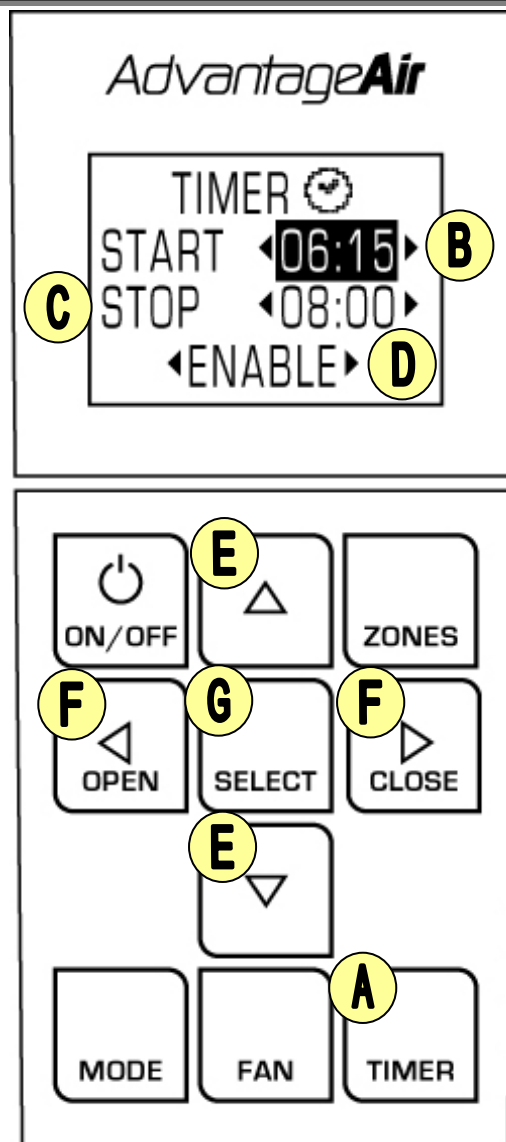


- A. Press **MODE** button to change system mode.
- B. **COOL**. The A/C unit will run in a cooling mode only.
- C. **HEAT**. The A/C unit will run in a heating mode only.
- D. **VENT**. The A/C unit will run in a ventilation mode only. Supply air fan will run but no heating or cooling will be initiated.
- E. **AUTO**. The A/C unit will automatically change from cooling to heating to achieve the required set point temperature.
- F. Use the up and down arrows to highlight the mode you would like.
- G. Then press **SELECT** to enable your choice.

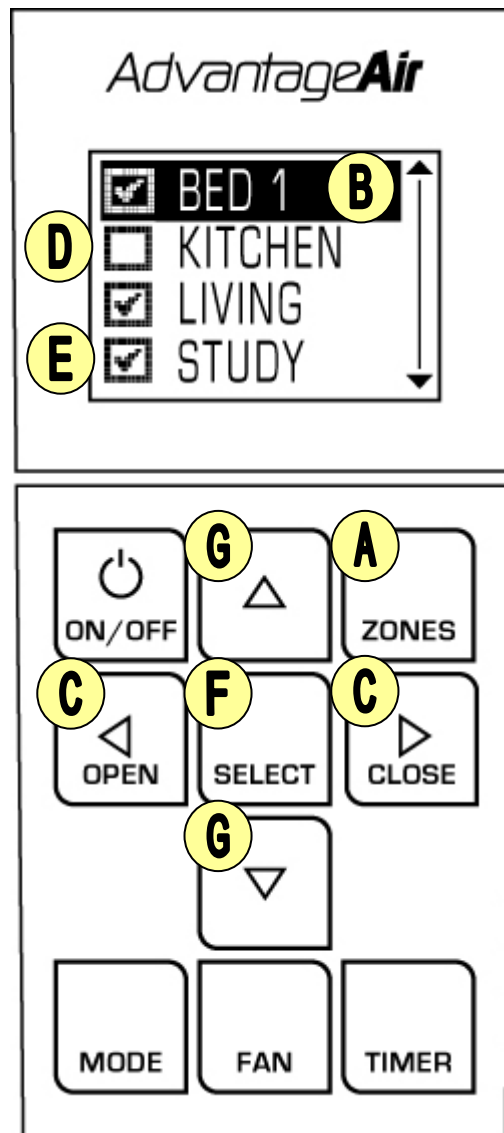


- A. Press FAN button to change fan speed.
- B. **LOW.** Low speed useful to reduce indoor noise or when only a small area of the house is being air conditioned. Please note when operating at low speed the full design capacity of the system will not be available.
- C. **MED.** Medium speed useful to reduce indoor noise or when only a small area of the house is being air conditioned. Please note when operating at medium speed the full design capacity of the system will not be available.
- D. **HIGH.** High speed should be used during periods of extreme ambient temperatures or when the maximum area of the system is being air conditioned.
- E. Use the up and down arrows to highlight the speed you would like.
- F. Then press SELECT to enable your choice.

300/500 SERIES REMOTE UNIT CONTROLLER (FIG 5)

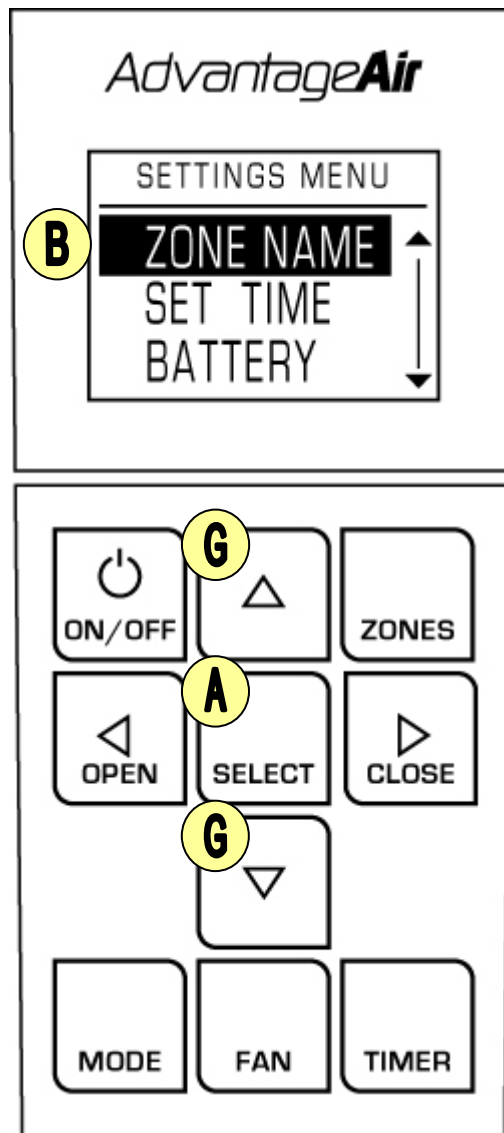


- A. Press **TIMER** key to set, enable, or disable the 24 hour timer function.
- B. **START**. Indicates the time the system has been set to automatically start. Use the up and down arrow keys (E) to highlight the start time, then use the left and right arrow keys (F) to alter the start time.
- C. **STOP**. Indicates the time the system has been set to automatically stop. Use the up and down arrow keys (E) to highlight the stop time, then use the left and right arrow keys (F) to alter the start time.
- D. **ENABLE / DISABLE**. Indicates if the 24 hour timer has been enabled or disabled. Use the up and down arrow keys (E) to highlight the **ENABLE** or **DISABLE** text, then use the left and right arrow keys (F) to toggle from **ENABLE** to **DISABLE**. Press **SELECT** (G) when you are complete.

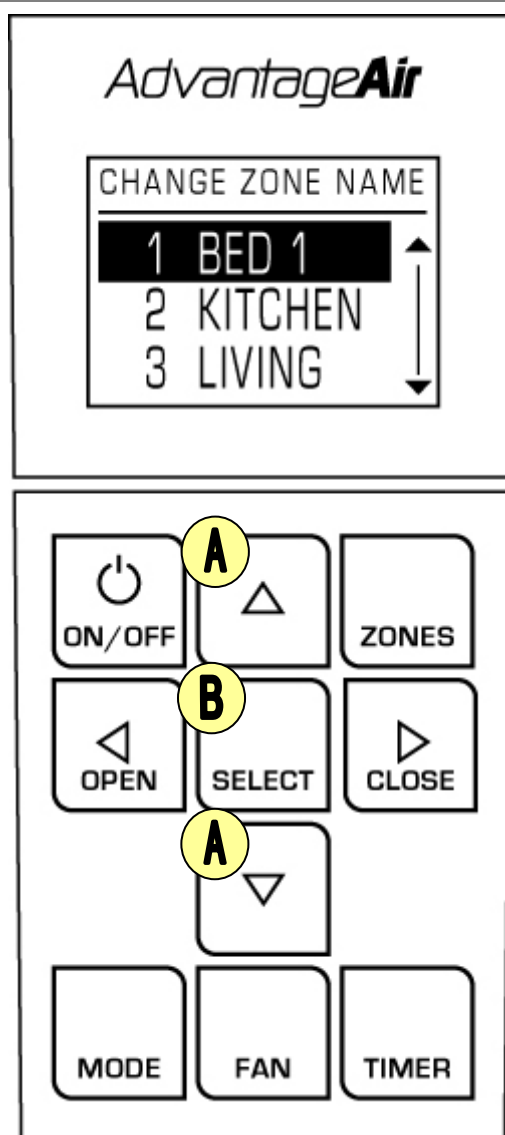


- A. Press ZONES button to access zones menu.
- B. Use the up and down arrow keys (G) to highlight the zone you would like to change.
- C. Press OPEN or CLOSE keys (C) to open or close the highlighted zone.
- D. An empty square (see KITCHEN) denotes the zone is CLOSED
- E. A tick inside a square (see STUDY) denotes the zone is OPEN. Take care not to open more zones than the system was designed to have open at any one time. When a zone is opened from this handset it will be set to climate control mode.
- F. Press SELECT to enter changes and return to the main menu.

300/500 SERIES REMOTE UNIT CONTROLLER (FIG 7)

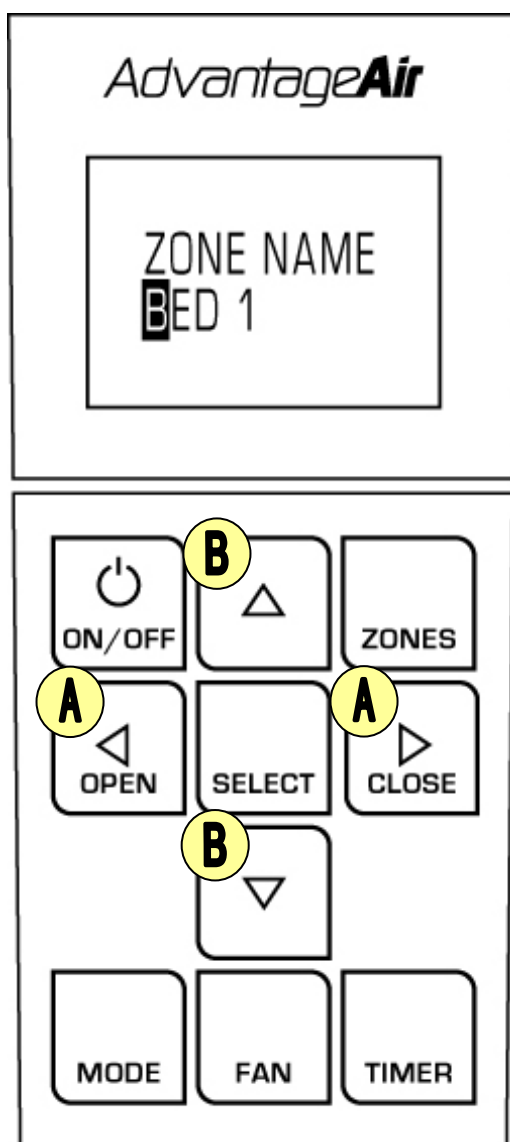


- A. To access the **SETTINGS MENU** press and hold down the **SELECT** key.
- B. To change the zone name use the up and down arrow keys (G) to highlight **ZONE NAME**. Then press the **SELECT** key (A) and you will access the **CHANGE ZONE NAME** menu.

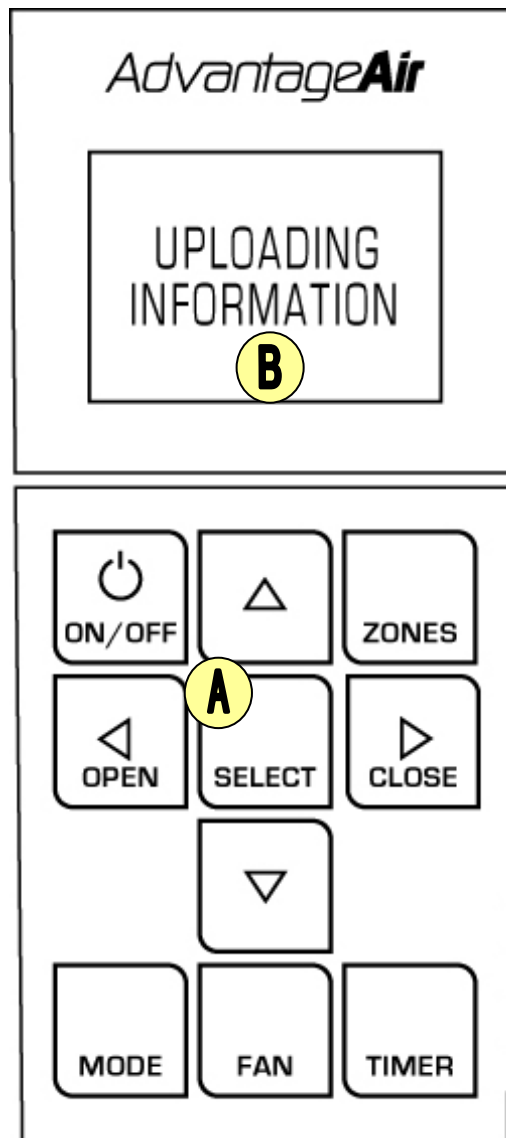


- A. Use the up and down arrow keys (A) to highlight the zone name you would like to change.
- B. Once you have located the zone name you would like to change press SELECT key (B).

300/500 SERIES REMOTE UNIT CONTROLLER (FIG 9)

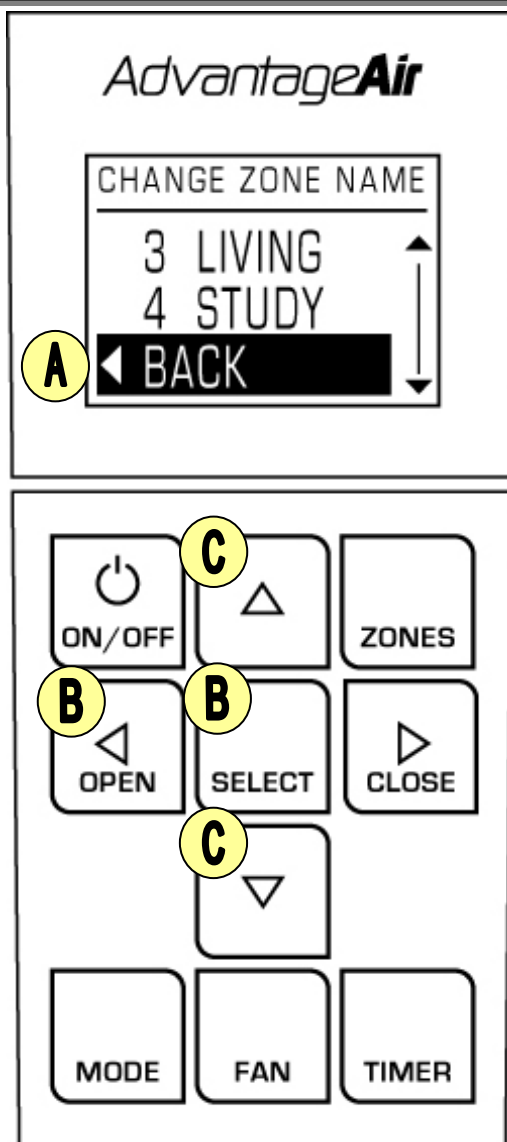


- A. Use the left and right arrow keys (A) to highlight the letter you would like to change.
- B. Use the up and down arrow keys (B) to scroll through the available letters, numbers, symbols or blank space. Repeat this process (A and B) until you have the name you require.



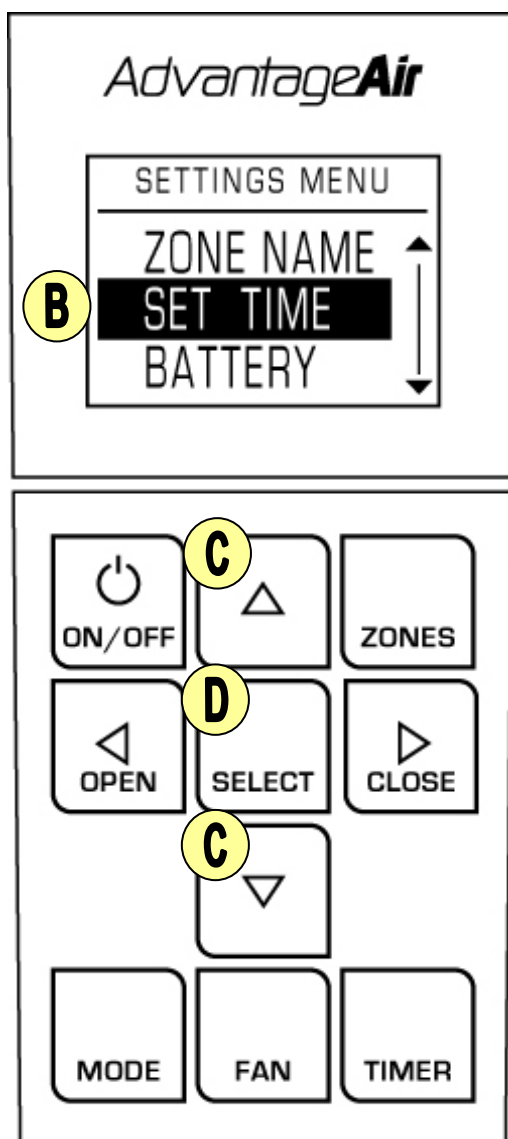
- A. Once you are satisfied with the new name press SELECT key (A)
- B. The screen will indicate that the remote control is Uploading the new information to the master control box. Once the information has been uploaded you will be returned to the CHANGE ZONE NAME MENU (FIG 8). Repeat this process to change other zone names as required.

300/500 SERIES REMOTE UNIT CONTROLLER (FIG 11)



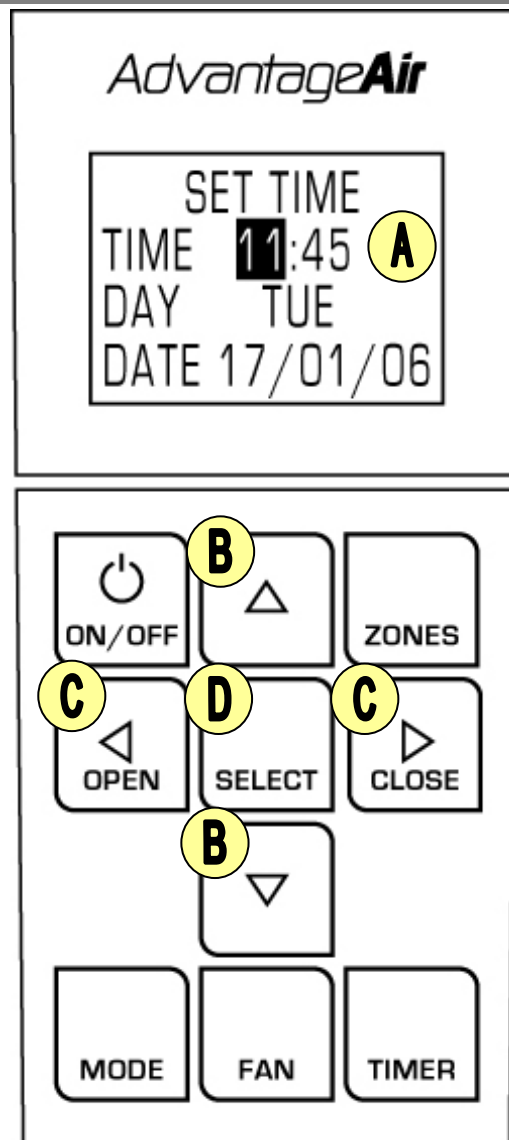
- A. If you have finished changing zone names or want to return to the **SETTINGS MENU** (FIG 7) at any time, use the up and down arrow keys (C) to scroll through the zone names until **BACK** is highlighted.
- B. Press the left arrow key or **SELECT** key (B) to go **BACK** to the **SETTINGS MENU**.

300/500 SERIES REMOTE UNIT CONTROLLER (FIG 12)



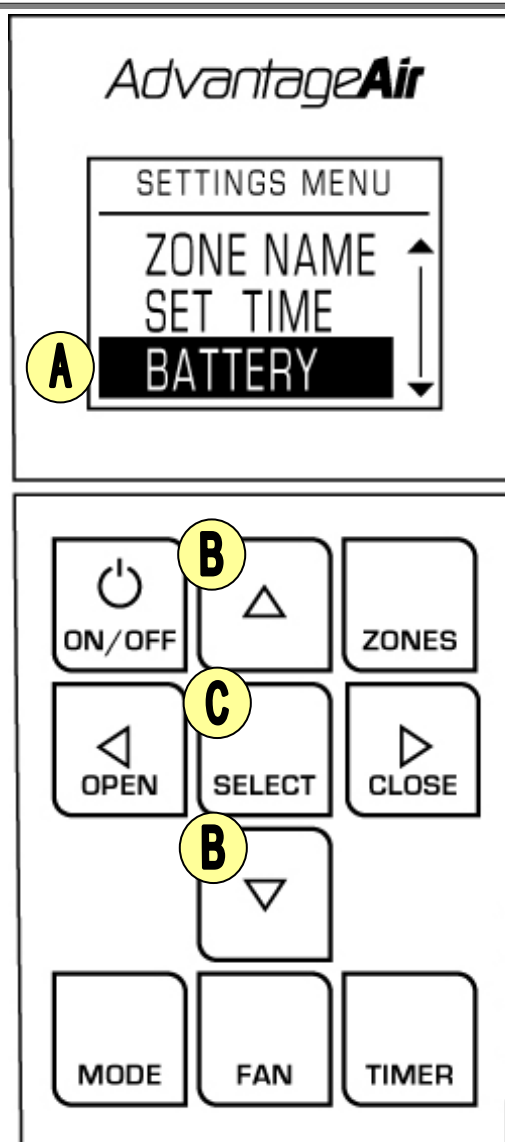
- A. To change the system time enter the **SETTINGS MENU**. Refer to FIG 7.
- B. Use the up and down arrow keys (C) to highlight **SET TIME**. Then press the **SELECT** key (D) and you will access the **SET TIME** menu.

300/500 SERIES REMOTE UNIT CONTROLLER (FIG 13)

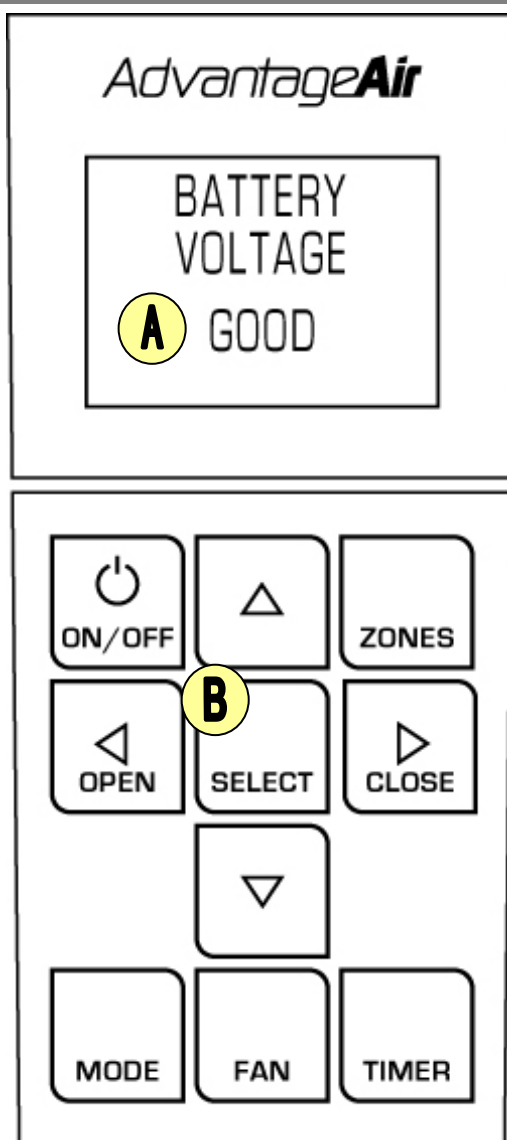


- A. Use the left and right arrow keys (C) to highlight the hour, minute, day , month or year you would like to change.
- B. Use the up and down arrow keys (B) to change the highlighted value. Then press the SELECT key (D) to update the system time setting.

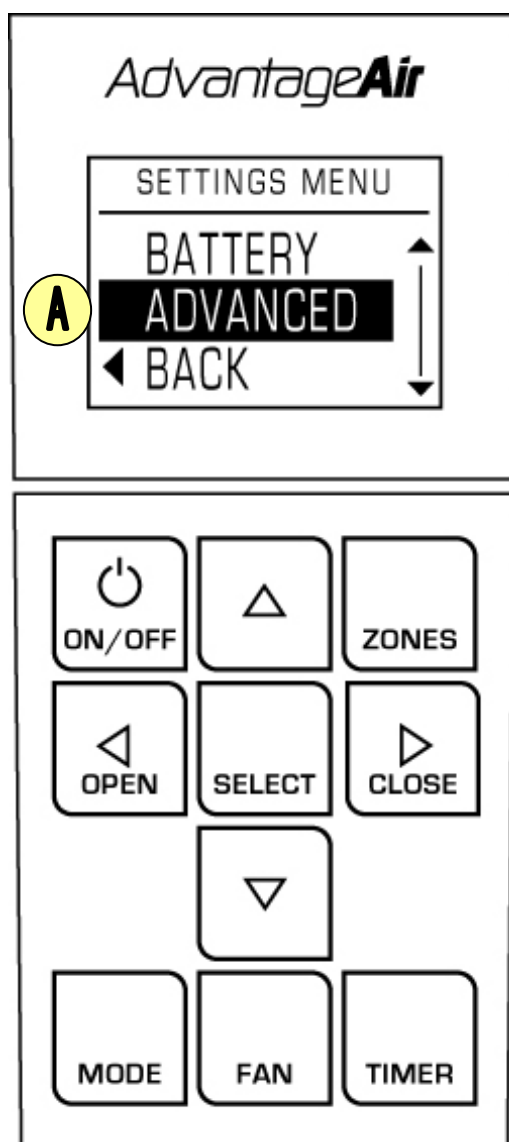
300/500 SERIES REMOTE UNIT CONTROLLER (FIG 14)



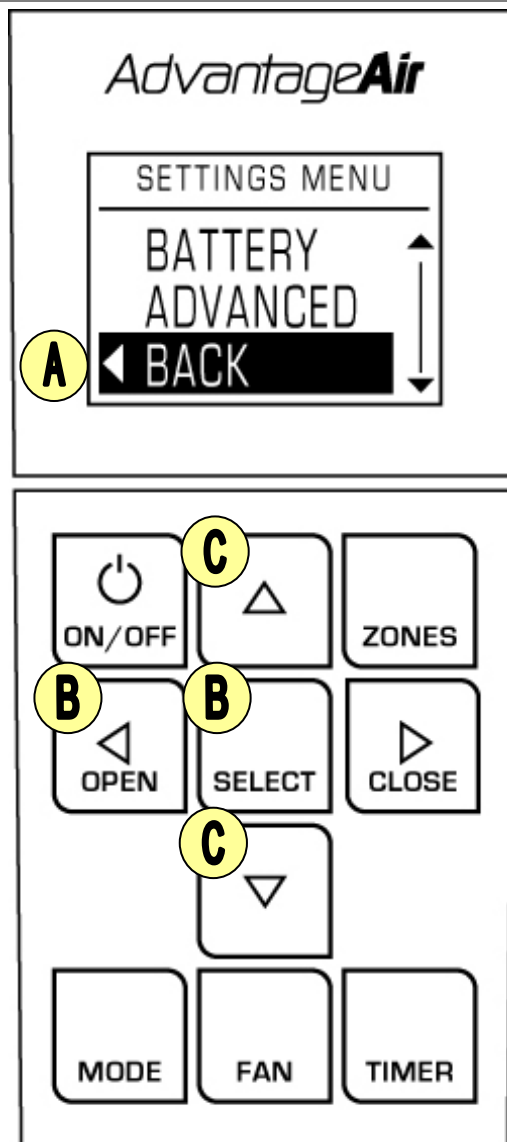
- A. To check the battery status for the remote control enter the **SETTINGS MENU**. Refer to FIG 7.
- B. Use the up and down arrow keys (B) to highlight **BATTERY**.
- C. Press **SELECT** key (C) and the condition of the batteries will be displayed on the screen.



- A. Condition of the batteries. If in doubt it is recommended that all batteries are replaced.
- B. Press SELECT (B) to return to the setting menu.

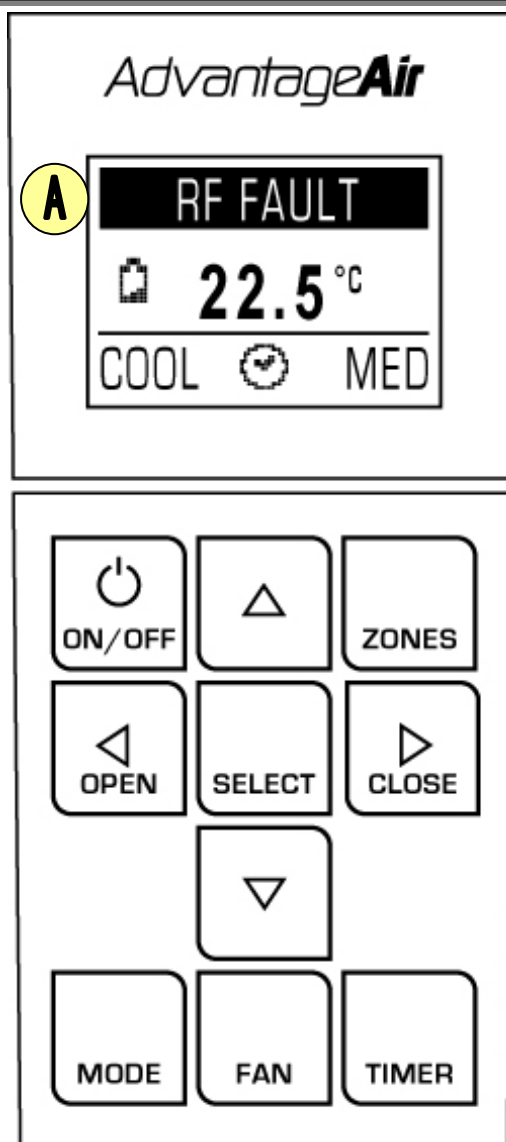


- A. Within the **SETTINGS MENU** are **ADVANCED** settings. These settings are for technicians only and any changes can have a detrimental affect on the operation of your system. For access to these settings refer to Technician's installation and commissioning instructions.



- A. If you have finished changing settings or want to return to the main menu (FIG 1) at any time, use the up and down arrow keys (C) to scroll through the settings options until BACK is highlighted.
- B. Press the left arrow key or SELECT (B) to go BACK to the MAIN MENU.

300/500 SERIES REMOTE UNIT CONTROLLER (FIG 18)



- A. Indicates an RF FAULT has occurred with the radio frequency communications network. Refer to trouble shooting guide (FIG 19-20) for assistance.

GENERATION III USER MANUAL



300/500 SERIES REMOTE UNIT CONTROLLER TROUBLE SHOOTING (FIG 19)

PROBLEM	POSSIBLE CAUSE	ACTION
ZONE IS TOO COLD	A/C unit has not been started.	Start A/C unit.
	Zone is closed.	Open required zone or set to Climate Control.
	A/C unit is set to run in a cooling mode.	Set A/C unit mode to Heat.
	Zone temperature set point is too low.	Increase Zone temperature set point.
	Maximum permitted number of open zones may have been exceeded.	Close some zones.
	Fan speed is set to medium or low	Set fan speed to high.
	Ambient temperatures may be below the design ambient temperature.	Close some zones.
	External doors and windows may be open.	Close all external doors and windows when A/C is running.
	Return air path is blocked.	Open all internal doors between the zone and the return air grille.
	The Zone temperature sensor is being influenced by an external heat source.	Ensure the sensor is in a location that is representative of the average temperature in the zone.
	A/C unit has not been running long enough to heat the area.	Allow the system to run for approximately 1-2 hours then check again.
	Air flow around the outdoor section of the A/C unit may be obstructed.	Ensure free airflow into and out of the outdoor unit .
ZONE IS TOO HOT	A/C unit has not been started.	Start A/C unit.
	Zone is closed.	Open required zone.
	A/C unit is set to run in a heating mode.	Set A/C unit mode to Cool.
	Zone temperature set point is too high.	Lower Zone temperature set point.
	Maximum permitted number of open zones may have been exceeded.	Close some zones.
	A/C unit fan speed is set to medium or low.	Set A/C unit fan speed to high.
	Ambient temperatures may exceed the design ambient temperature.	Close some zones.
	External doors and windows may be open.	Close all external doors and windows when A/C is running.
	Return air path is blocked.	Open all internal doors between the zone and the return air grille.
	The A/C unit temperature sensor is being influenced by an external heat source.	Ensure the sensor is in a location that is representative of the average temperature in the home or office.
	A/C unit has not been running long enough to remove sufficient heat from the area.	Allow the system to run for approximately 1-2 hours then check again.
	Air flow around the outdoor section of the A/C unit may be obstructed.	Ensure free airflow into and out of the outdoor unit.

GENERATION III USER MANUAL

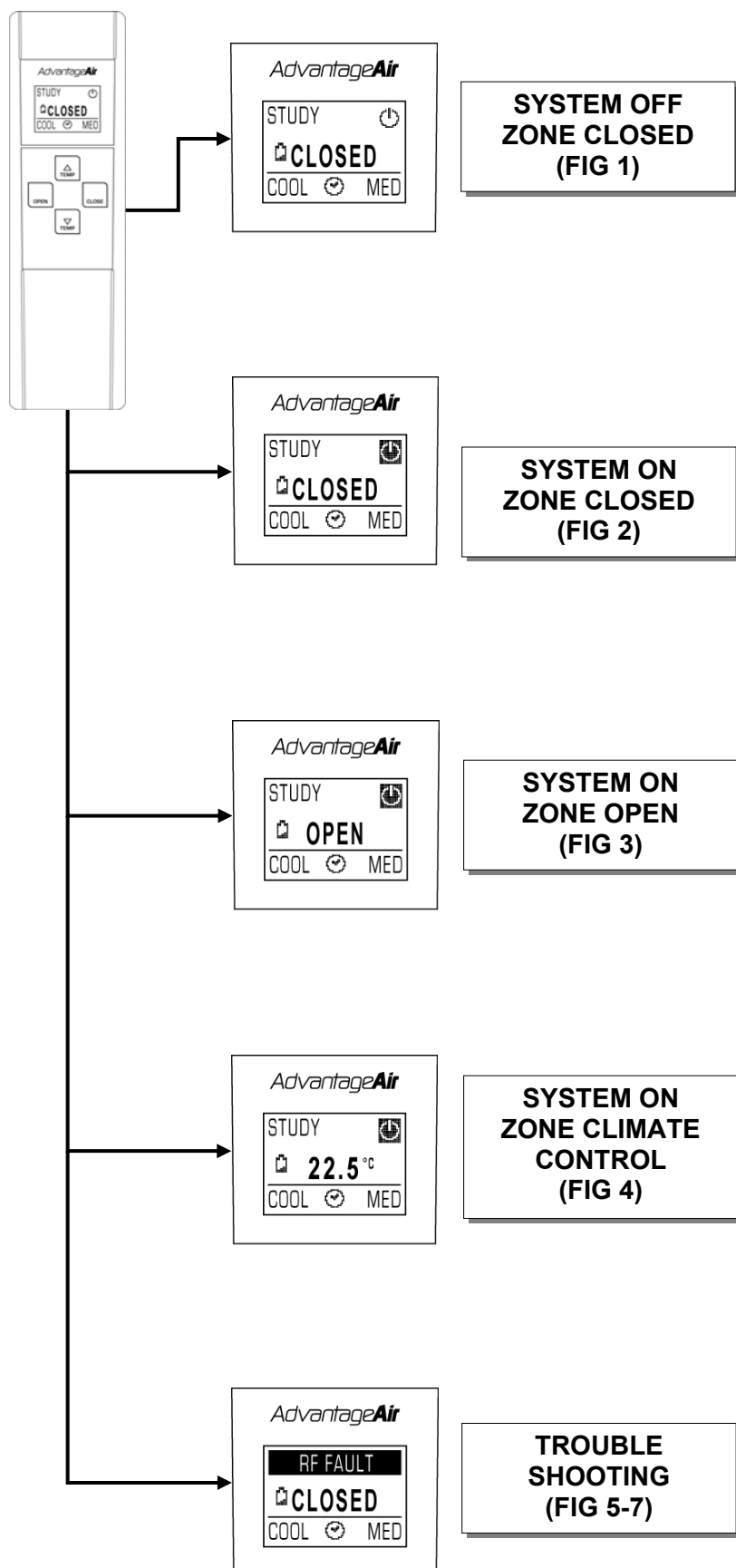


300/500 SERIES REMOTE UNIT CONTROLLER TROUBLE SHOOTING (FIG 20)

PROBLEM	POSSIBLE CAUSE	ACTION
RF FAULT APPEARS ON SCREEN	Communications error between remote control and RF ceiling unit	Reset remote controller by removing and replacing batteries Insert a pin in the reset hole on the back of the remote
	Power failure to A/C unit	Ensure power to A/C unit and control system is on
	Battery power is low	Replace batteries in remote
UPLOADING INFORMATION APPEARS ON SCREEN	A change has occurred to the configuration of the control system (via another remote or control panel) Batteries have been removed and replaced	Remote will automatically receive the new information
LOW BATTERY ICON APPEARS ON SCREEN	Batteries require replacement	Replace batteries in remote and on A/C unit sensor (if applicable)
ENTER CODE APPEARS ON SCREEN	You have accessed the Advanced settings area. Any changes to the Advanced settings may detrimentally affect the operation of your system	Press Select key to exit advanced settings. To access advanced settings refer to technician installation and commissioning instructions
THE SCREEN IS BLANK	Screen has gone to sleep.	Press any key to awaken screen
	Batteries are flat	Replace batteries
	Screen has locked up	Insert a pin in the reset hole on the back of the remote to reset the screen

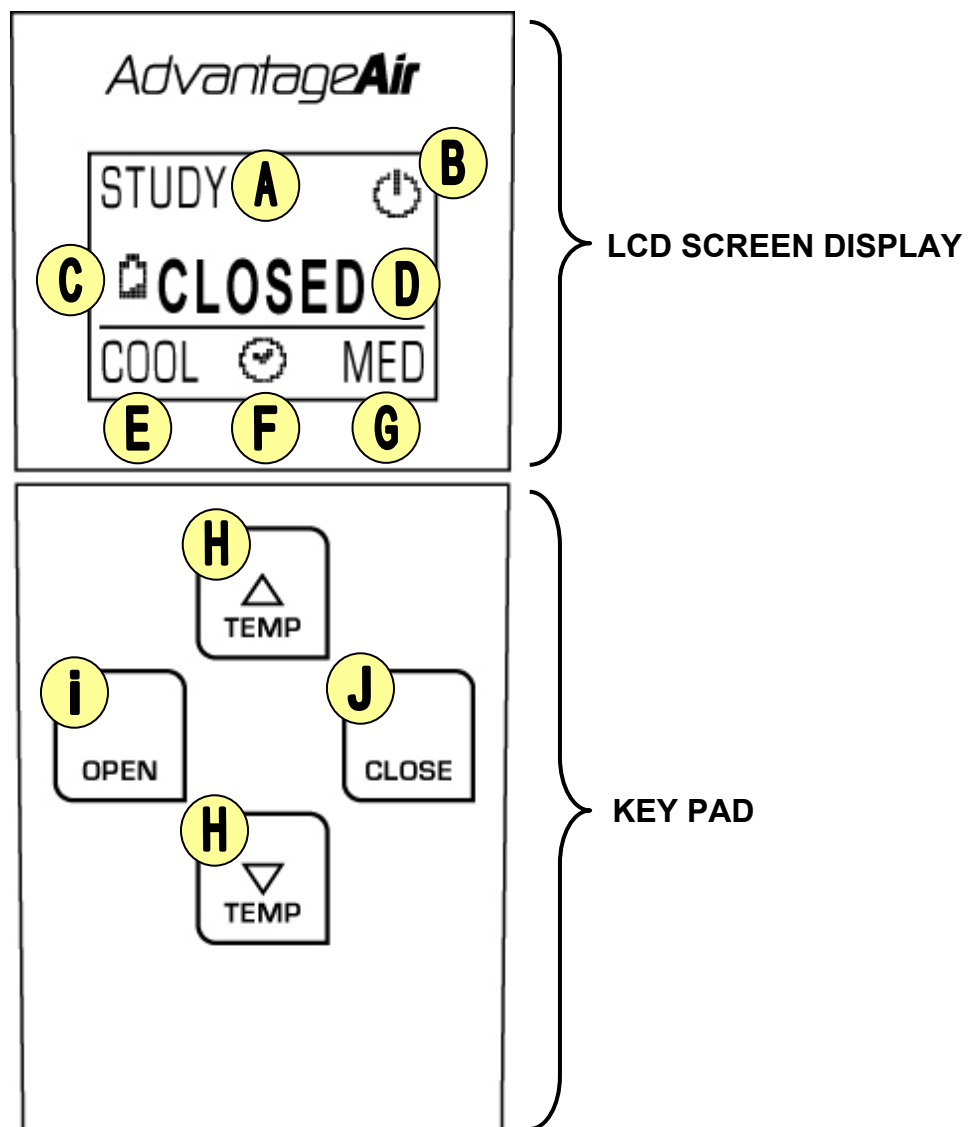
GENERATION III USER MANUAL 300/500 SERIES REMOTE CONTROLLER BASIC NAVIGATION

AdvantageAir



**GENERATION III
USER MANUAL
300/500 SERIES REMOTE CONTROLLER (FIG 1)**

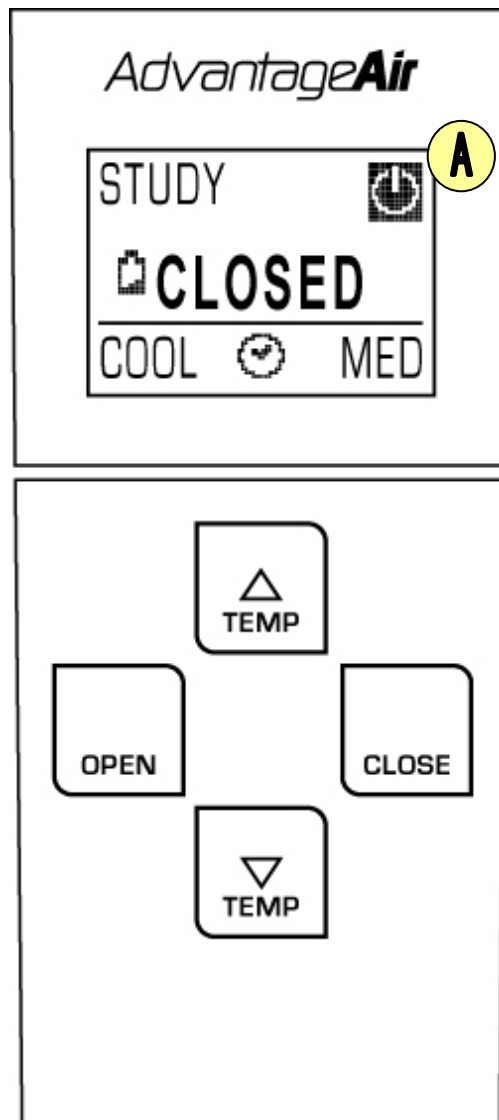
AdvantageAir



- | | |
|---|---|
| <p>A. Indicates the zone name that this remote will control. In this case it is the STUDY.</p> <p>B. This icon indicates the A/C unit is OFF. This is only applicable to Gen III packages that control the A/C unit as well. See (FIG 2) for indication when unit is ON</p> <p>C. Indicates RFWS batteries are low and require replacement. This icon is not displayed if the batteries are good. Note, if the remote control battery condition is low, a message will be displayed on the screen when the remote is woken up from sleep mode.</p> <p>D. Indicates the STUDY zone is currently CLOSED fully.</p> <p>E. Indicates the A/C unit is currently in a Cooling mode. This is only applicable to Gen III packages that control the A/C unit as well.</p> <p>F. Indicates the 24 hour timer has been enabled to automatically start and stop at a particular</p> | <p>time. This is only applicable to Gen III packages that control the A/C unit as well.</p> <p>G. Indicates the fan is set to run at Medium speed. This is only applicable to Gen III packages that control the A/C unit as well.</p> <p>H. Press either up TEMP or down TEMP keys to set the zone in a Climate Control mode. Press repeatedly to increase or decrease the required set point temperature.</p> <p>I. Press this key to manually OPEN the zone fully.</p> <p>J. Press this key to manually CLOSE the zone fully.</p> |
|---|---|

**GENERATION III
USER MANUAL
300/500 SERIES REMOTE CONTROLLER (FIG 2)**

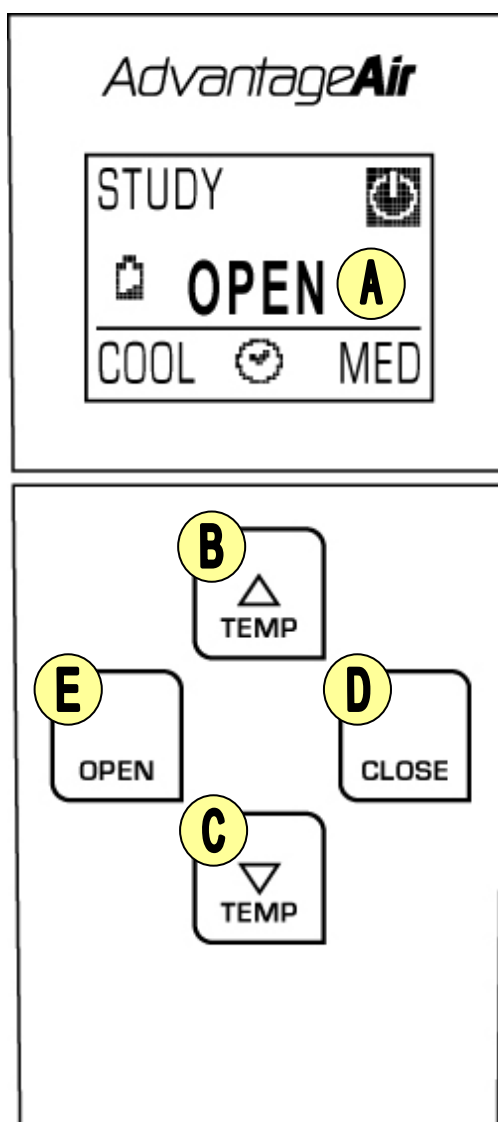
AdvantageAir



- A. Indicates the A/C unit is ON. This is only applicable to Gen III packages that control the A/C unit as well. See (FIG 1) for icon indication when A/C unit is OFF.

**GENERATION III
USER MANUAL
300/500 SERIES REMOTE CONTROLLER (FIG 3)**

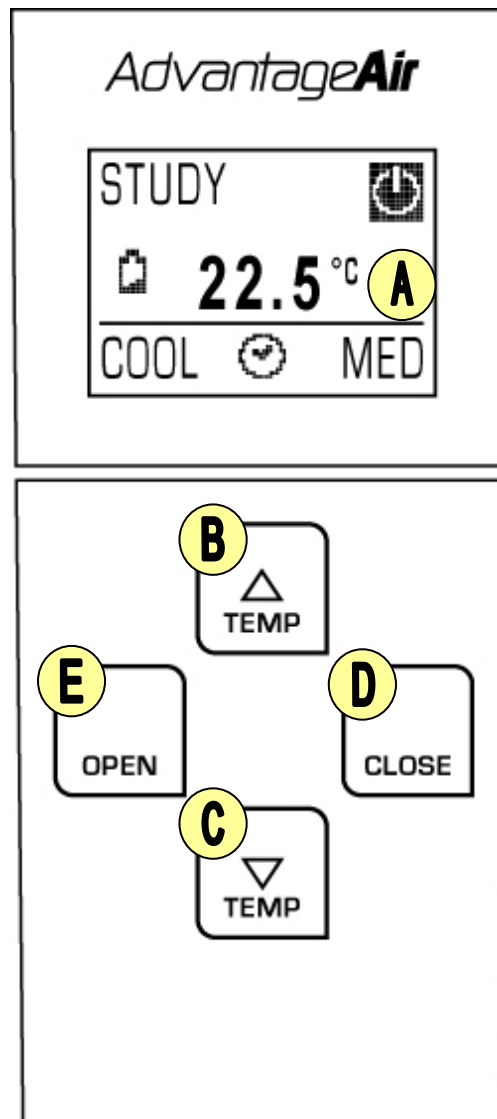
*Advantage***Air**



- A.** Indicates this zone is currently in a manual fully OPEN position.
- B.** Press this key to set the zone in a Climate Control mode. Press repeatedly to increase the required set point temperature.
- C.** Press this key to set the zone in a Climate Control mode. Press repeatedly to decrease the required set point temperature.
- D.** Press this key to manually CLOSE the zone fully.
- E.** Press this key to manually OPEN the zone fully.

**GENERATION III
USER MANUAL
300/500 SERIES REMOTE CONTROLLER (FIG 4)**

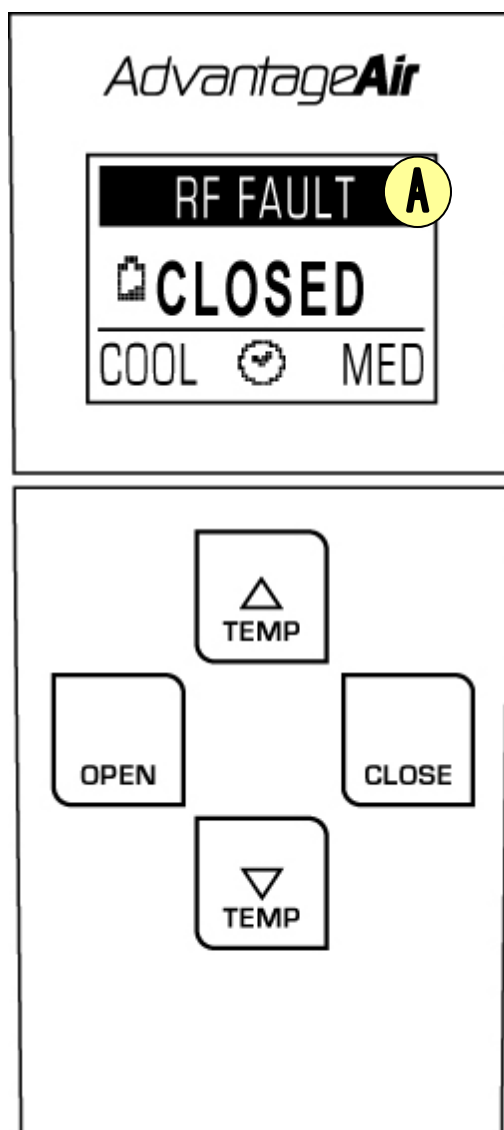
AdvantageAir



- A. Indicates this zone is currently in a Climate Control mode and will be controlling the zone to maintain 22.5°C.
- B. Press this key repeatedly to increase the required set point temperature.
- C. Press this key repeatedly to decrease the required set point temperature.
- D. Press this key to manually CLOSE the zone fully.
- E. Press this key to manually OPEN the zone fully.

**GENERATION III
USER MANUAL
300/500 SERIES REMOTE CONTROLLER (FIG 5)**

*Advantage***Air**



- A.** Indicates an RF FAULT has occurred with the radio frequency communications network. Refer to trouble shooting guide (FIG 6 - 7) for assistance.

GENERATION III USER MANUAL



300/500 SERIES REMOTE CONTROLLER TROUBLE SHOOTING (FIG 6)

PROBLEM	POSSIBLE CAUSE	ACTION
ZONE IS TOO COLD	Unit has not been started	Start A/C unit
	Zone is closed	Open required zone or set to Climate Control
	A/C unit is set to run in a cooling mode	Set A/C unit mode to Heat
	Zone temperature set point is too low	Increase Zone temperature set point
	Maximum permitted number of open zones may have been exceeded	Close some zones
	A/C unit fan speed is set to medium or low	Set A/C unit fan speed to high
	Ambient temperatures may be below the design ambient temperature	Close some zones
	External doors and windows may be open	Close all external doors and windows when A/C is running
	Return air path is blocked.	Open all internal doors between the zone and the return air grille.
	The zone temperature sensor is being influenced by an external heat source	Ensure the sensor is in a location that is representative of the average zone temperature.
	Unit has not been running long enough to heat the area	Allow the system to run for approximately 1-2 hours then check again.
	Air flow around the A/C outdoor unit may be obstructed	Ensure free airflow into and out of the outdoor unit
ZONE IS TOO HOT	A/C unit has not been started	Start A/C unit
	Zone is closed	Open required zone or set to Climate Control
	A/C unit is set to run in a heating mode	Set A/C unit mode to Cool
	Zone temperature set point is too high	Lower Zone temperature set point
	Maximum permitted number of open zones may have been exceeded	Close some zones
	A/C unit fan speed is set to medium or low	Set A/C unit fan speed to high
	Ambient temperatures may exceed the design ambient temperature	Close some zones
	External doors and windows may be open	Close all external doors and windows when A/C is running
	Return air path is blocked.	Open all internal doors between the zone and the return air grille.
	The zone temperature sensor is being influenced by an external heat source	Ensure the zone sensor is in a location that is representative of the average temperature in the zone
	A/C unit has not been running long enough to remove sufficient heat from the area	Allow the system to run for approximately 1-2 hours then check again.
	Air flow around the A/C unit outdoor section may be obstructed	Ensure free airflow into and out of the outdoor unit

GENERATION III USER MANUAL

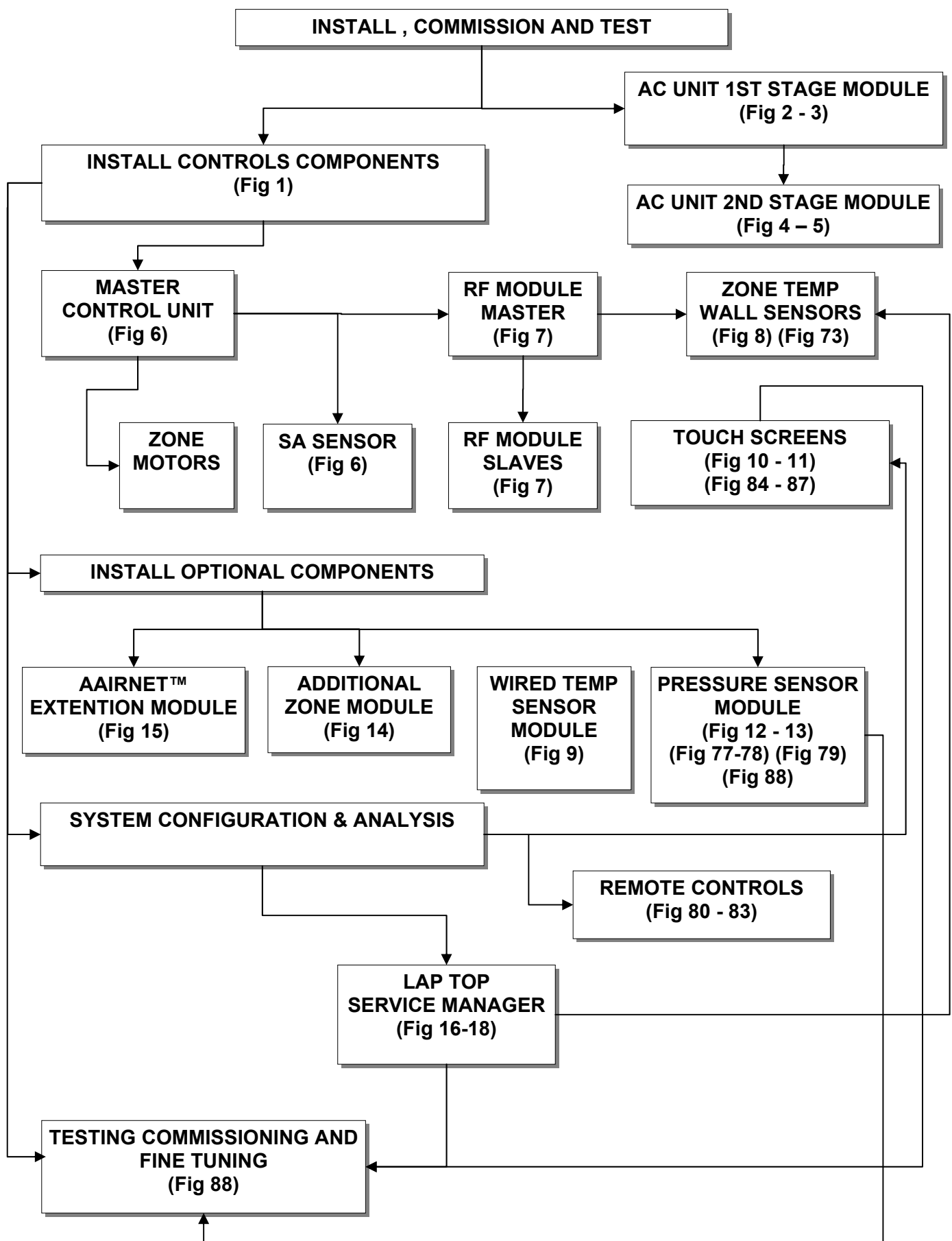
AdvantageAir

300/500 SERIES REMOTE CONTROLLER TROUBLE SHOOTING (FIG 7)

PROBLEM	POSSIBLE CAUSE	ACTION
RF FAULT APPEARS ON SCREEN	Communications error between remote control and RF ceiling unit	Reset remote controller by removing and replacing batteries Insert a pin in the reset hole on the back of the remote
	Power failure to A/C unit	Ensure power to A/C unit and control system are on
	Battery power is low	Replace batteries in remote controller and zone sensor (if applicable)
UPLOADING INFORMATION APPEARS ON SCREEN	A change has occurred to the configuration of the control system (via another remote or control panel) Batteries have been removed and replaced	Remote will automatically receive the new information
LOW BATTERY ICON APPEARS ON SCREEN	Batteries require replacement	Replace batteries in remote and in zone sensor (if applicable)
ENTER CODE APPEARS ON SCREEN	You have accessed the Advanced settings area. Any changes to the Advanced settings may detrimentally affect the operation of your system	Press Select key to exit advanced settings. To access advanced settings refer to technician installation and commissioning instructions
THE SCREEN IS BLANK	Screen has gone to sleep.	Press any key to awaken screen
	Batteries are flat	Replace batteries
	Screen has locked up	Insert a pin in the reset hole on the back of the remote to reset screen

GENERATION III INSTALLATION GUIDE BASIC NAVIGATION

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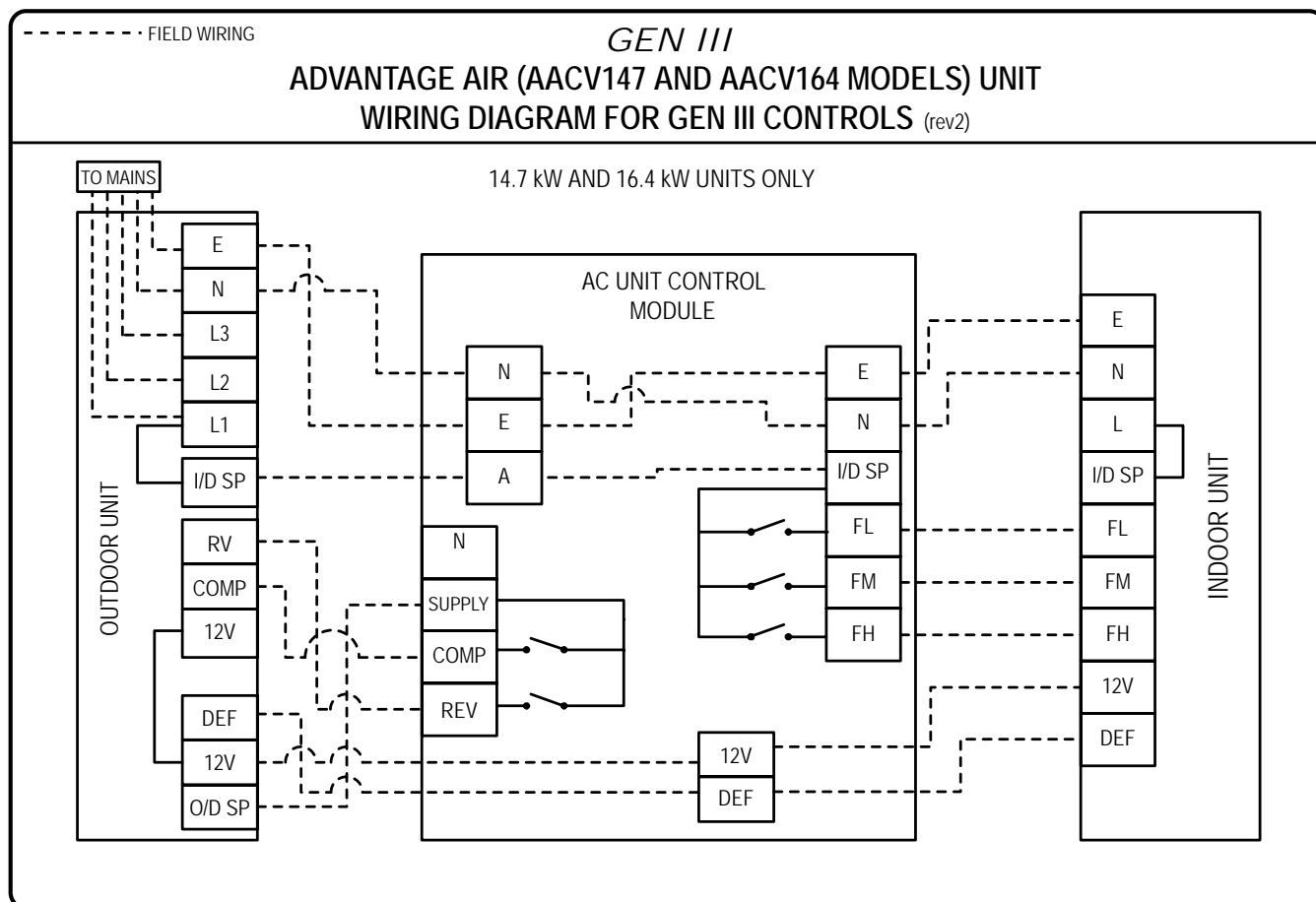


*Advantage***Air**



GENERATION III **A/C UNIT CONTROL MODULE** **AACV 147 / 164 AIR CONDITIONER WIRING DIAGRAM** **(FIG 2)**

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No liability

Make sure you read and understand all the installation instructions before you install this Air Conditioner. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Air Conditioner.

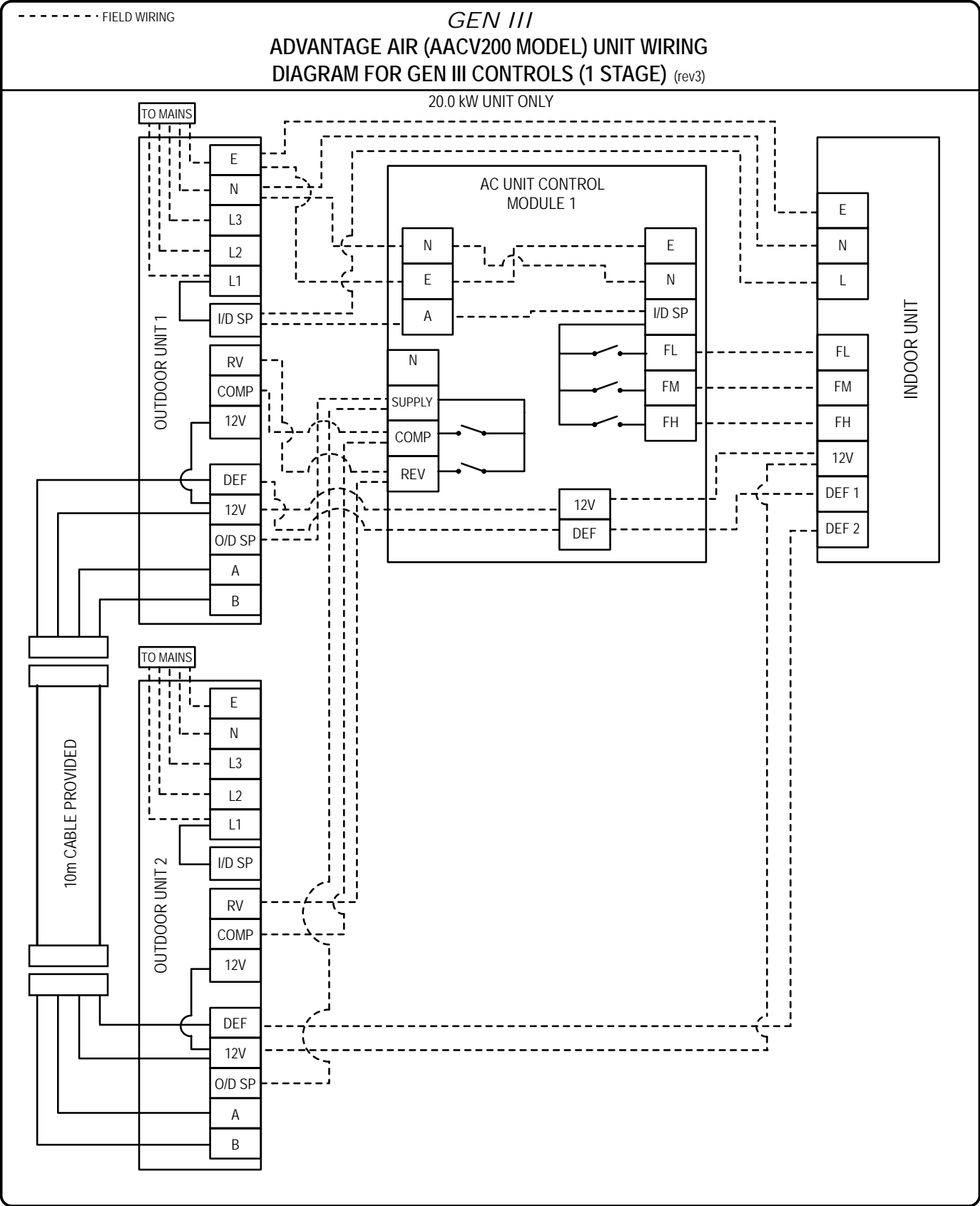
GENERATION III

A/C UNIT CONTROL MODULE

AACV 200 AIR CONDITIONER WIRING DIAGRAM 1 STAGE

(FIG 2)

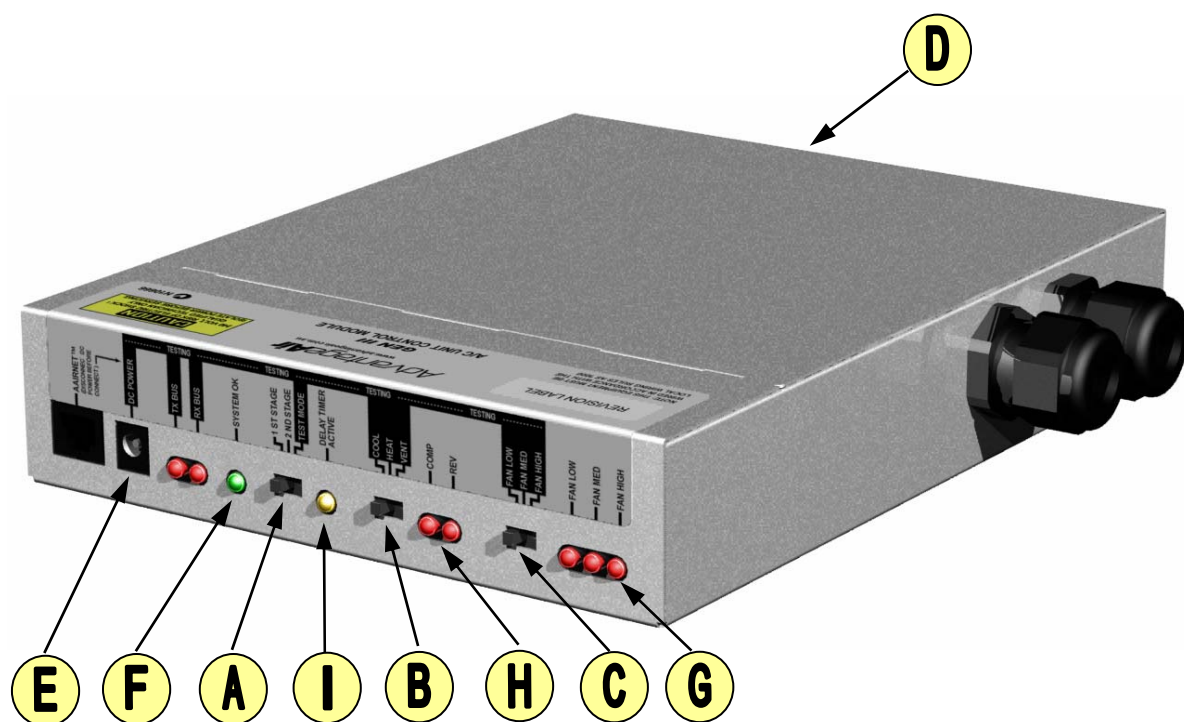
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GENERATION III INSTALLATION GUIDE: AC UNIT CONTROL MODULE (ACUCM) (FIG 3)

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Test all terminals for connectivity.

- A. Set selector switch to Test Mode.
- B. Set selector switch to Vent.
- C. Set selector switch to High Fan speed.
- D. Connect the DC Power supply to IEC connector.
- E. Connect DC power supply to the front of the box E.
- F. System OK LED should illuminate to indicate that the system is normal.
- G. Indoor Fan should run on High speed as Fan speed LED illuminates.
- On selector switch C, test fan speed on Low, Med and High.
- Move selector switch B, to COOL mode.
- H. COMP Led for compressor should illuminate to indicate that the compressor is activated.

- Move selector switch B, to HEAT mode.
- COMP Led H will switch off.
- I. Delay Timer Active LED I should illuminate to indicate compressor run timer delay is active.
- Approximately 3 minutes 30 seconds later, LED I will switch off and COMP & REV LED H should both illuminate to indicate that the system is running in Heat mode.

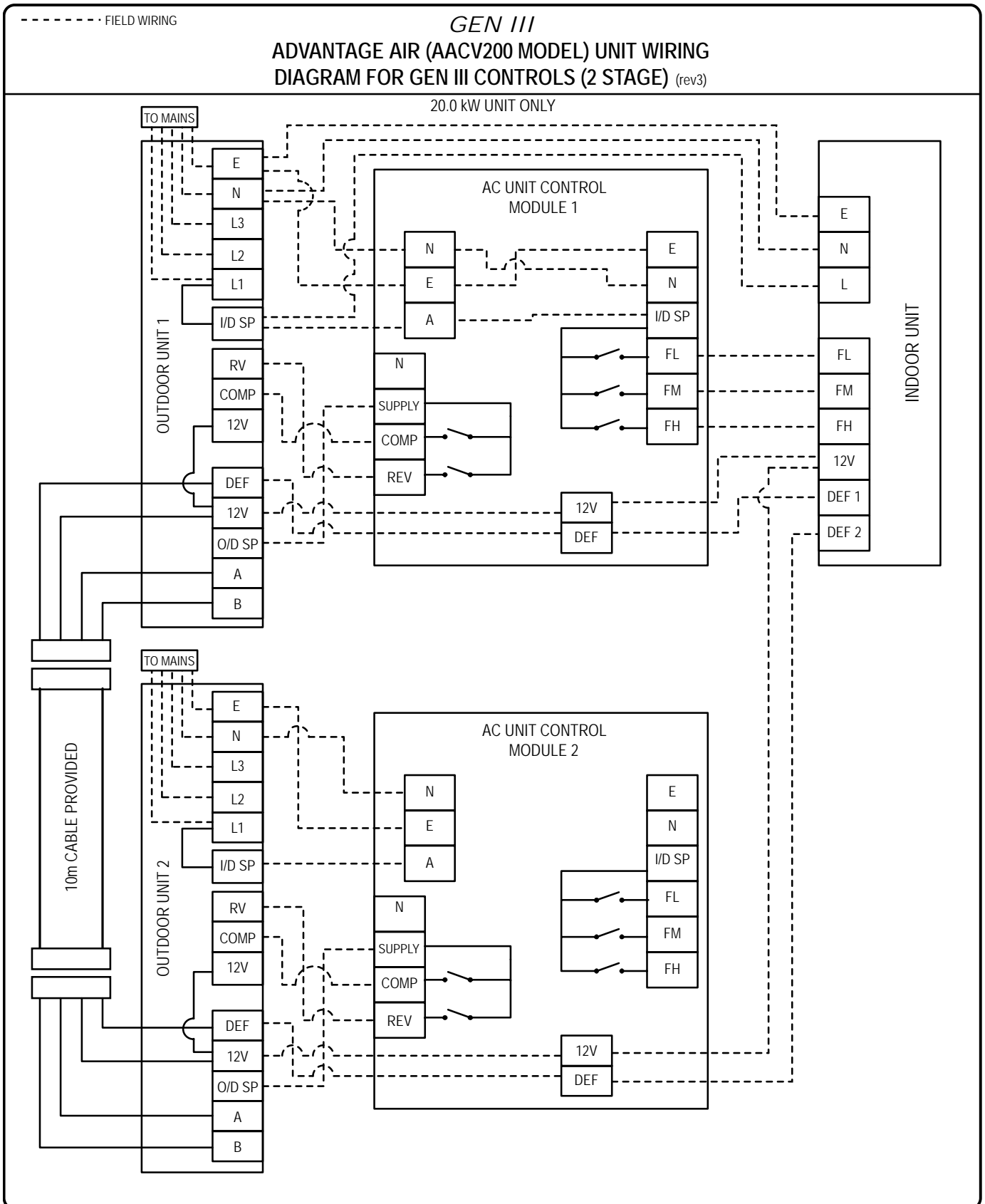
To return system to normal operation mode:

- Disconnect DC power supply from the front of the box E.
- Set selector switch A to 1st stage for single stage compressor control.
- Leave the DC power supply connected at D for future use.

GENERATION III A/C UNIT CONTROL MODULE

AACV 200 AIR CONDITIONER WIRING DIAGRAM 2 STAGE

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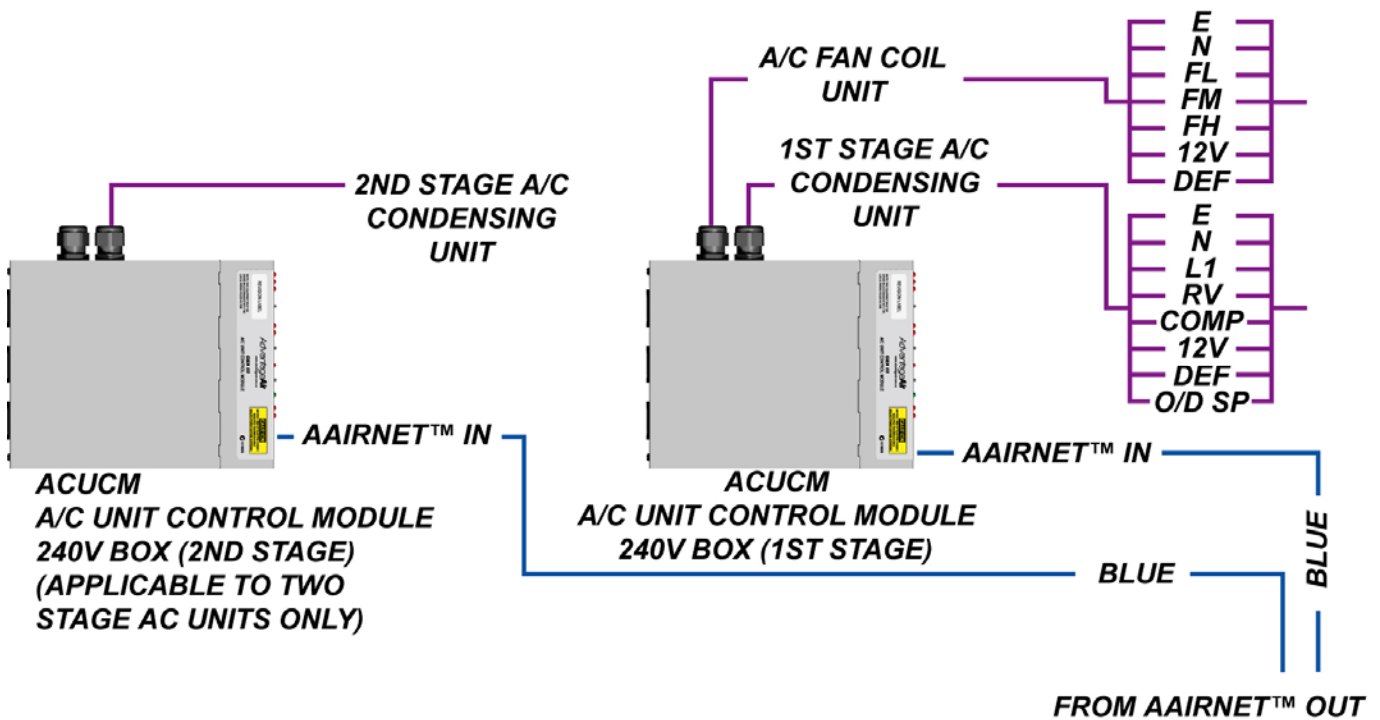


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Make sure you read and understand all the installation instructions before you install this Air Conditioner. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Air Conditioner.

GENERATION III INSTALLATION GUIDE AC UNIT CONTROLLER MODULE 2ND STAGE (FIG 5)

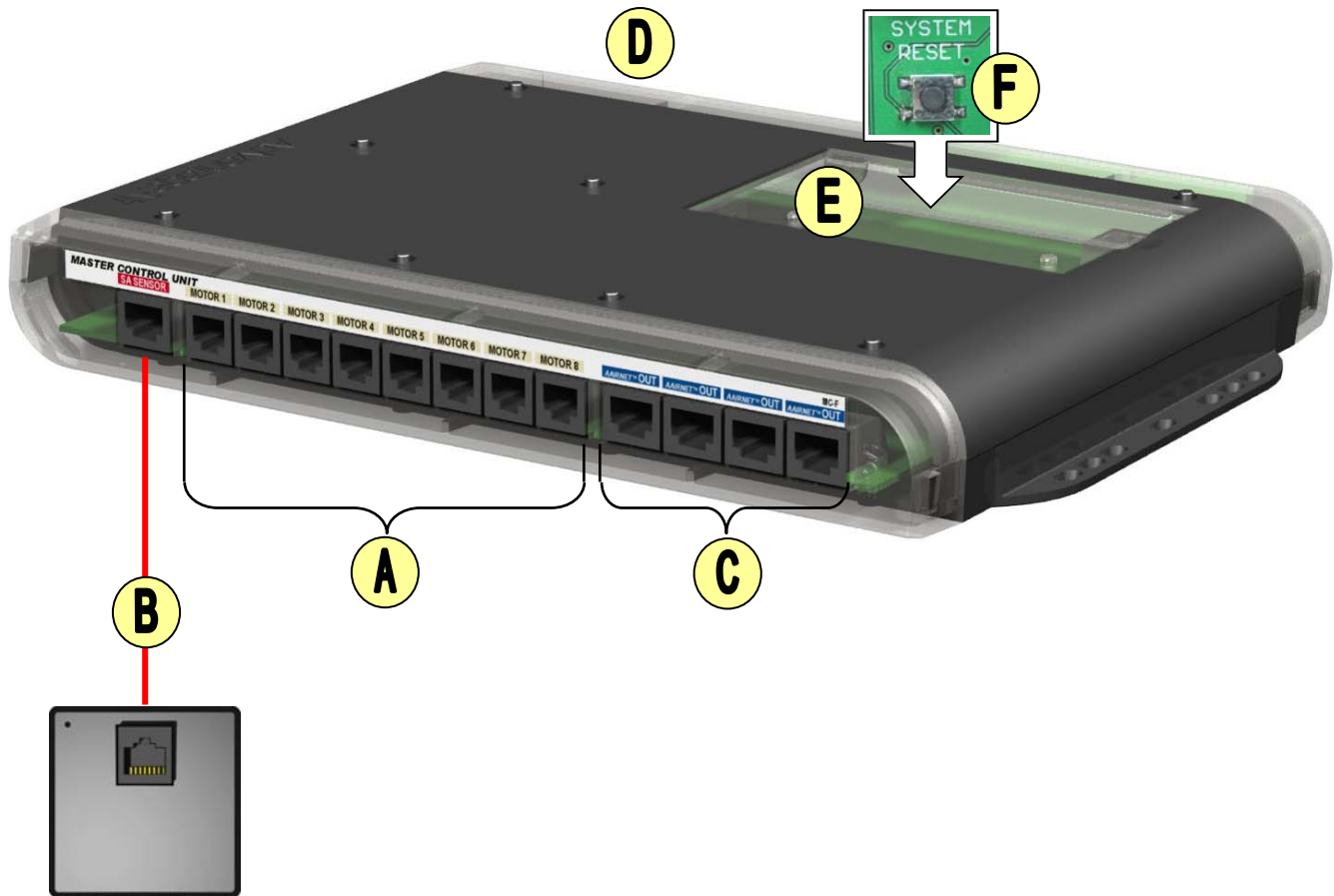
AdvantageAir



1. Connect the wires for the 2nd stage ACUCM as per wiring diagram in FIG 4.
2. On 1st stage ACUCM, maintain all settings for test as per **FIG. 1** except to set selector switch **B** on Vent.
3. On 2nd stage ACUCM, set selector switch **A** on Test Mode and switch **B** on Cool.
4. 2nd compressor should start up when Comp LED **G** illuminated.
5. Return system to normal operation by setting 2nd stage ACUCM selector switch **A** to 2nd stage and 1st stage ACUCM selector switch **A** to 1st stage.

GENERATION III INSTALLATION GUIDE MASTER CONTROL UNIT (MC) (FIG 6)

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Refer to GENERAL SYSTEM LAYOUT on page 2:

- Identify and mark all zone motors and beige cables with their zone numbers.
- A. Connect beige cables from Zone Motors to Master Control Unit starting from Motor 1 to 8.
- B. Install Supply Air sensor on the supply air starter of the system and connect red cable into to SA SENSOR port on MC.
- C. Connect RFM and other components requiring AAIRNET™ communication into the AAIRNET™ communication blue cable ports. (refer to FIG.1)
- D. At the rear of the unit connect the DC and AC Power supply.

The following components must be installed to complete the basic system for testing and operation.

- Master Control unit (MC)
- RF Module (RFM)
- RF Wall Sensors (RFWS)
- Air Conditioning Unit Control Module

(ACUCM)

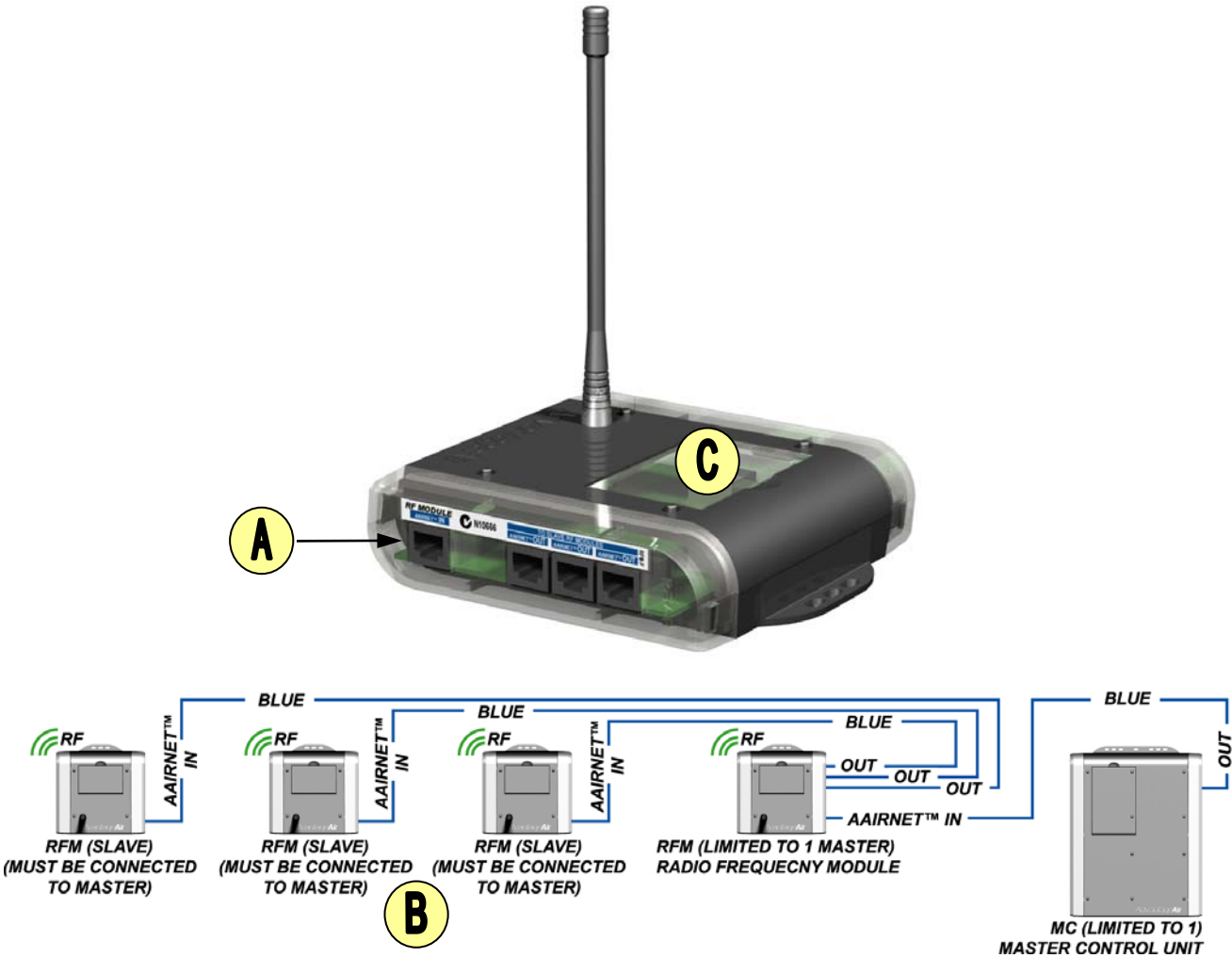
- Grey damper motors

E. Under normal operating conditions the transparent top panel can be opened to view the following LED:

- Motor drive open , drive close
- Power
- MC OK
- MC busy
- MC error
- Run mode—Cool, Heat, Vent
- AAIRNET™ transmit (Tx) and receive (Rx)
- Scheduler OK
- Scheduler busy
- Scheduler running
- Scheduler AAIRNET™ transmit (Tx) and receive (Rx)

F. The system Reset button will reset the whole system including all connected components.

GENERATION III
INSTALLATION GUIDE
RF MODULE (RFM) (FIG 7)



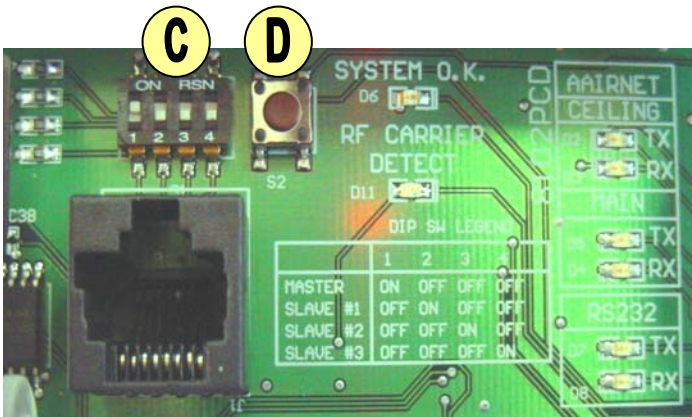
The RF Module is used for the transmission and reception of all RF signals to and from the following devices:

- RF temperature sensors
- RF touch panel
- RF remote controls

- A. Install the RF Module in a centre location high in the roof space (300mm away from metallic object) and connect the AAIRNET™ IN port to the MC.
- B. Up to three additional RF slave modules can be installed to improve the coverage of the RF reception. See diagram above for AAIRNET™ connection layout.
- C. A dipswitch in each RFM must be set up in order to identify each RFM. The dipswitch is found inside the access panel. Set according to the dipswitch settings as shown on RFM DIPSWITCH SETTING table.
- D. The system Reset button will reset the whole system including all the connected components.

RFM DIPSWITCH SETTINGS

	SWITCH 1	SWITCH 2	SWITCH 3	SWITCH 4
MASTER	ON	OFF	OFF	OFF
SLAVE 1	OFF	ON	OFF	OFF
SLAVE 2	OFF	OFF	ON	OFF
SLAVE 3	OFF	OFF	OFF	ON



GENERATION III INSTALLATION GUIDE

ZONE TEMPERATURE SENSOR - WIRELESS & WIRED (FIG 8)

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RF WALL SENSOR (RFWS)

RF WALL SENSOR

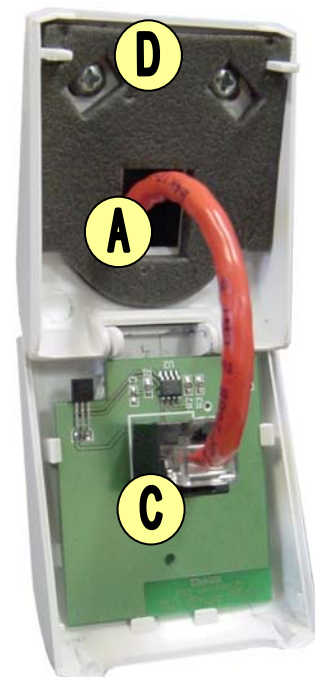
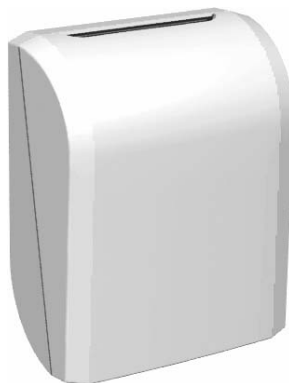
RFWS is used in conjunction with RFM to measure Zone or space temperature. Only one RFWS can be installed in a zone. All communications are via AAIR-NET 433 MHz two ways radio frequency.

Install the RFWS in a location that represents the average temperature in the room. As a guide the sensor should be installed at a height of approximately 1.6 meters above the floor. A popular position is on an internal wall adjacent to the light switch at the door.

The sensor must be **NOT** be installed where it will be influenced by the following:

- Appliances and equipment which generate heat.
- In direct sun light.
- Behind curtains or cabinets.
- Where supply air from the diffuser is blowing directly on to the sensor.

- A. Securely mount the sensor using two screws in the back casing.
- B. Install the 2 x AAA batteries as supplied.



WIRED WALL SENSOR (WS)

WIRED WALL SENSOR

WS must be used in conjunction with Wired Temperature Sensor Module.

Install the WS in a location that represents the average temperature in the room. As a guide the sensor should be installed at a height of approximately 1.6 meters above the floor.

The sensor must be **NOT** be installed where it will be influenced by the following:

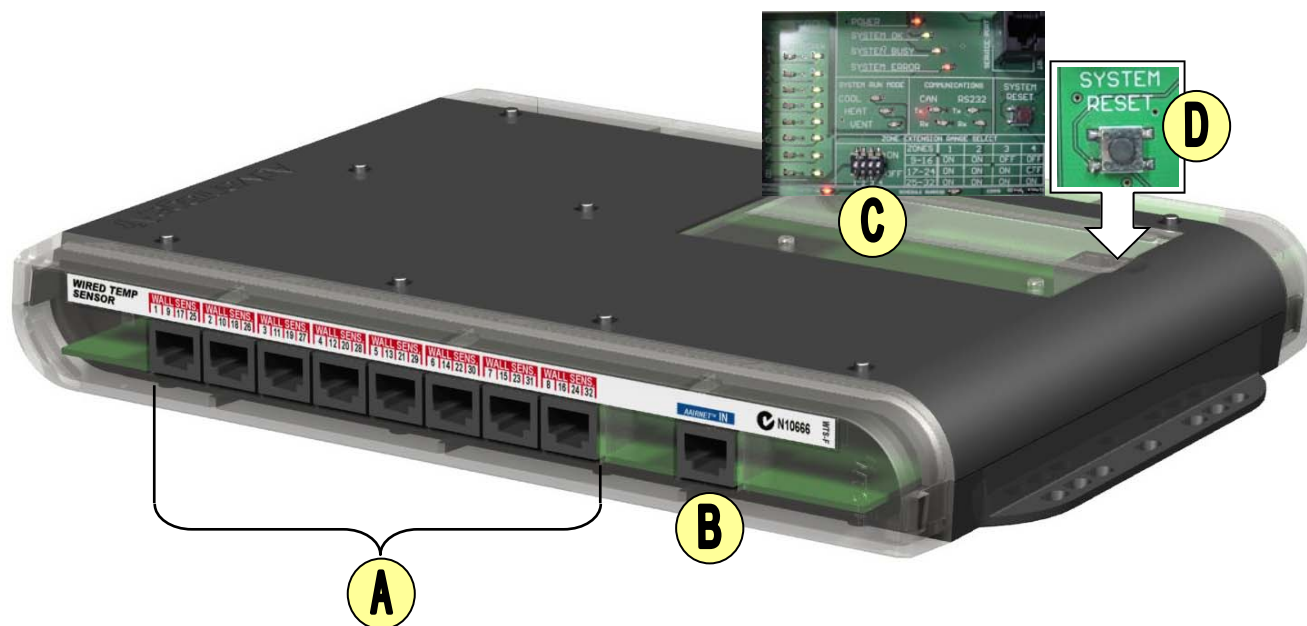
- Appliances and equipment which generate heat.
- In direct sun light.
- Behind curtains or cabinets.
- Where supply air from the diffuser is blowing directly on to the sensor.

- A. Using the wall sensor casing mark hole locations and drill a suitable hole in the wall (approx 30mm diameter).
- B. Protect the RJ 45 connector by using duct tape, then feed the red cable through the hole taking care not to damage the RJ 45 connector.
- C. Feed the cable through the hole in the back casing.
- D. Securely mount the sensor using two screws in the back casing.

GENERATION III INSTALLATION GUIDE

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WIRED TEMPERATURE SENSOR MODULE (WTS) (FIG 9)



The WTS is applicable when wired temperature sensors are used.

Identify and mark all red cables WS cables with the zone number. (maximum of 8 zones per module)

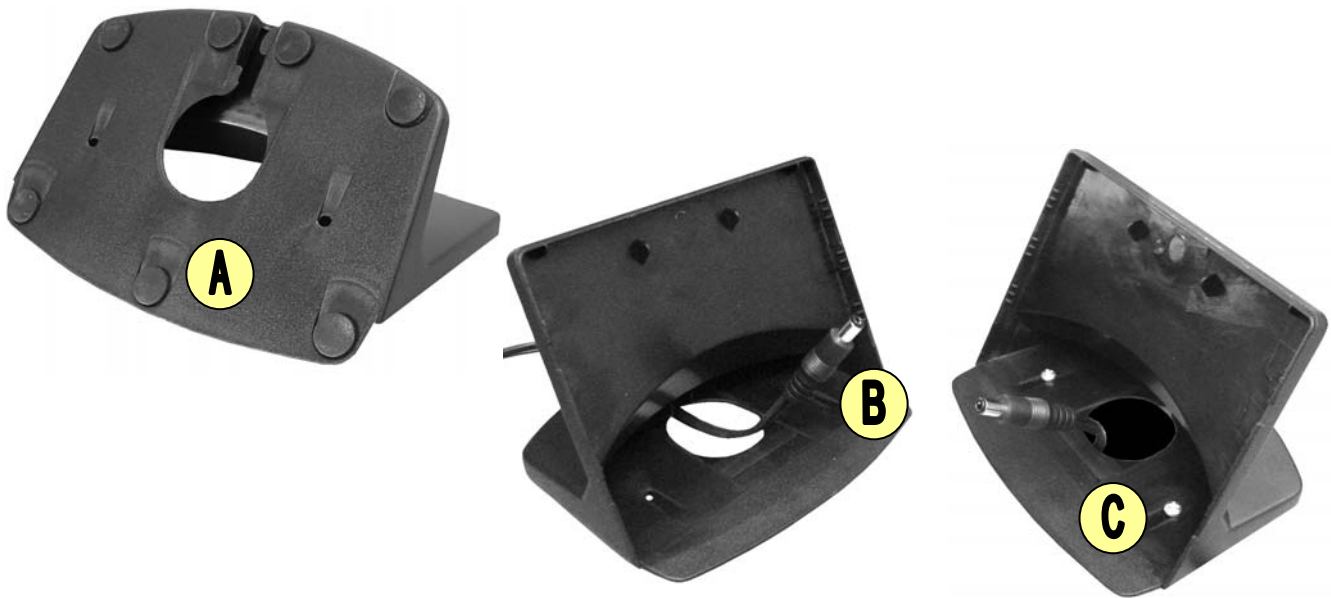
- A. Connect red cables from wall sensors (WS) to wired temperature sensor module (WTS) in the correct zone order.
- B. Connect AAIRNET™ input communication port to WTS
- C. Up to 4 WTS modules can be used on one system (32 zones). Each WTS is capable of handling 8 zones. A dipswitch in each WTS must be set up in order to identify each WTS. The dipswitch is found inside the access panel. Set according to the dipswitch settings as shown on WTS DIPSWITCH SETTING table.
- D. The system Reset button will reset the whole system including all the connected components.

WTS DIPSWITCH SETTING				
ZONES	SWITCH 1	SWITCH 2	SWITCH 3	SWITCH 4
1-8	ON	OFF	OFF	OFF
9-16	ON	ON	OFF	OFF
17-24	ON	ON	ON	OFF
25-32	ON	ON	ON	ON

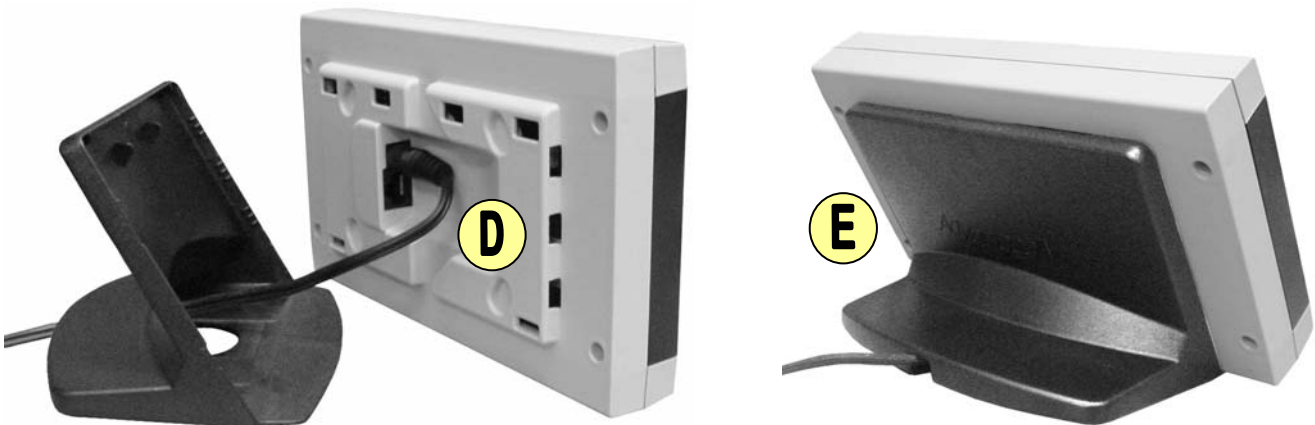
GENERATION III INSTALLATION GUIDE

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COLOUR TOUCH SCREEN PANEL - WIRELESS (RFTSP) (FIG 10)



SECURING CRADLE TO
BENCH TOP WITH
SCREWS IS OPTIONAL
ONLY.

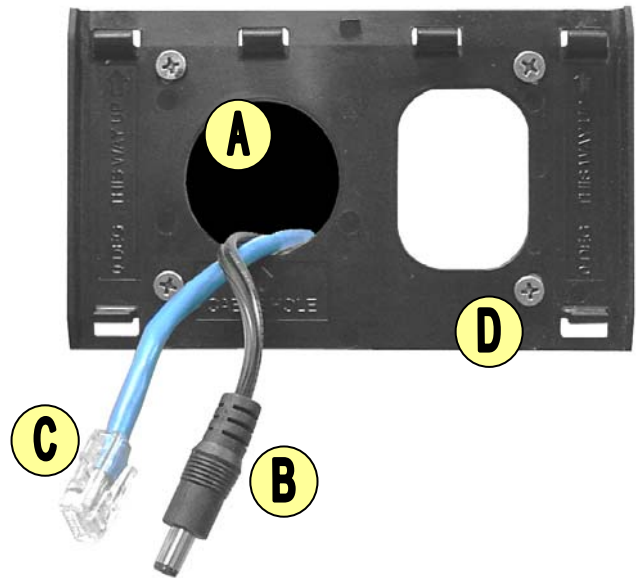


- A. For bench top cradle stick on 7 rubber pads to the base of the cradle onto circular recesses provided.
- B. Thread the DC power cable through the bottom hole of the cradle.
- C. **Optional ONLY**, the cradle can be secured to the bench with two screws into pilot holes provided. The large hole opening can be used to connect to a power outlet inside the bench top to hide power cables.
- D. Connect the DC cable to the back of the touch screen panel.
- E. Clip the touch screen onto the cradle.
- Note: A maximum of 8 wireless Touch Screen Panels can be installed on any one system.
- Wired bench top version is only the addition of AAIRNET™ blue cable with the DC cable.

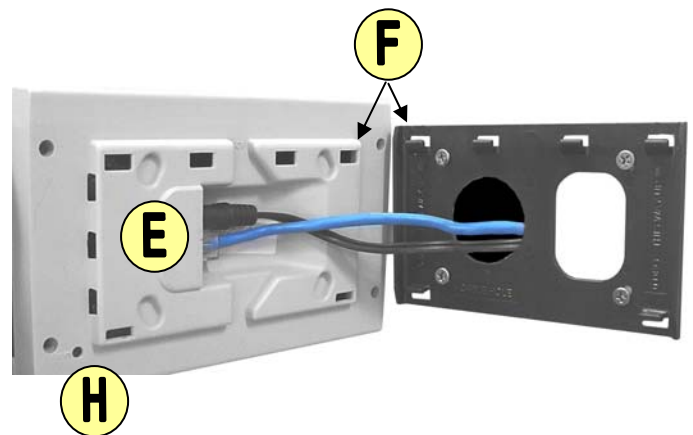
GENERATION III INSTALLATION GUIDE

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COLOUR TOUCH SCREEN PANEL - WIRED (TSP) (FIG 11)



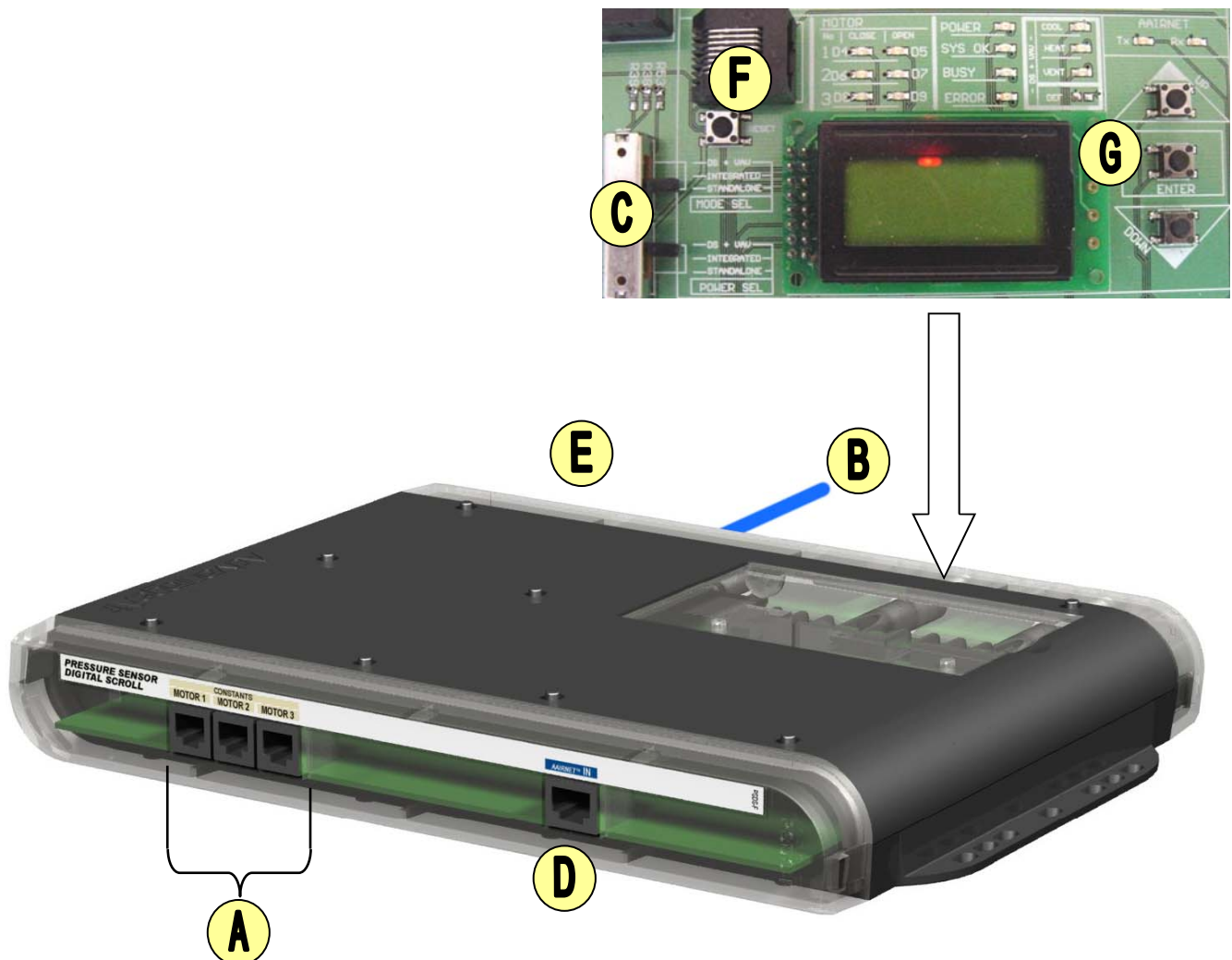
- A. Select a suitable mounting location. Height of the panel should be at the end users eye level (approx 1.6 meters above the floor). Using the Touch Panel wall mounting plate as template, mark and drill a 40mm cable hole (A) through the cavity wall.
- B. Take care to protect ends of power and data cables. Install a DC extension cable (B) and a blue cable (C) to the Touch Panel through the wall cavity. Leave 100 mm of cables protruding from the wall. Connect the DC power supply into an IEC connection at the ACUCM.
- C. Connect the blue cable to an AAIRNET™ "out" connection on the MC or an AAIRNET™ extension module AAE. Note only DC power cable is required if wall mounted touch screen is RF version.
- D. Secure the back plate to the wall with 4 x 8 gauge pan head screws.
- E. Connect cables B & C into the back of the touch screen panel.
- F. Install the Touch Panel by inserting wall bracket hanging points into the slots at the back of the touch screen panel.
- G. Hinge down and clip the base of touch screen panel into the wall plate.
- H. To reset system insert a paper clip in hole. Or disconnect and re-connect DC power supply.



GENERATION III INSTALLATION GUIDE

PRESSURE SENSOR MODULE - INTEGRATED (AZ) (FIG 12)

AdvantageAir



The Pressure Sensor Module (PSDS) can only be used as an integrated device on GEN III 500 systems. See “Standalone” use for other systems.

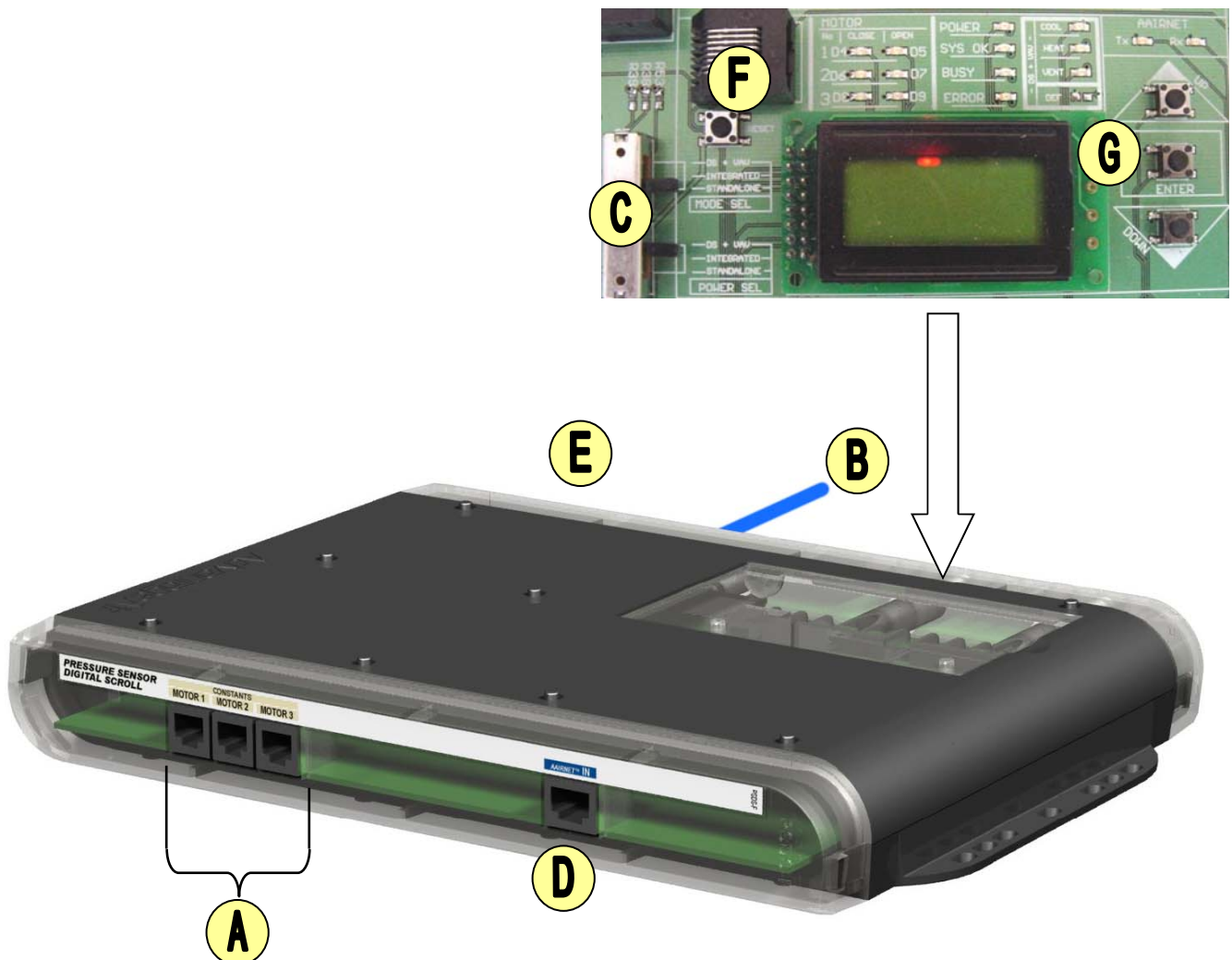
G. Use ENTER, UP and DOWN buttons to limit the maximum % open of the dedicated constant motors.

- A. Label the dedicated constant zone beige damper motor cables and connect them to the PSDS. (maximum of 3 constant zones)
- B. Install pressure sensing air tube in the system at supply air starter or a location that provides a stable and positive static pressure reading.
- C. Set both selector switches (C) to “INTEGRATED” position.
- D. Connect AAIRNET™ to MC or AEM.
- E. Connect AC Power Supply to IEC. There is no requirement for DC power when used in an integrated mode.
- F. Press Reset button to reset the whole GEN III control system.

GENERATION III INSTALLATION GUIDE

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PRESSURE SENSOR MODULE - STANDALONE (AZ) (FIG 13)

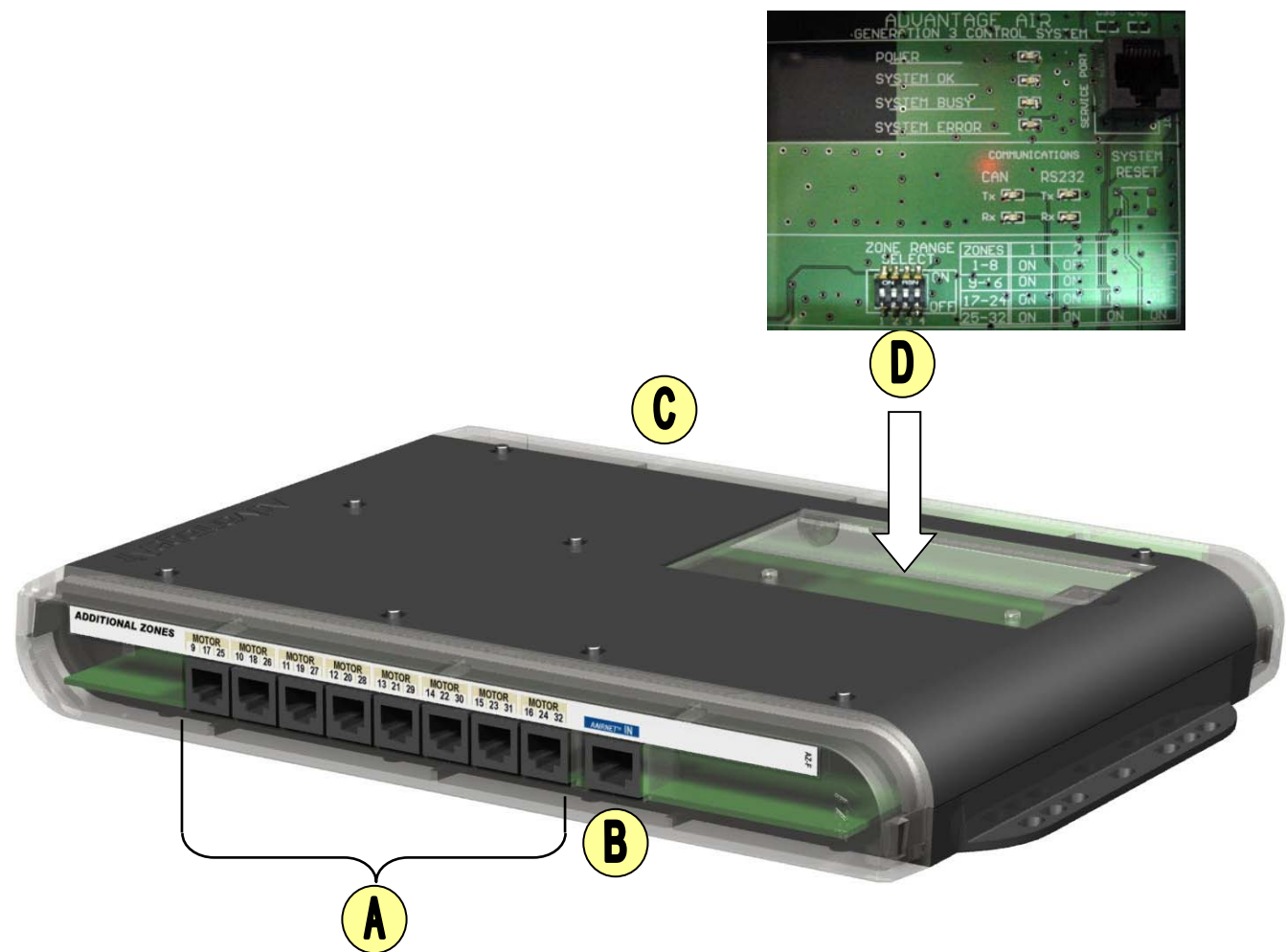


The Pressure Sensor Module (PSDS) can be used as a standalone device on GEN III 200, 300 and 400 systems.

- A. Label the dedicated constant zone cables and connect them to PSDS. (maximum of 3 constant zones)
- B. Install pressure sensing air tube in the supply air starter or a location that provides a stable and positive static pressure reading.
- C. Set both selector switches to "STANDALONE" position.
- D. **DO NOT** connect to AAIRNET™ port.
- E. Connect AC and DC Power Supply.
- F. The operating static pressure set point can be changed via setup buttons UP, DOWN, ENTER. The standalone Pressure Module can be reset by pressing the reset button

**GENERATION III
INSTALLATION GUIDE
ADDITIONAL ZONE MODULE (AZ) (FIG 14)**

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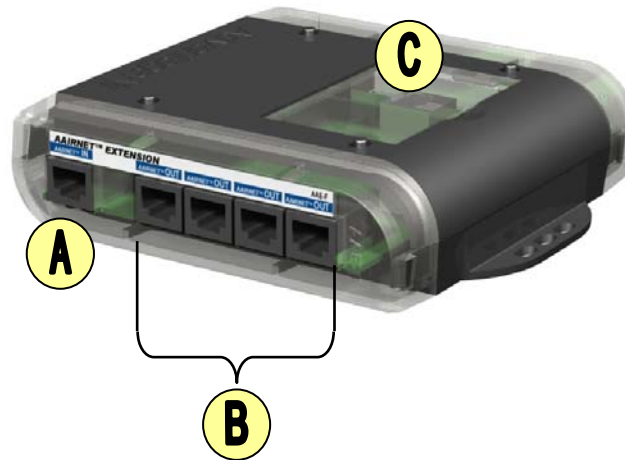
The Additional Zone Module (AZ) is used when the system has more than 8 zones. Up to 3 additional AZ can be used for up to 32 zones.

- A. Identify and mark all zone motors and beige clip in cables (RJ 12). Connect beige cables from zone motors to AZ starting in ascending order (eg 5,6,7).
- B. Connect blue cable into AAIRNET™ communication ports from MC or AAE.
- C. Connect AC Power supply into the AZ.
- D. Each AZ is capable of handling 8 additional zones (limited to three). A dipswitch in each AZ must be set up in order to identify each AZ. The dipswitch is found inside the access panel. Set according to the dipswitch settings as shown on AZ DIPSWITCH SETTING table.

AZ DIPSWITCH SETTING				
ZONES	SWITCH 1	SWITCH 2	SWITCH 3	SWITCH 4
9-16	ON	ON	OFF	OFF
17-24	ON	ON	ON	OFF
25-32	ON	ON	ON	ON

GENERATION III INSTALLATION GUIDE AAIRNET EXTENSION MODULE (AAE) (FIG 15)

AdvantageAir

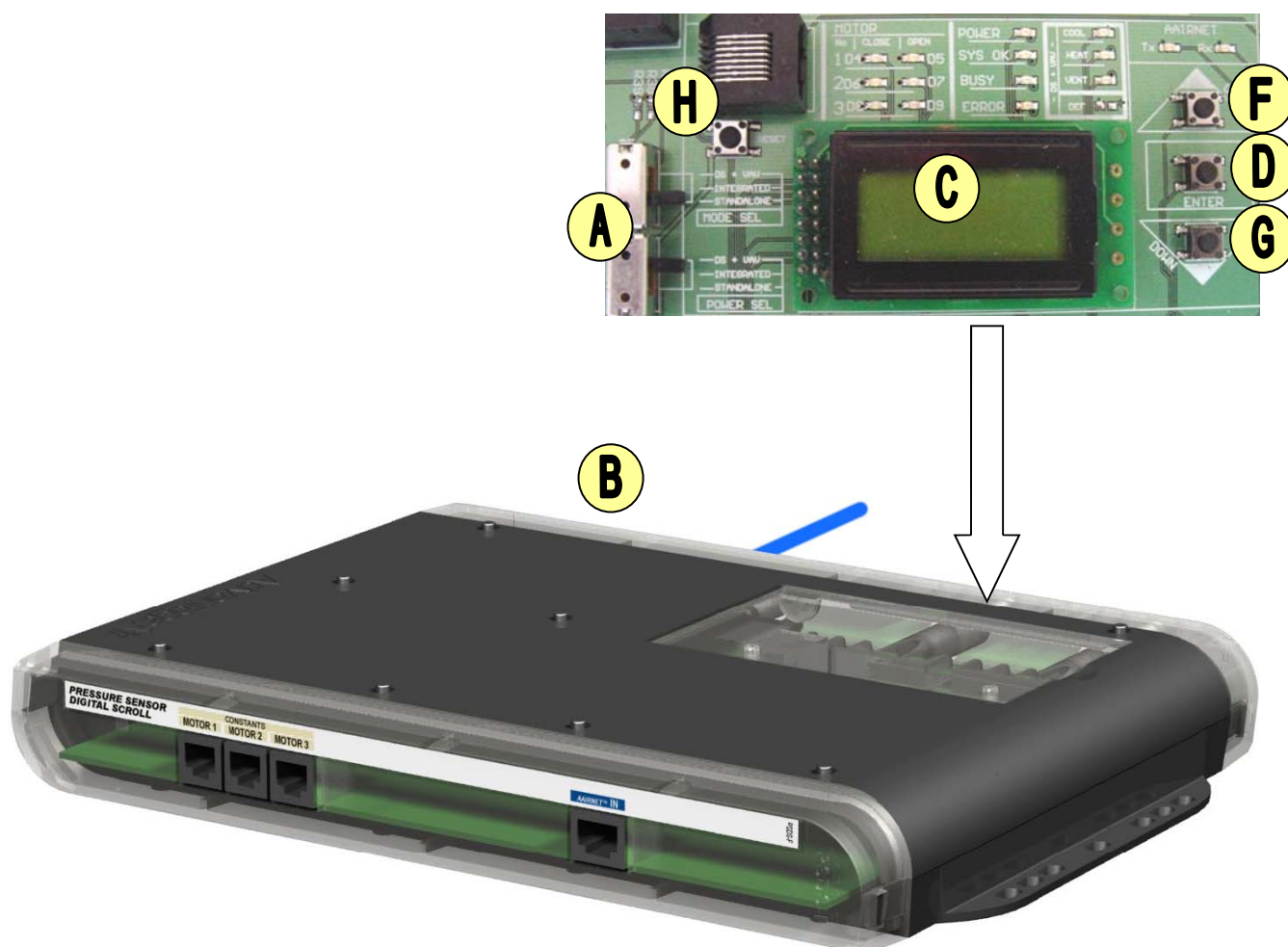


The AAIRNET Extension module is applicable when there are insufficient AAIRNET ports available on the MC to service all devices on the control system.

- A. Connect blue cables from AAIRNET™ from MC or another AAE.
- B. Connect AAIRNET™ OUT ports to other components requiring AAIRNET™ connection.
- C. The system Reset button will reset the whole system including all the connected components.

GENERATION III CONFIGURATION GUIDE STAND ALONE PRESSURE SENSOR MODULE (FIG 79)

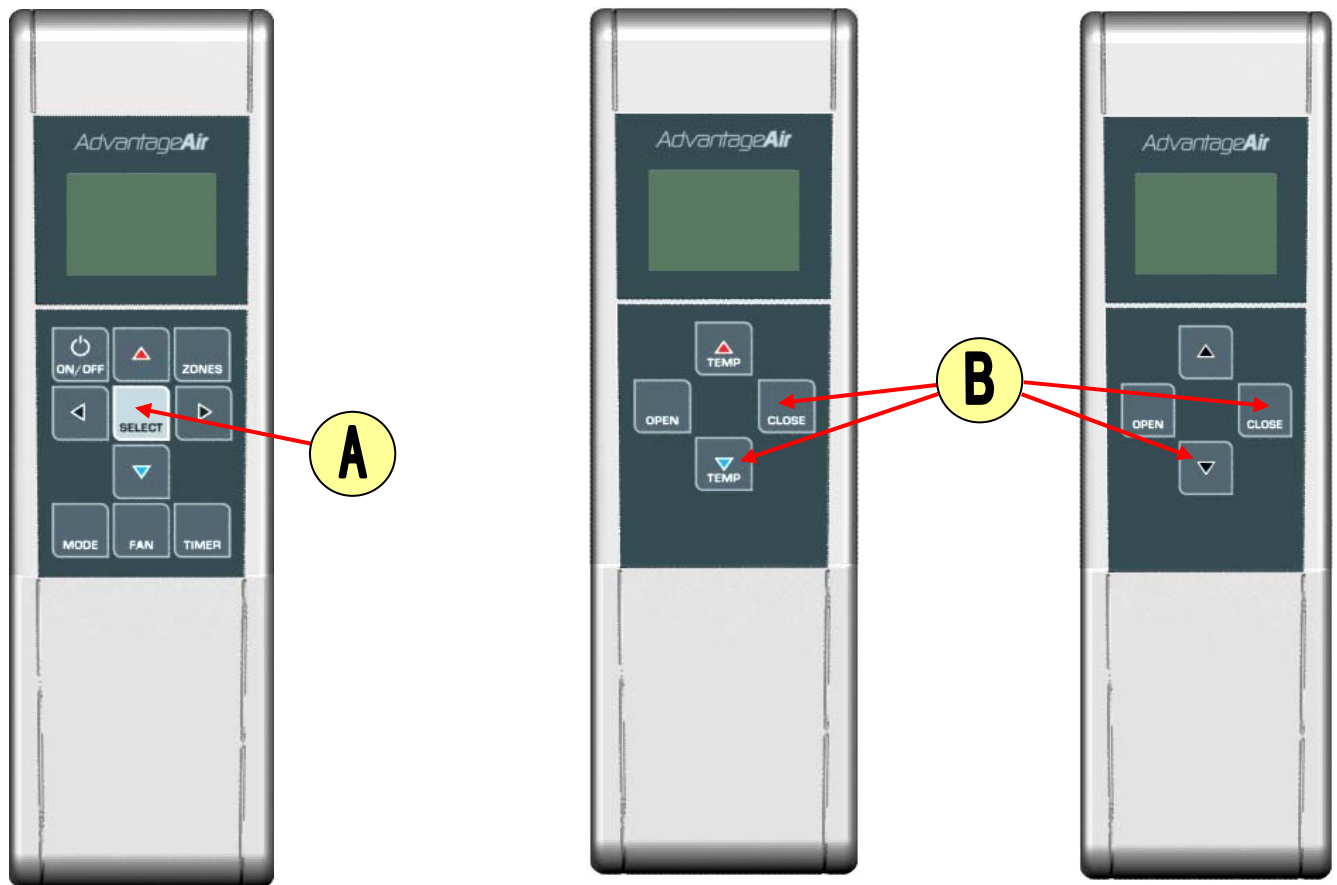
AdvantageAir



- A. Ensure both selector switches are set to "Standalone"
- B. Connect the power supplies to the standalone pressure sensor module (PSDS). On power up the PSDS will Automatically drive all constant motors connected to the PSDS full closed and then fully open to ensure they are operating
- C. The LCD screen C will then instruct you to do the following:
 - Manually open all design zones fully
 - Manually close all other zones fully
 - Switch the fan to High speed
- D. Press Enter button (D) to capture Static Pressure set point.
- E. This set point will now be used to maintain air static pressure in the ductwork by modulating the constant zone motors / dampers.
- F. The Pressure set point can be changed by using buttons (F,G,D) as follows:
 - F. UP to increase pressure set point
 - G. DOWN to decrease pressure set point
 - D. ENTER to capture new set point.
- H. Press Reset to delete all settings and start over.
- I. During normal operation the LCD will display the following:
 - CP: XX Pa This is the current system pressure
 - SP: XX Pa This is the pressure set point

GENERATION III CONFIGURATION GUIDE REMOTE ADVANCED MENU (FIG 80)

AdvantageAir

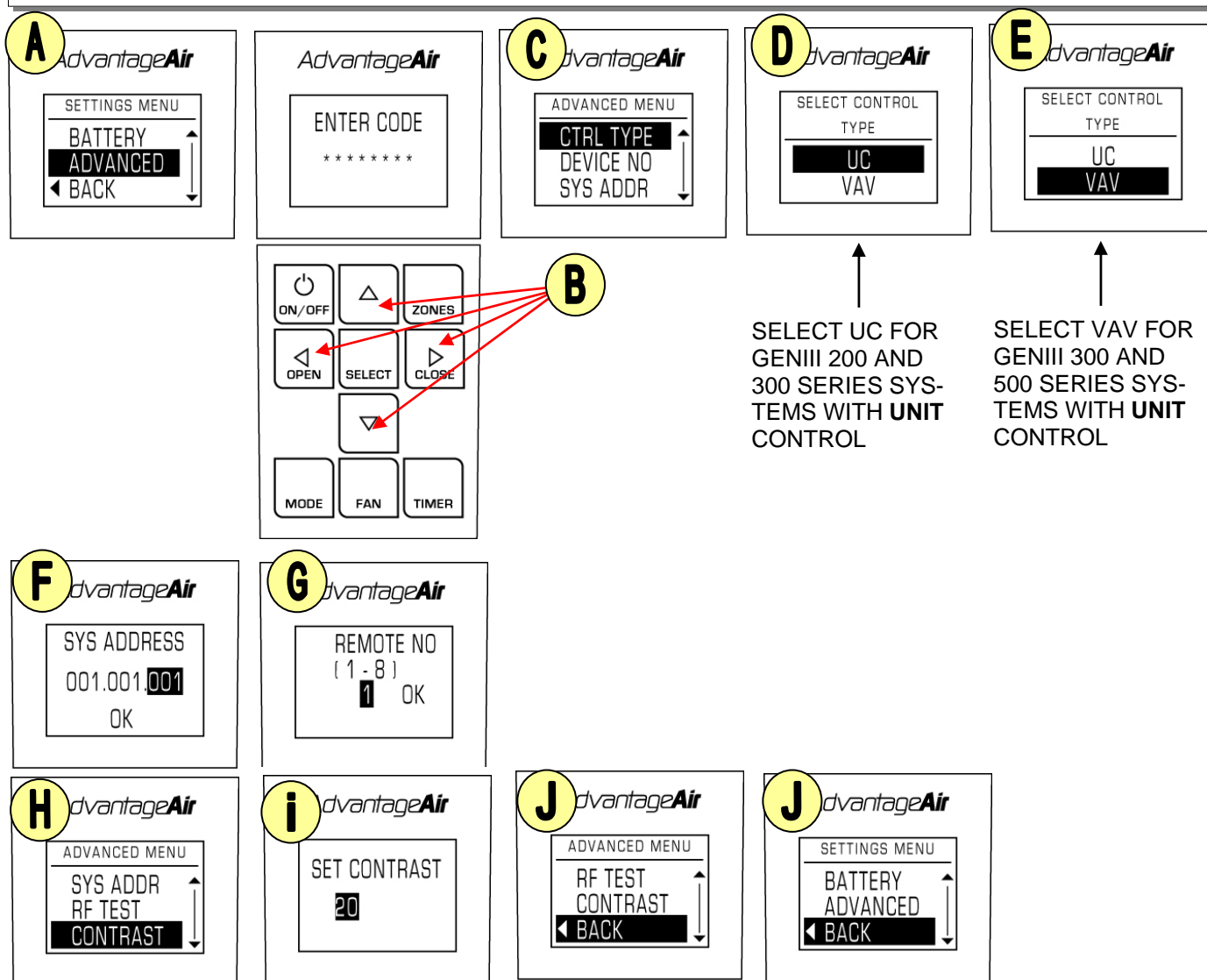


A. Access the ADVANCED MENU on a 10 button remote controller by pressing and holding down the SELECT button until the SETTINGS MENU appears. From the SETTINGS MENU scroll to ADVANCED and press SELECT. Enter code to access the ADVANCED MENU, see FIG 81.

B. Access the ADVANCED MENU on 4 button remote controller by simultaneously pressing and holding down the CLOSE and DOWN button until the ENTER CODE screen appears. Enter code to access the ADVANCED MENU, see FIG 83.

GENERATION III CONFIGURATION GUIDE REMOTE CONTROLS - ADVANCED MENU (FIG 81)

AdvantageAir



Enter settings menu by holding down the SELECT key.

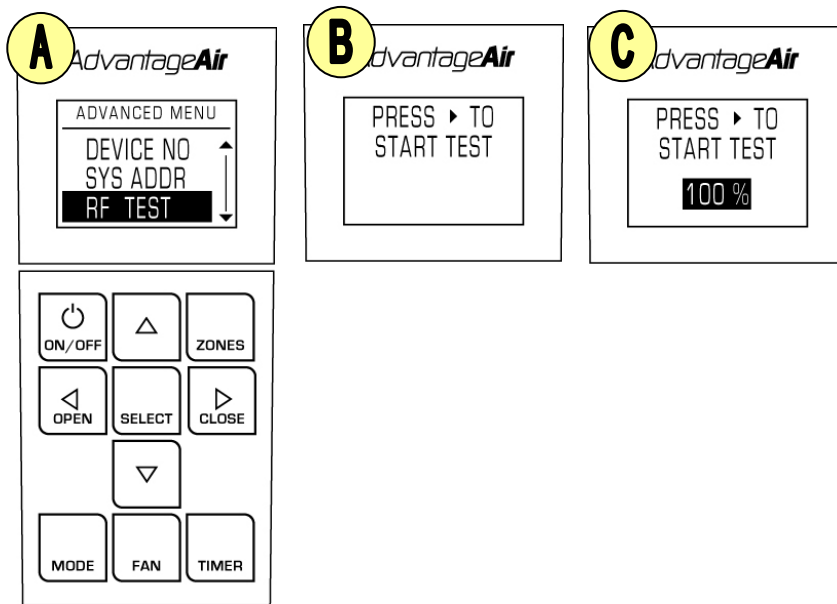
- A. Scroll to the ADVANCED bar and press SELECT or CLOSE.
- B. Enter code: Up, Down, Close, Open, Open, Close, Down, Up.
- C. Use Up/Down buttons to select field of interest and SELECT or CLOSE to enter
- D. Select and enter UC (Unit Control) for system series 200 and 300 with unit control or,
- E. Select and enter VAV (Variable Air Volume) for system series 300 and 500 with unit control. Changing Control Type will automatically take you through the SYS ADDRESS and DEVICE NO settings F and G.
- F. Once entered Control Type, press OPEN/CLOSE to scroll to left or right to highlight numbers and UP/DOWN to change the numbers. Scroll and highlight OK and press SELECT or DOWN to

enter. The system address. This can also be accessed directly from Advanced Menu C by scrolling to SYS ADDR.

- G. Enter number 1,2,3 (1-8) by pressing Up/Down button. For remotes that are to be assigned to a particular zone enter the associated zone number. Once the remote number is assigned, press Select/Close. This can also be accessed directly from Advanced Menu C by scrolling to DEVICE NO.
- H. From Advanced Menu select CONTRAST.
- I. Increase or decrease contrast as necessary by using the Up/Down buttons. Once you are happy with the contrast, press Select/Close to enter contrast level.
- J. To escape out of the ADVANCED SETTING menu scroll down to BACK and press Select/Close to return to Settings Menu and BACK again to return to the main screen . Alternatively allow the screen to "sleep".

GENERATION III CONFIGURATION GUIDE REMOTE CONTROLS - ADVANCED MENU (FIG 82)

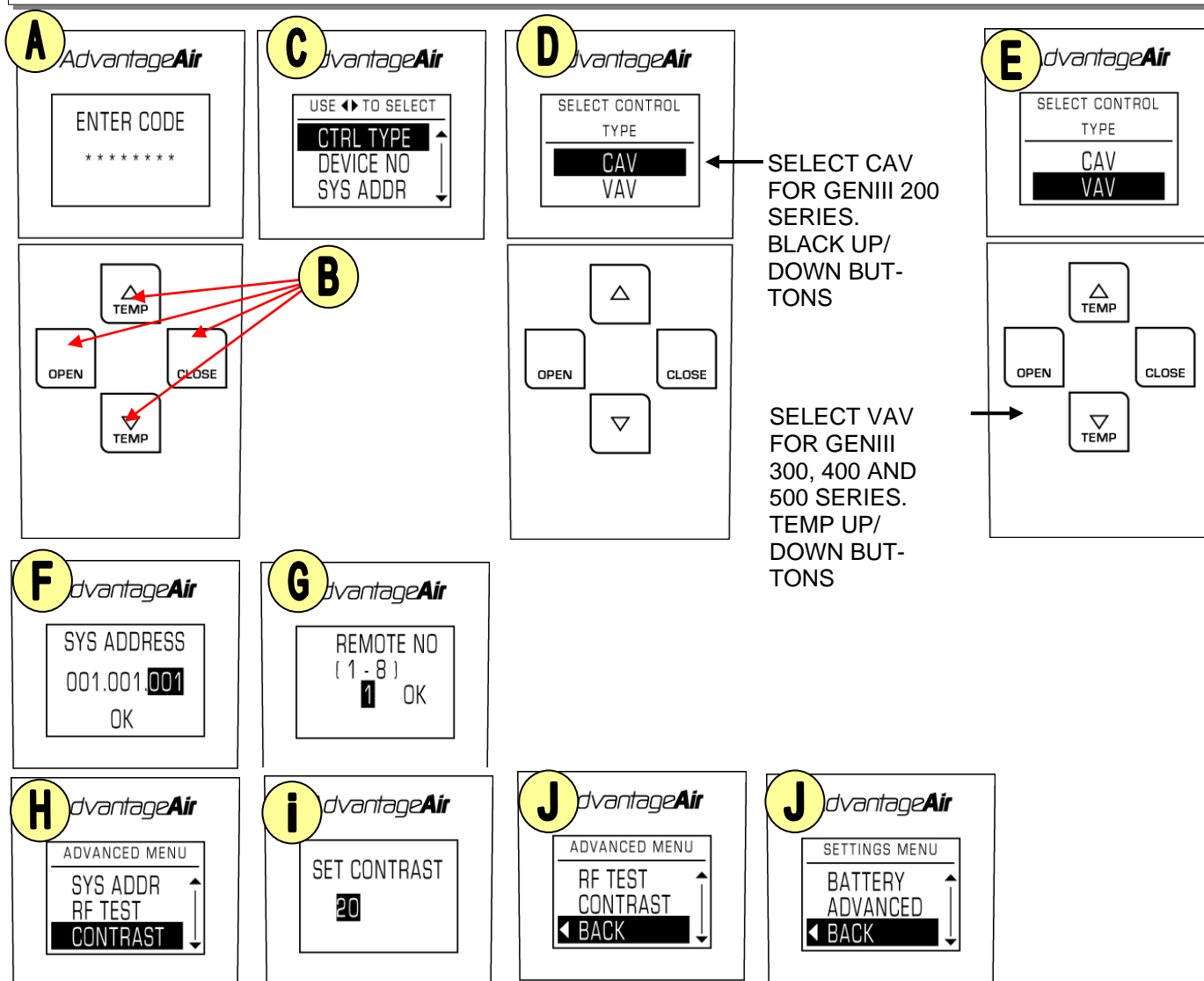
AdvantageAir



- A. From Advanced Menu select RF TEST. This will test the Radio Frequency (RF) signal strength of this Remote control at this location.
- B. Press CLOSE button to start RF test.
- C. RF Test result will be displayed. Reading above 80% is acceptable

GENERATION III CONFIGURATION GUIDE REMOTE CONTROLS - ADVANCED MENU (FIG 83)

AdvantageAir



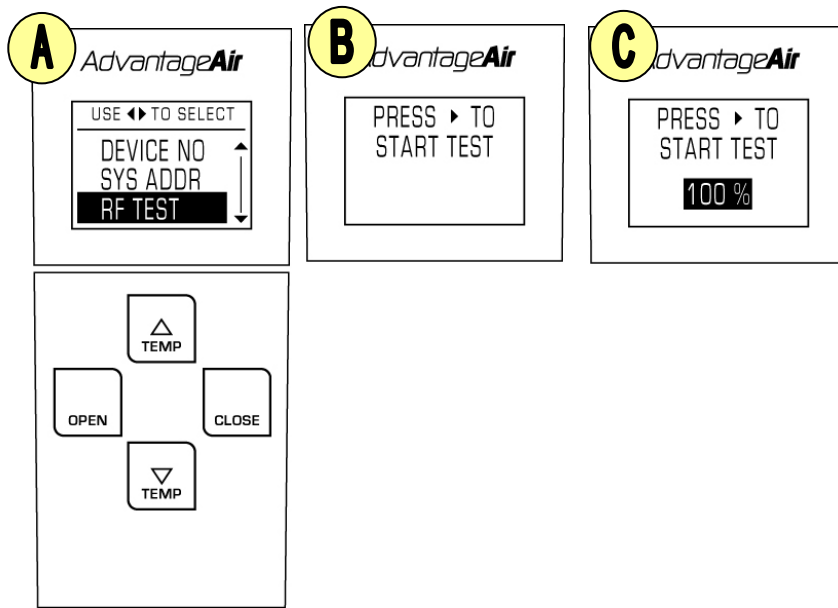
- A. To enter Advanced Menu press the CLOSE and DOWN button until the ENTER CODE screen appears.
- B. Enter code: Up, Down, Close, Open, Open, Close, Down, Up.
- C. Use Up/Down buttons to select field of interest and SELECT or CLOSE to enter
- D. Select and enter CAV (Constant Air Volume) for system series 200 and 300 or,
- E. Select and enter VAV (Variable Air Volume) for system series 300, 400 and 500. Changing Control Type will automatically take you through the SYS ADDRESS and DEVICE NO settings F and G. 300 and 500 series can have unit control but this remote will not control the unit.
- F. Once entered Control Type, press OPEN/CLOSE to scroll to left or right to highlight numbers and UP/DOWN to change the numbers. Scroll and highlight OK and press DOWN to enter. The

system address. This can also be accessed directly from Advanced Menu **C** by scrolling to SYS ADDR.

- G. To program Remote/Device number, enter number 1,2,3 (1-8) by pressing Up/Down button. For remotes that are to be assigned to a particular zone enter the associated zone number. Once the remote number is assigned, press CLOSE to highlight OK and then press down to enter. This can also be accessed directly from Advanced Menu **C** by scrolling to DEVICE NO.
- H. From Advanced Menu select CONTRAST.
- I. Increase or decrease contrast as necessary by using the UP/DOWN buttons. Once you are happy with the contrast, press CLOSE to enter contrast level.
- J. To escape out of the ADVANCED SETTING menu scroll down to BACK and press CLOSE to return to Settings Menu and BACK again to return to the main screen. Alternatively allow the screen to "sleep".

GENERATION III CONFIGURATION GUIDE REMOTE CONTROLS - ADVANCED MENU (FIG 84)

AdvantageAir



- A. From Advanced Menu select RF TEST. This will test the Radio Frequency (RF) signal strength of this Remote control at this location.
- B. Press CLOSE button to start RF test.
- C. RF Test result will be displayed. Reading above 80% is acceptable

GENERATION III CONFIGURATION GUIDE REMOTE CONTROLS - CONTROL TYPES (FIG 85)



REMOTE TYPE	SET CONFIGURA- TION CONTROL TYPE TO	GENIII 200 SERIES	GENIII 200 SERIES	GENIII 300 SERIES	GENIII 300 SERIES	GENIII 400 SERIES	GENIII 500 SERIES
		CAV	CAV+UC	CAV+VAV	CAV+VAV+UC	VAV	VAV+UC
10 BUTTON PAD RE- MOTE	UC		*		*		
	VAV				*		*
4 BUTTON PAD RE- MOTE TEMP UP/DWN	VAV			*	*	*	*
4 BUTTON PAD RE- MOTE BLACK ARROW UP/DWN	CAV	*		*			
TOUCH SCREEN TYPE							
TOUCH SCREEN WITH UNIT CONTROL	RF		*		*		*
	WIRED		*		*		*
TOUCH SCREEN NO UNIT CONTROL	RF	*		*		*	
	WIRED	*		*		*	

The control types (CTRL TYPE) applicable for each remote are as follows:

10 BUTTON REMOTE

- **UC** - 200 & 300 series

For systems with A/C unit control

- **VAV** - 300, 500 series

For systems with A/C unit control and using the remote for VAV control of one of the zones

4 BUTTON REMOTE WITH "TEMP" UP & DOWN

- **VAV** - 300, 400, 500 series

For single zone VAV control

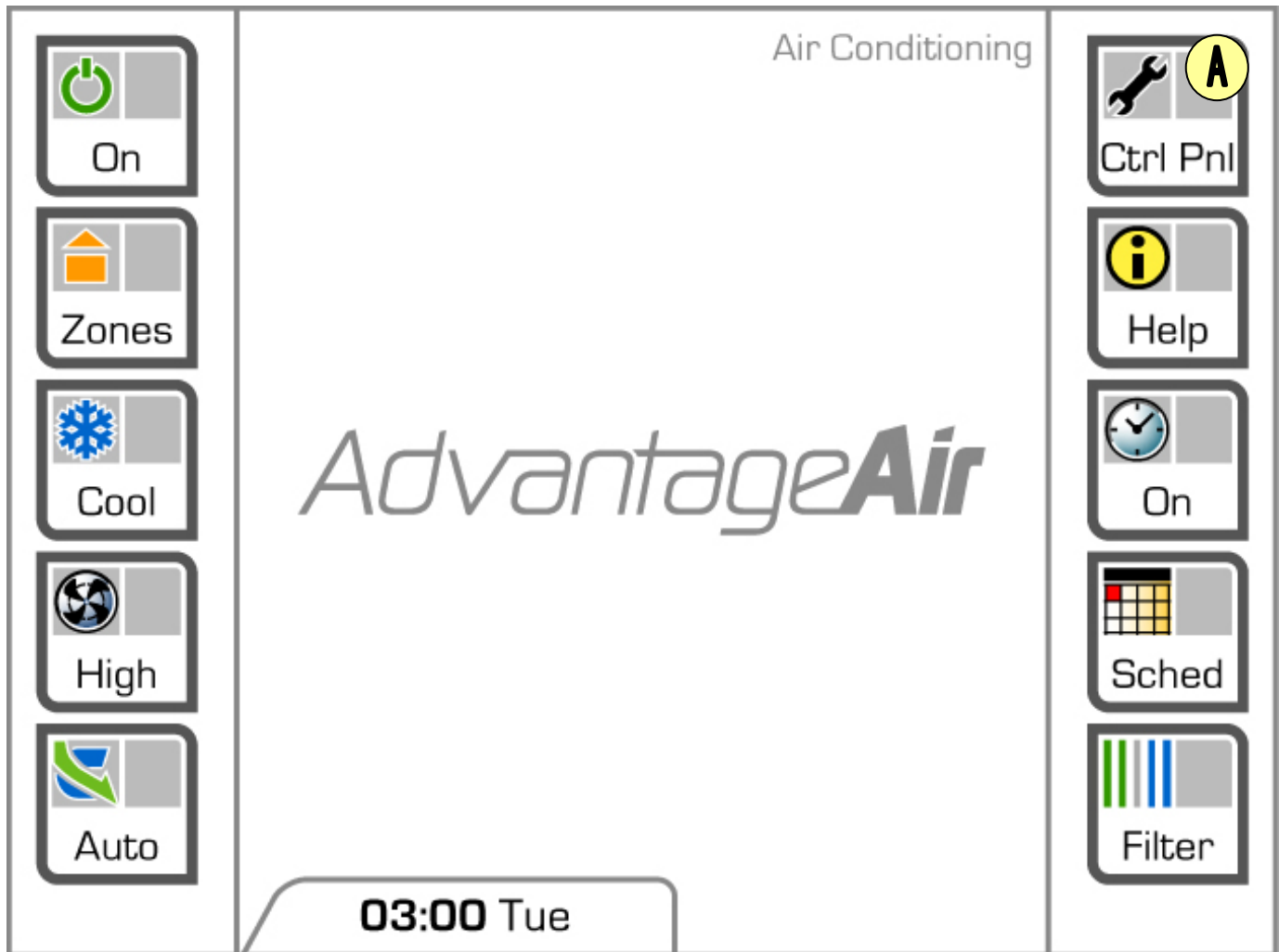
4 BUTTON REMOTE WITH BLACK ARROW UP & DOWN

- **CAV** - 200, 300 series

For control of all zones Open / Closed.

**GENERATION III
CONFIGURATION GUIDE TOUCH PANEL
(FIG 86)**

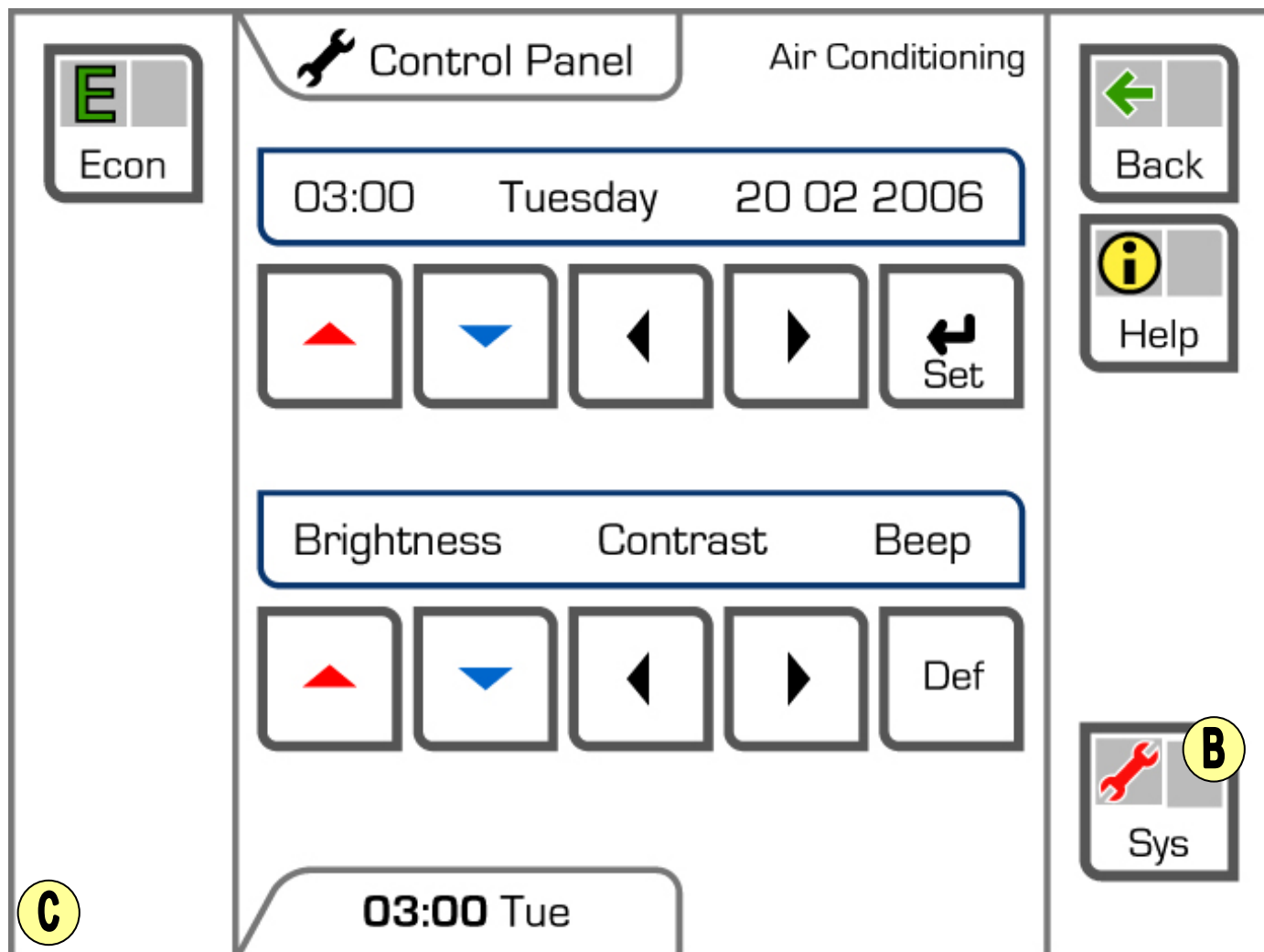
AdvantageAir



- A. On the main screen, select Control Panel key to access setting menu.

GENERATION III CONFIGURATION GUIDE TOUCH PANEL (FIG 87)

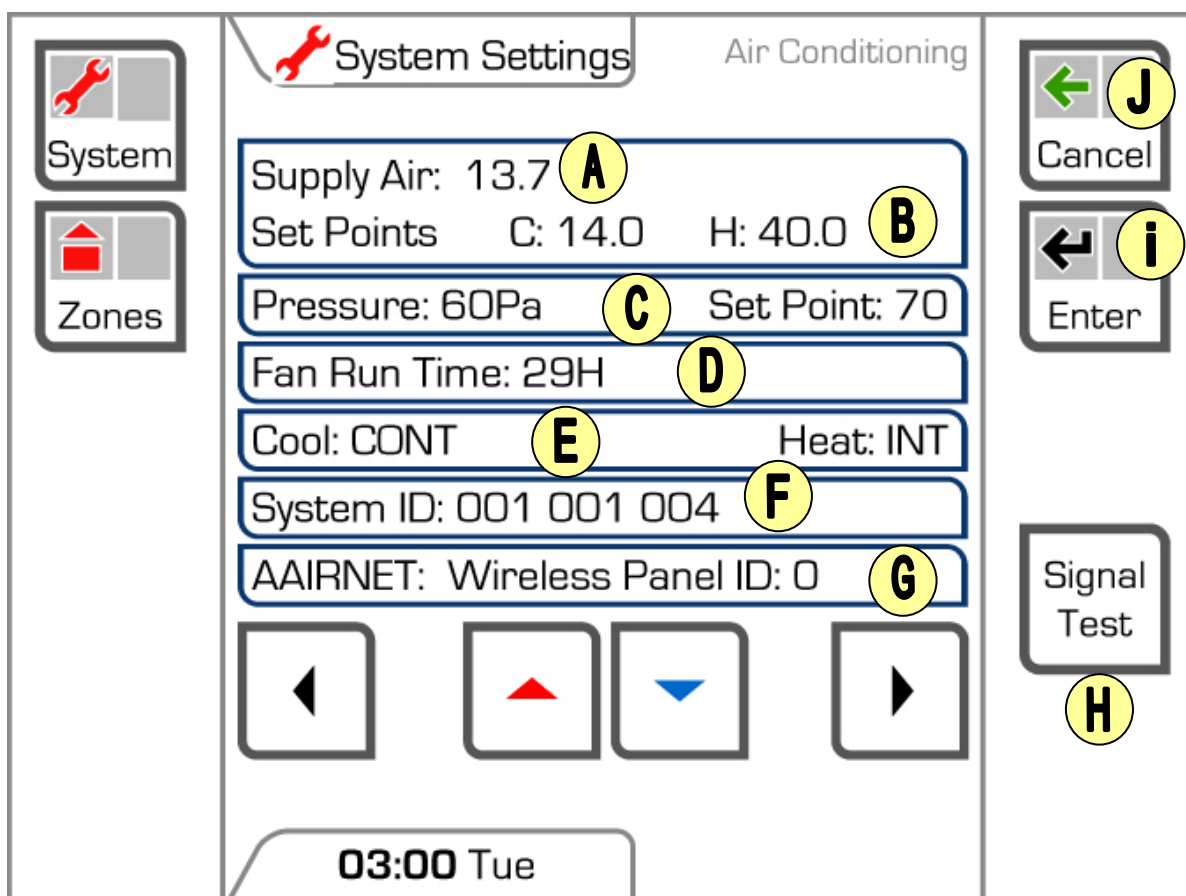
AdvantageAir



- B. Select System key to access system settings.
Press System keys 4 times until a "Access Denied" message appears.
- C. Immediately, press on the lower left hand corner of the screen.

GENERATION III CONFIGURATION GUIDE TOUCH PANEL (FIG 88)

AdvantageAir

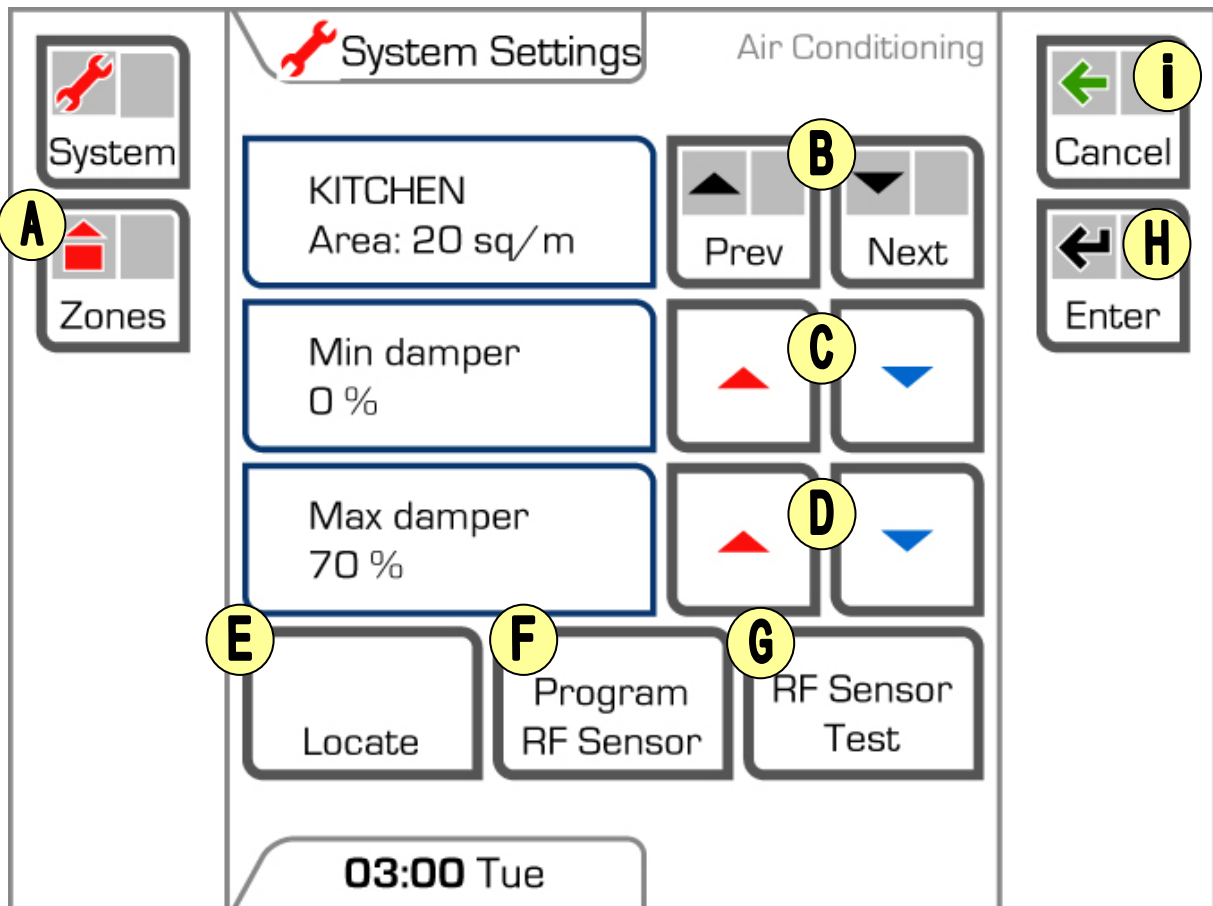


On the System Settings menu:

- A. "Supply Air" shows the actual supply air temperature of the Ac system (I.e. 13.7 ° C)
- B. "Set Points" shows the Supply Air set point in cooling C: and Heating H. To change these set points, press left & right arrow keys to highlight and use Up & Down arrow keys to change the value.
- C. "Pressure" is the static air pressure in the duct. (I.e. 60 Pa). To change these set points, press left & right arrow keys to highlight and use Up & Down arrow keys to change the value.
- D. "Fan Run Time" shows the total duration of fan operation time (I.e. 29 hours)
- E. "Cool" and "Heat" is the Indoor fan operation modes. To change these settings, press left & right arrow keys to highlight and use Up & Down arrow keys to change the value.
- F. "System ID" is the unique number assigned for each individual GEN III system. To change the ID number, press left & right arrow keys to highlight and use Up & Down arrow keys to change the value. (001-255). If an RF Touch Screen Panel does not have a System ID or has the wrong System ID it will not get passed the front boot up screen. At this time press the top right hand corner to enter directly into the system settings menu where you can input the correct System ID.
- G. "AAIRNET". To change these settings, press left & right arrow keys to highlight and use Up & Down arrow keys to change the value. Change between "Wireless Panel" and "Wired panel". "ID" field is used to assigned panel number if there are more than one touch screen panel in one GEN III system. This can be set by using Up & Down arrow keys to change the ID.
- H. "Select Signal Test" to test for RF signal strength for the Wireless Touch panel. Result of 80% and above is acceptable.
- I. To confirm all changes made, press Enter.
- J. Press Cancel to exit or escape from this menu without making changes.

GENERATION III CONFIGURATION GUIDE TOUCH PANEL (FIG 89)

AdvantageAir



- | | |
|---|--|
| <p>A. Press Zones key to access zone settings.</p> <p>B. To select the zone of interest, press Prev Up & Next Down keys . (i.e. Kitchen)</p> <p>C. “Min Damper %” is the minimum damper opening when it is fully closed (i.e. 0% open). To change this setting, press adjacent Up & Down keys.</p> <p>D. “Max Damper %” is the maximum damper opening when it is fully opened (i.e.70% open). To change this setting, press adjacent Up & Down keys. This setting can be used to adjust the air quantity / air noise into the zone.</p> <p>E. “Locate” is selected to identify wireless RF Wall sensor. The batteries must be removed and replaced from the RF Wall sensor to place the sensor in a receive mode. Once located the RFWS will flash for 1 min.</p> <p>F. “Program RF Sensor” is selected to program a RF Wall sensor. The batteries must be removed and replaced from the RF Wall sensor to place the sensor in a receive mode. Once programmed the RFWS will flash rapidly. Please refer to RF Wall sensor configuration for details.</p> <p>G. “RF Sensor Test” is used to test the RF reception strength of the RFWS. A result of more than 80%</p> | <p>is acceptable.</p> <p>H. Press Enter to confirm all changes to zone settings.</p> <p>I. Press Cancel to exit settings menu.</p> |
|---|--|

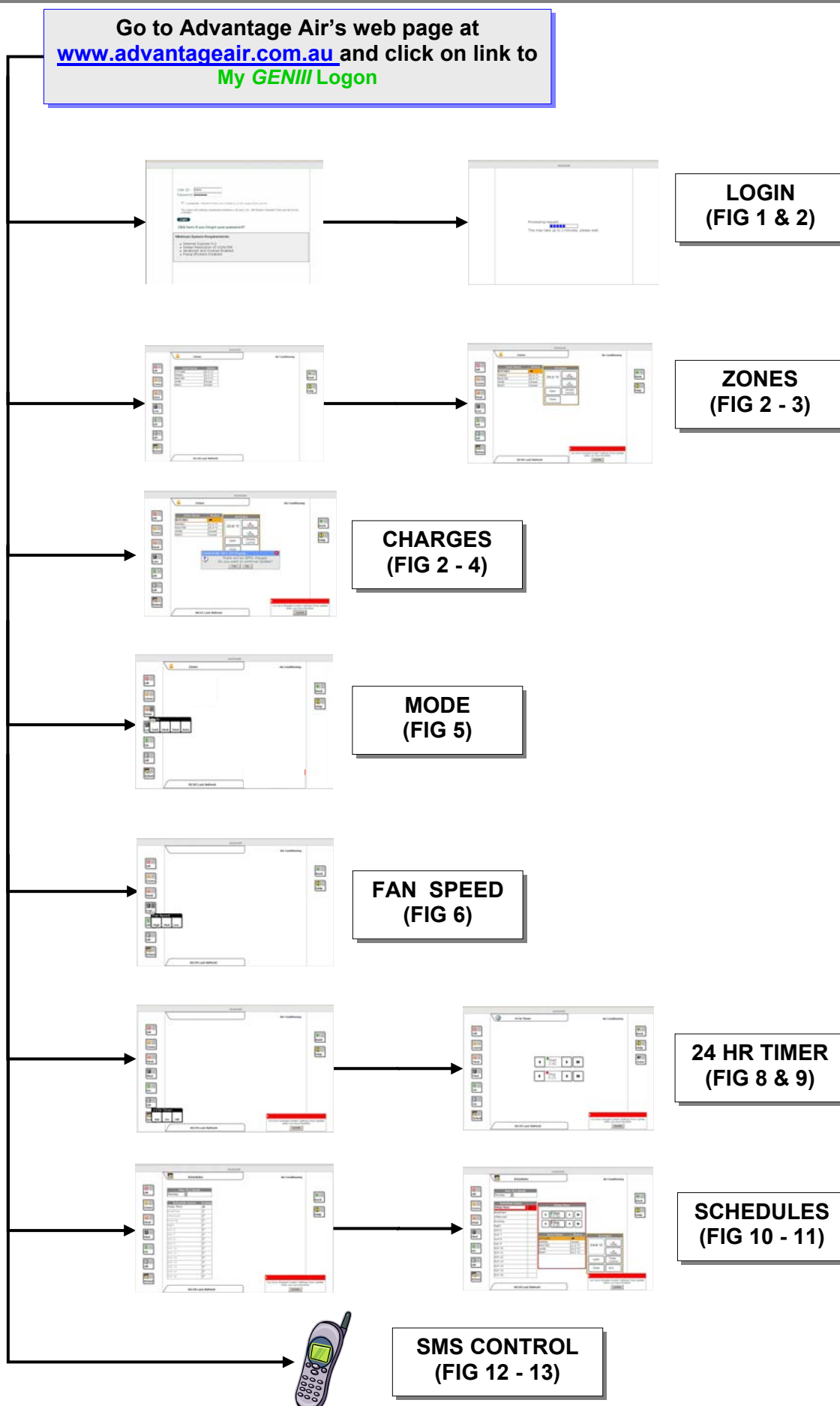
GENERATION III TESTING, COMMISSIONING & FINE TUNING (FIG 90)

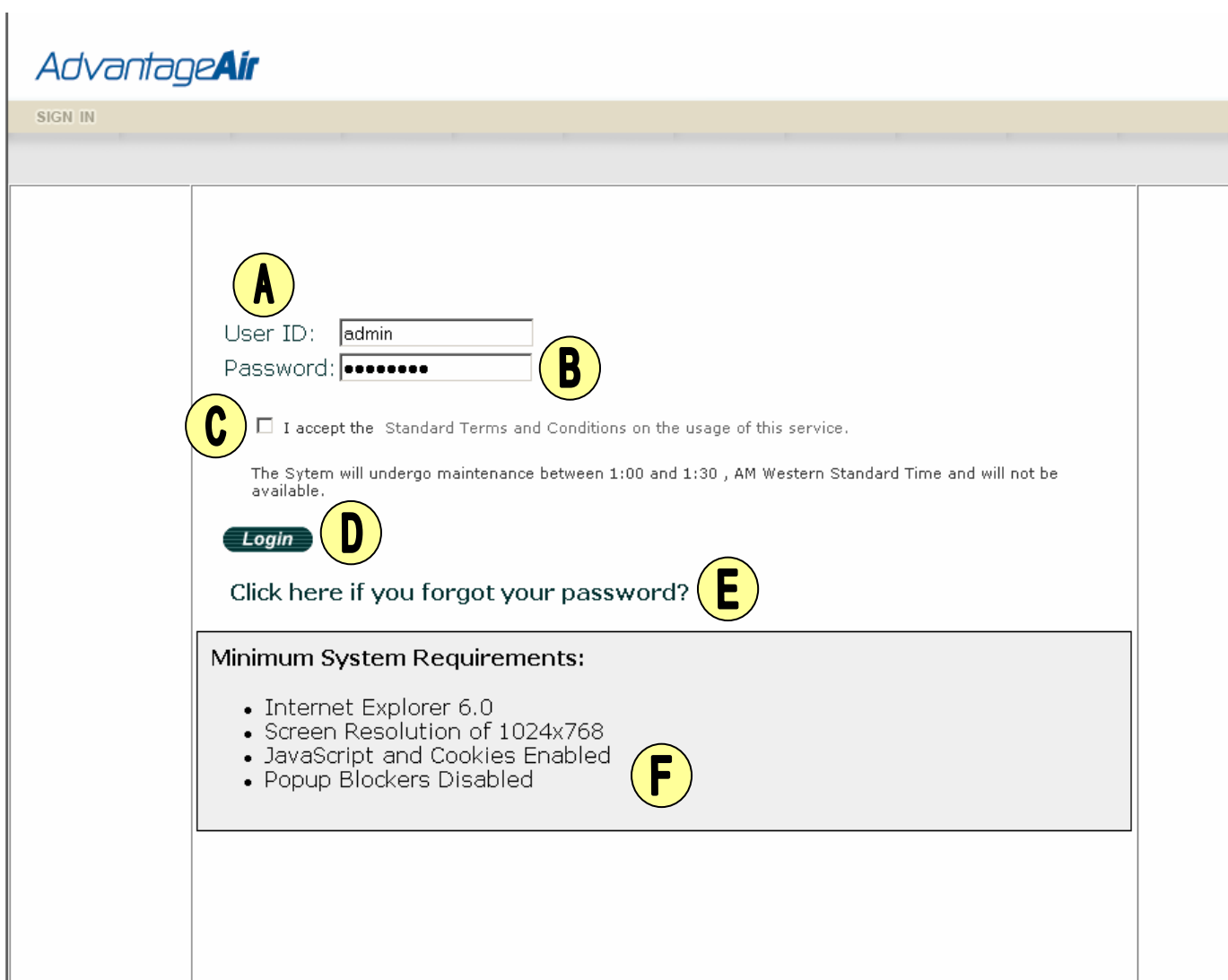
AdvantageAir

1. Ensure AC unit and electrical wiring had been tested by qualified electrician.
2. Ensure all Gen III hardware, control components and power supplies are connected properly with the correct dipswitches settings.
 - Zone motors correctly installed and wired to the correct zone port on the MC or AZ modules.
 - Master Control unit installed.
 - RF Module in the correct location and the dipswitch settings for master and slaves units set correctly.
 - Remote controllers setup correctly and RF test conducted successfully.
 - Check each RF Wall Sensor is installed in a suitable location. Locate each RF sensor to confirm it has been programmed correctly and is in the correct location. Perform an RF test on each sensor and ensure at least 80% hit rate.
 - Check Pressure Sensor Module setup correctly with stable pressure. On the Pressure Sensor module LCD, check the air pressure in the system. If the pressure is below 10pa it will be necessary to reduce the maximum % open for all the design zones to provide at least 10 Pa when all design zones are open. Check pressure when constant zones open to ensure the pressure does not drop below 10pa. If this occurs reduce the maximum % open for each constant zone by using the Enter, Up and Down buttons on the pressure sensor module.
 - Additional zone Module dipswitches setup correctly.
 - AAIRNET™ extension module connected.
4. Test the operation of A/C unit and control system :
 - Select cooling mode, fan on high speed: open all design zones and close all others. The air flow in all the designed zones should be adequate. Otherwise, airflow adjustment might be required to balance the zones by reducing the zone maximum damper % open on zones with excessive air flow.
 - Then, close the designed zone one at a time until the constant zones open to test the constant functions.
5. Test the operation of all other zones.
 - Select Cooling mode, set zone 1 to 15 ° C in Cooling mode and close all other zones. Zone motor 1 should be fully open in 16 seconds and blowing a large amount of cool air into zone 1.
 - Set 2nd zone to 15 ° C and set zone 1 to 30 ° C. Zone 1 should be close if the zone is cooler than 30° C & 2nd zone should open fully if zone 2 is warmer than 15 ° C.
 - Repeat the above process for each zones to ensure cooling operation.
 - To test the system operation on Heating mode, select Heat mode and set zone 1 to 30 ° C and close all other zones. 3 minutes 30 seconds later, compressor will start in Heating mode, zone 1 should be fully open in 16 seconds and blowing a large amount of warm air into zone 1.
 - Set 2nd zone to 30 ° C and set zone 1 to 15 ° C . Zone 1 should be close if the zone is warmer than 15 ° C & 2nd zone should open fully if zone 2 is cooler than 30 ° C .
 - Repeat the above process for each zones to ensure heating operation.
6. Check all zones for excessive air flow or noise. Several control solutions are available to assist in reducing these balancing problems:
 - Increase/decrease zone damper maximum % open.
 - Increase/decrease static pressure set point.
7. It has been found that setting the static pressure set point 10 Pa above the Auto configured set point prevents the constants from operating prematurely.

GENERATION III INTERNET & SMS ACCESS USER MANUAL BASIC NAVIGATION

AdvantageAir





AdvantageAir

SIGN IN

A

User ID:

Password:

B

C ☐ I accept the Standard Terms and Conditions on the usage of this service.

The Sytem will undergo maintenance between 1:00 and 1:30 , AM Western Standard Time and will not be available.

D [Login](#)

E [Click here if you forgot your password?](#)

Minimum System Requirements:

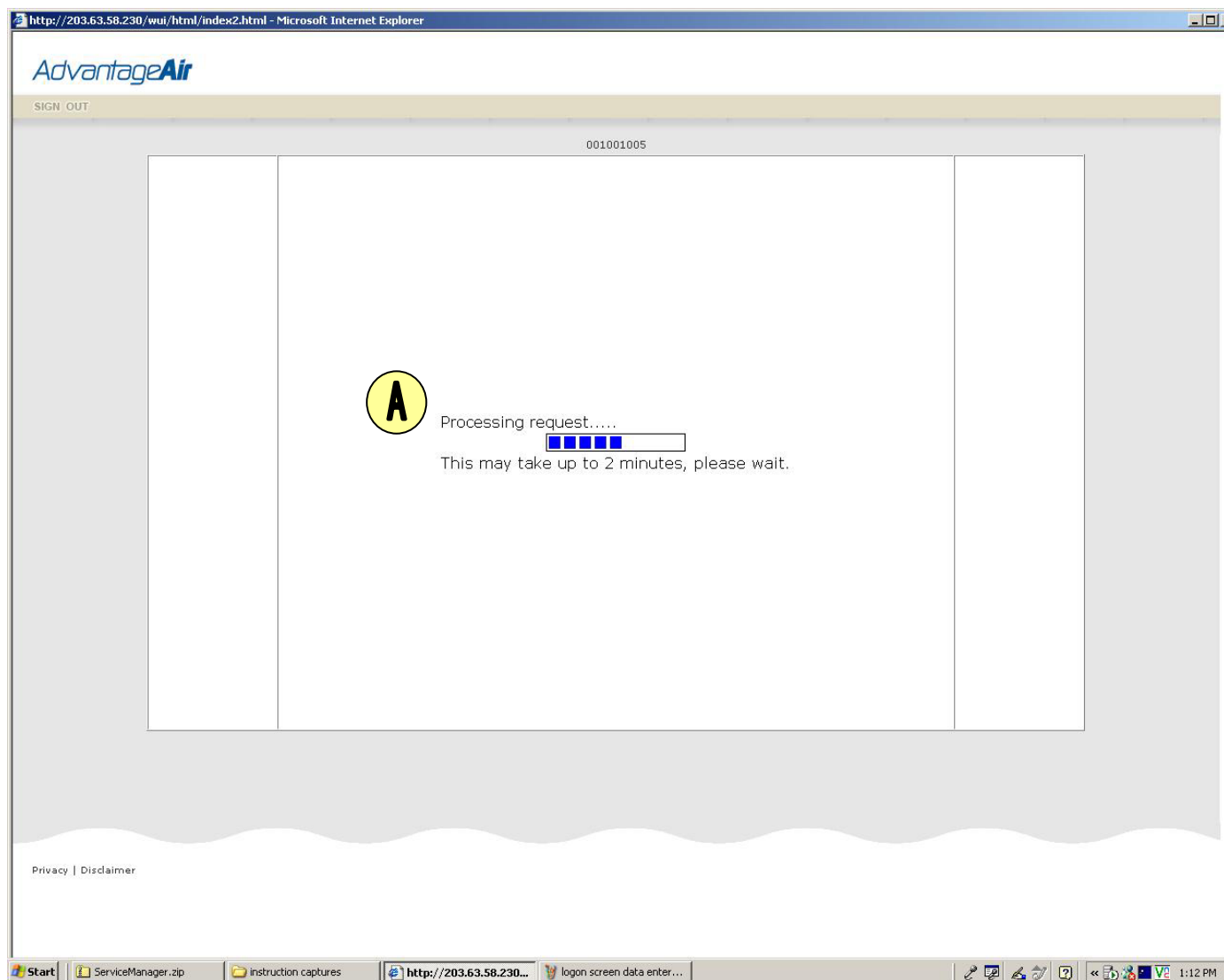
- Internet Explorer 6.0
- Screen Resolution of 1024x768
- JavaScript and Cookies Enabled
- Popup Blockers Disabled

F

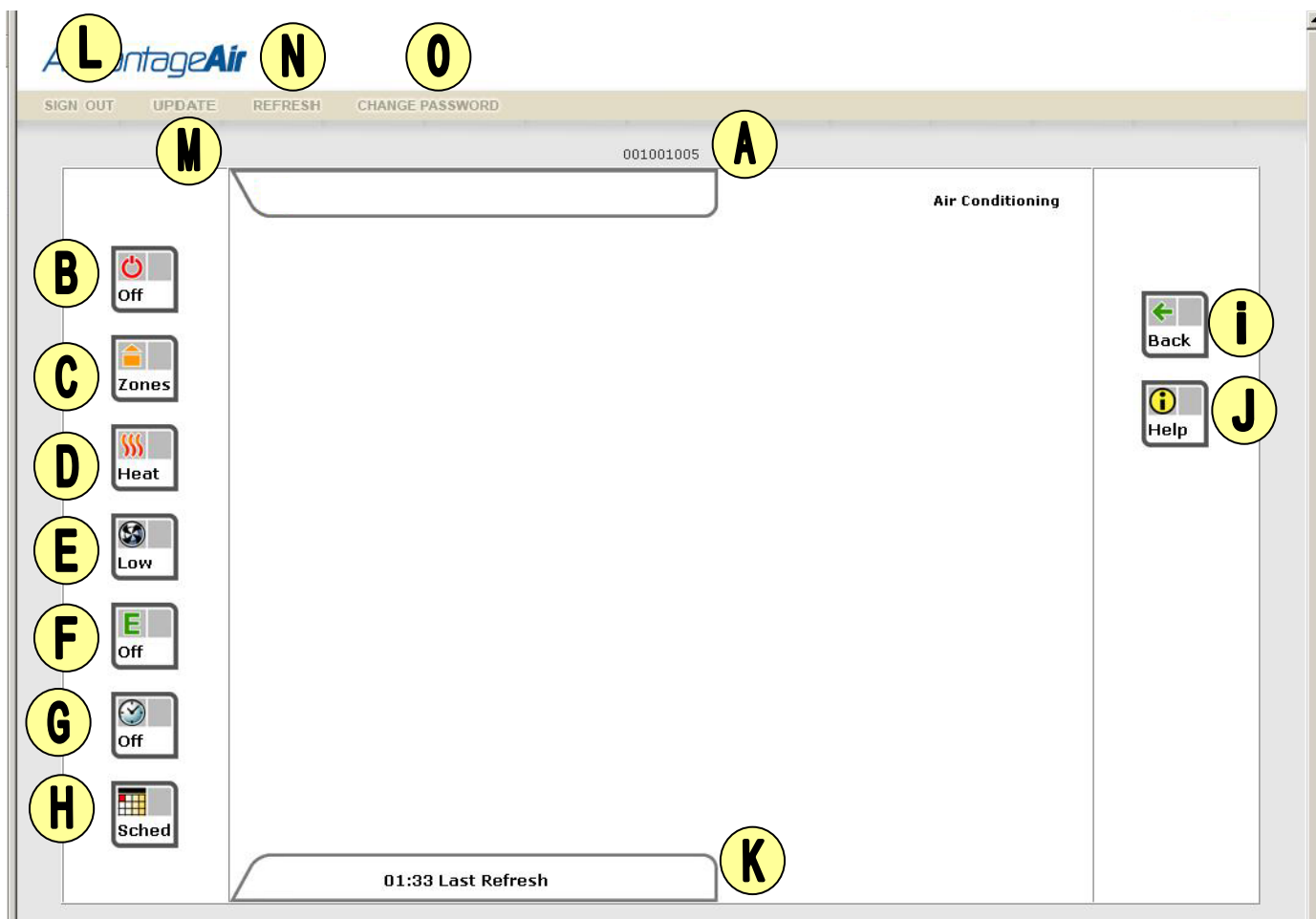
- A.** When you access the Advantage Air Home Automation web site you first need to input your User ID number. This number will have been provided to you when the Home Automation module was installed. If you have forgotten this ID number you need to contact Advantage Air and after a security check they will advise you of your number.
- B.** Next you need to input your password. Make sure you use the correct case. If you have forgotten your password see D below.
- C.** If you are willing to accept the terms and conditions of use click on the "tick box".
- D.** Press the Login button when you have input both (A & B) correctly
- E.** Click here if you have forgotten your password. We will send a new password to the authorized email address provided to us at the time of installation. Once you have logged in correctly you are able to change your password.
- F.** This text box specifies the minimum system requirements for the Advantage Air Home Automation system to operate correctly. Make sure your system satisfies these requirements.

GENERATION III INTERNET ACCESS USER MANUAL (FIG 2)

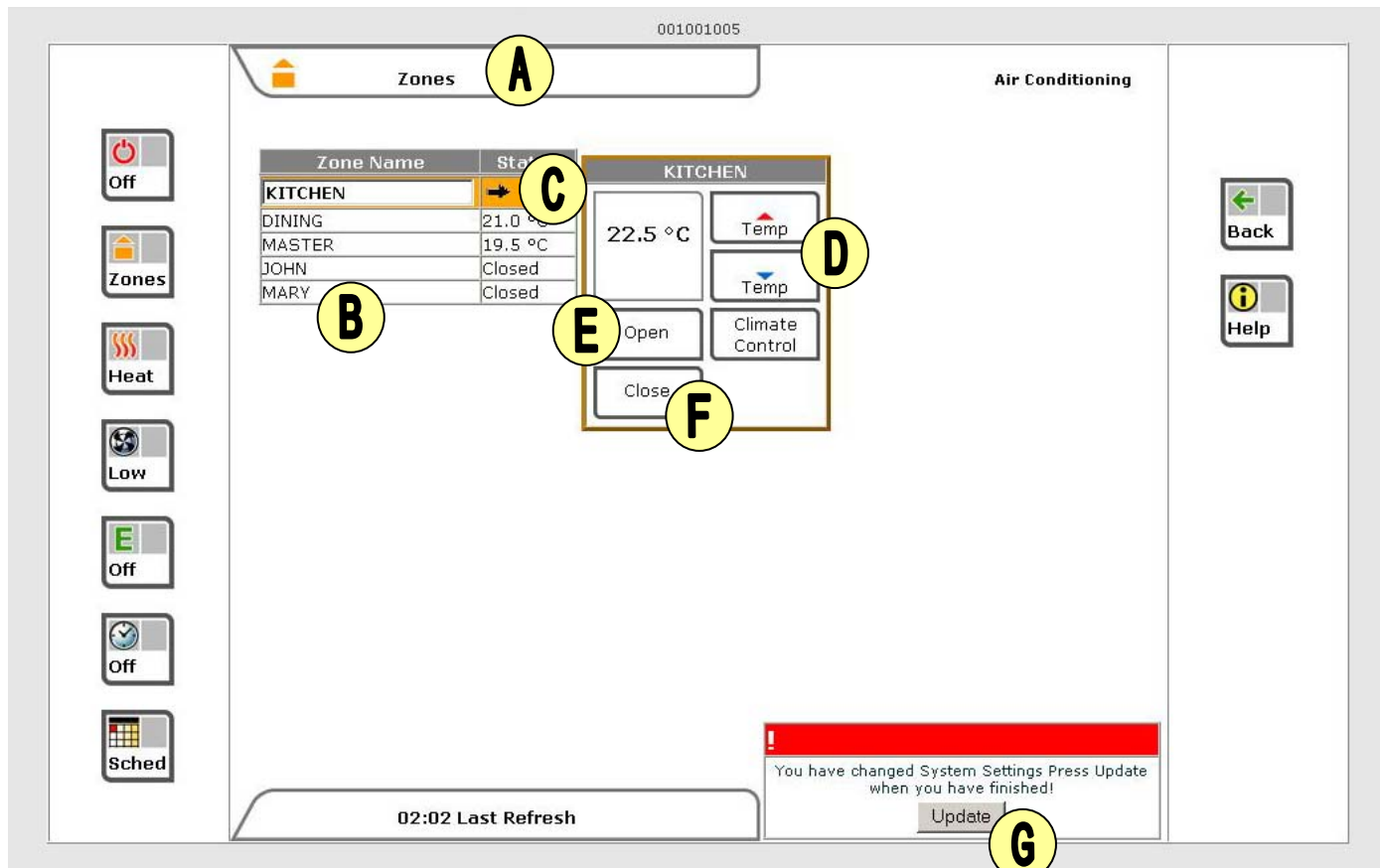
AdvantageAir



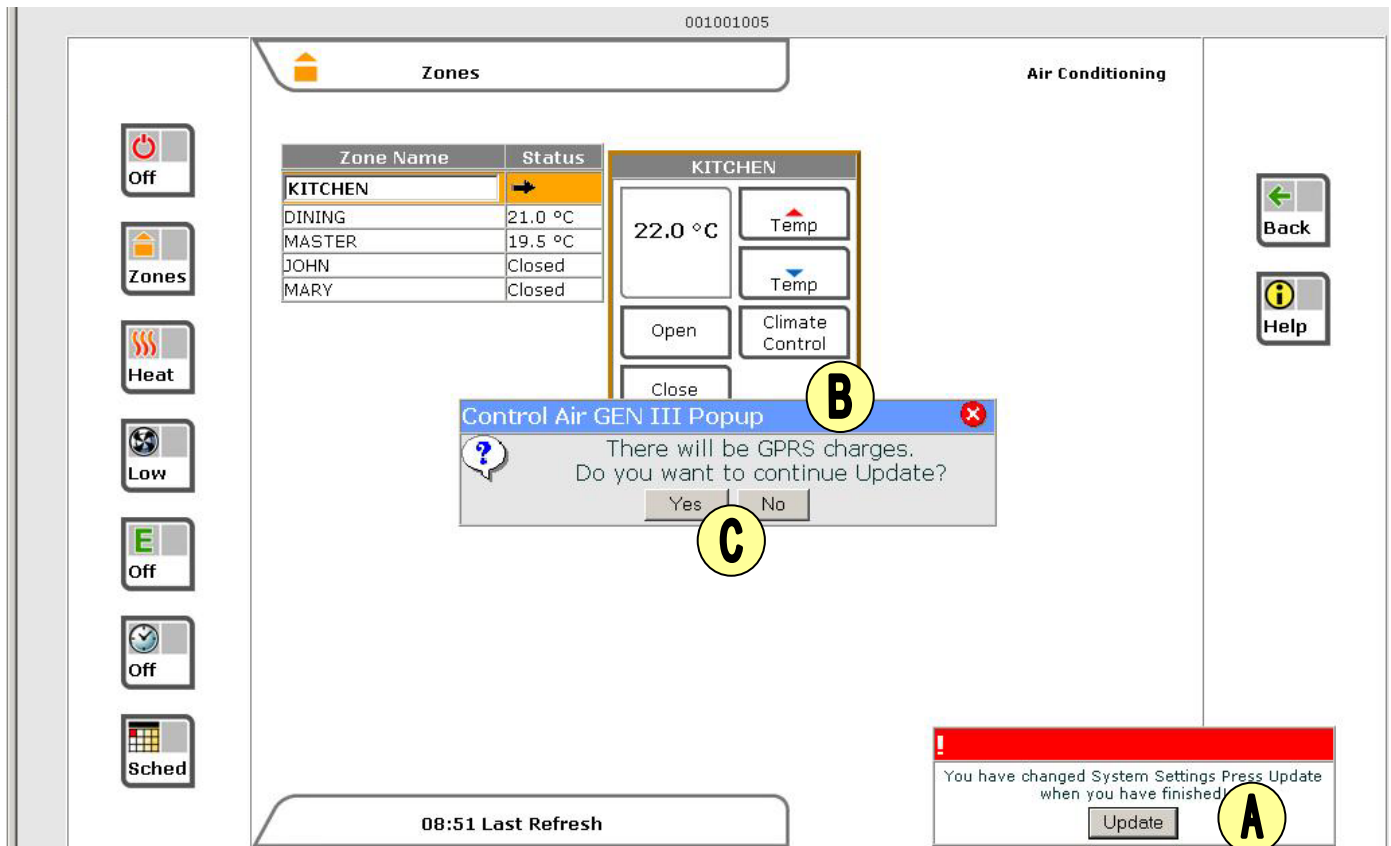
- A. If your User ID and Password are correct the website will request the information from your system at home. To make the connection and to download all the information can take up to 2 minutes. Please be patient.**



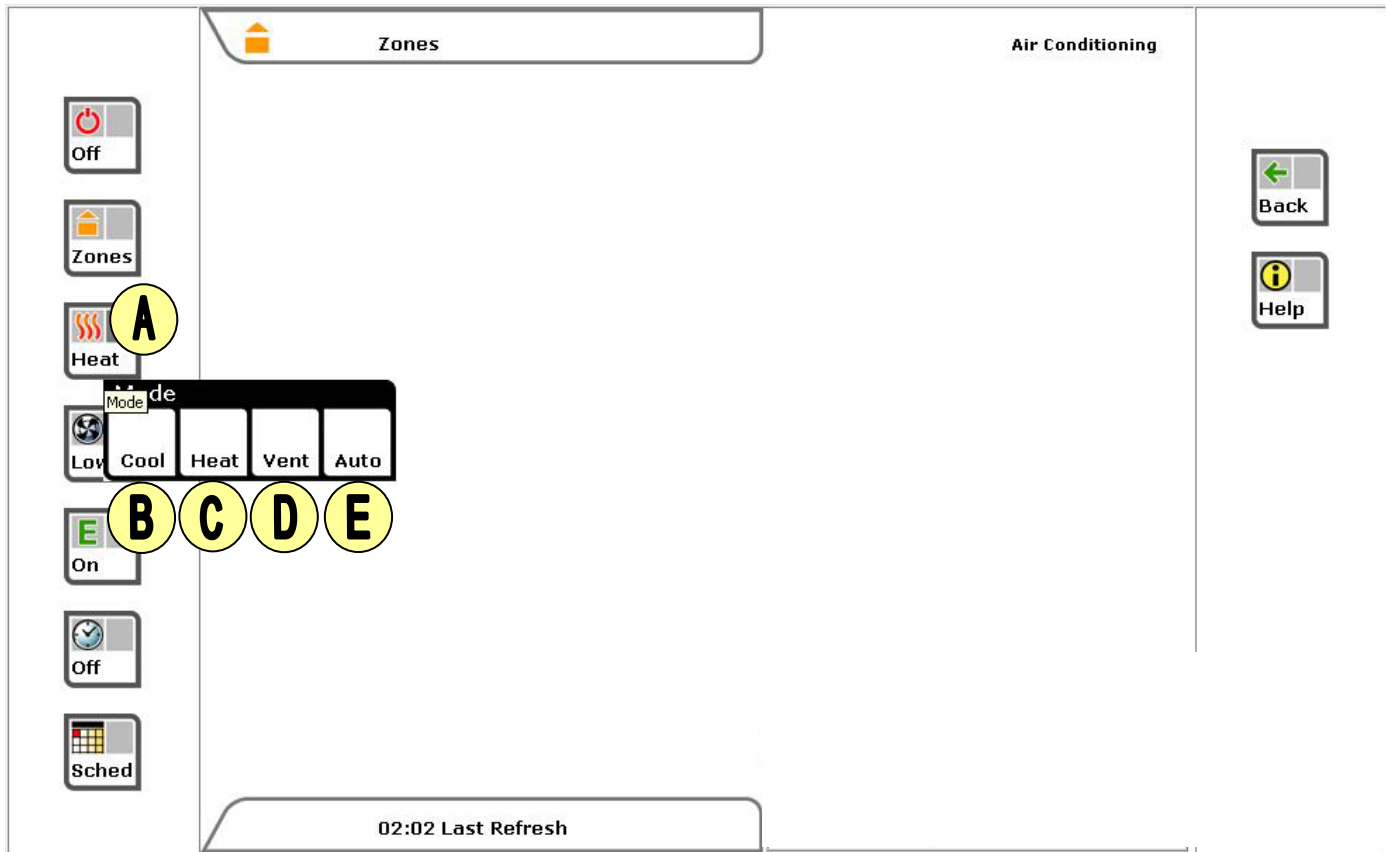
- A. After the download is complete you will see this screen. This number denotes the user ID.
- B. Main system "ON / OFF" button.
- C. Use this button to access zones: change zone temperature set point, open a zone, close a zone and change a zone name. (FIG 4)
- D. Use this button to access the mode: Cool, Heat, Vent and Auto. (FIG 6)
- E. Use this button to access fan speed: High, Medium or Low. (FIG 7)
- F. Press this button to enable or disable the system in an "Economy Mode". Please note when operating in this mode temperature control is less accurate than in the normal mode. When Economy is enabled, the icon 'E' will appear highlighted in green. When the Economy is disabled the icon 'E' will be appear in grey.
- G. Use this menu to set, enable or disable 24 hour timer. (FIG 8)
- H. Use this button to access Schedules: set, enable or disabled. (FIG 10)
- I. Press this button to go back without making any changes.
- J. Press this button to access on screen help.
- K. Indicates the last time the web site was refreshed and synchronized with the system at home.
- L. Press here to sign out
- M. Press here to update the changes you have made on the web site to your home air conditioning. Please note pressing "Update" does not refresh the screen (see N below)
- N. Press here to refresh and synchronize the website with the system at home.
- O. Press here to change your password



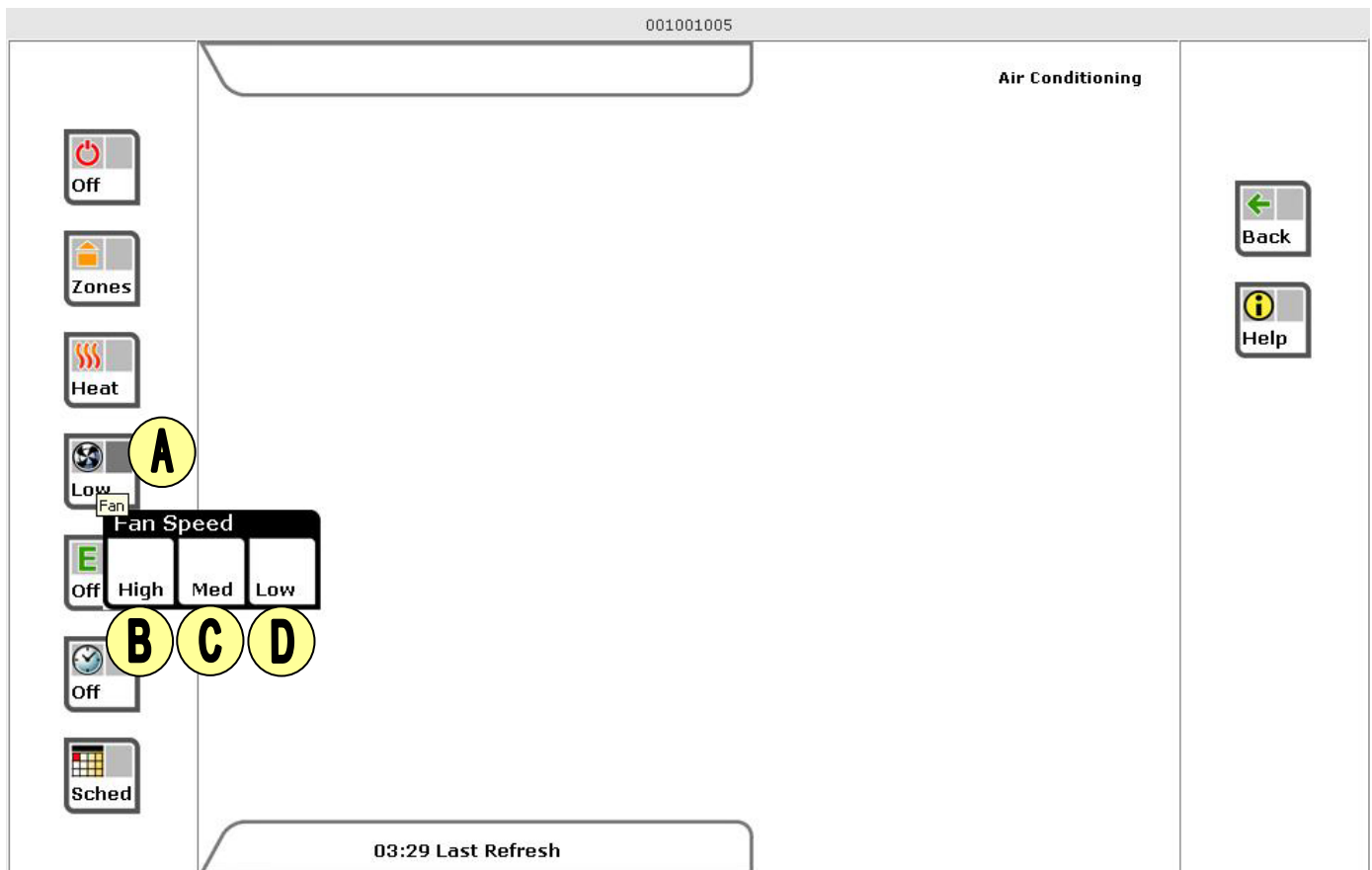
- A. Indicates the touch screen panel is in the Zones menu.
- B. Zone names.
- C. Indicates the KITCHEN zone settings are to be changed. To change the zone name just highlight and type over name.
- D. Press Temp up and down buttons to change the zone climate control set point
- E. Press to manually fully opened this zone.
- F. Press to manually close this zone.
- G. To execute the changes you have made press the Update button. (See FIG 5).



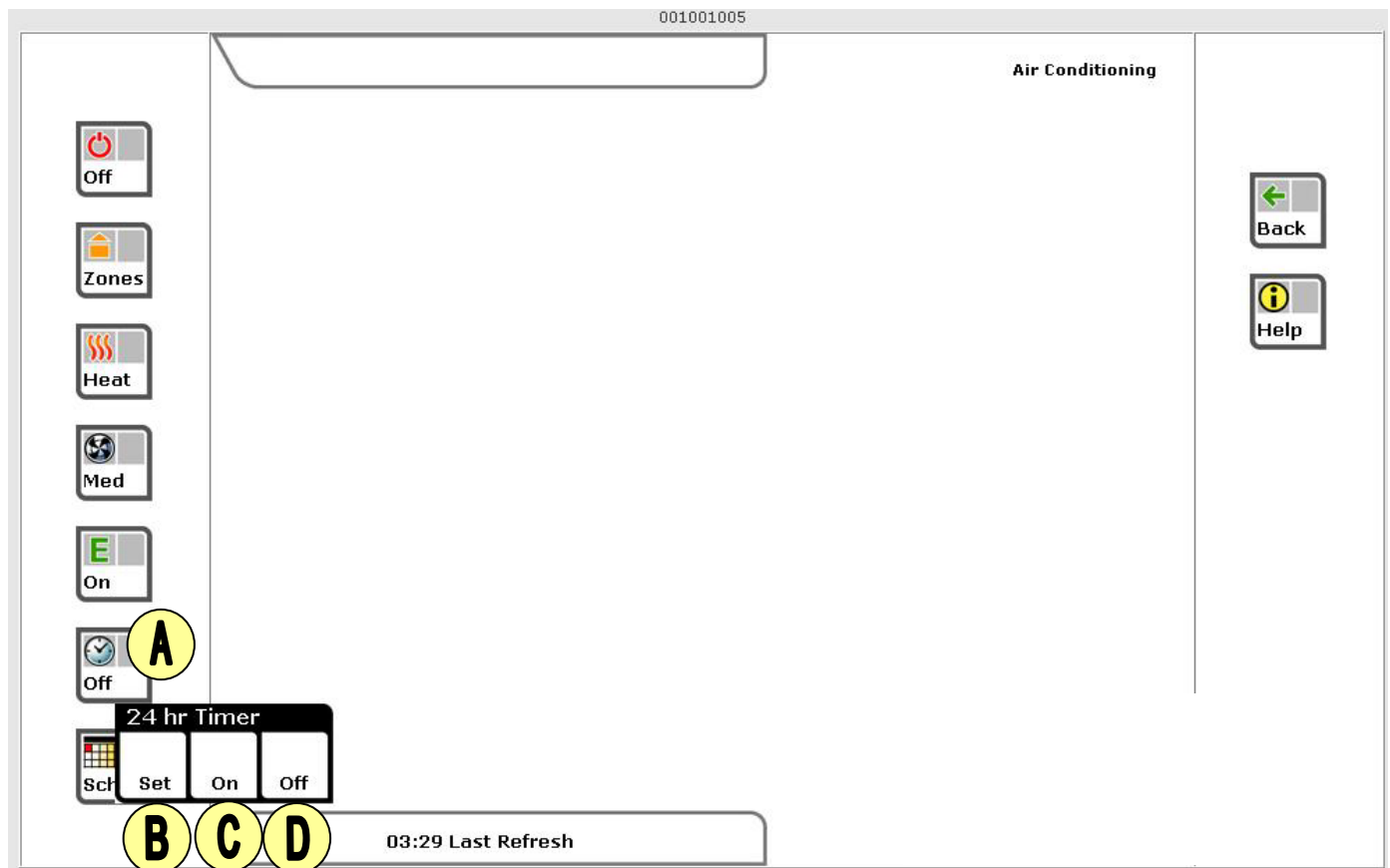
- A. Whenever you make changes to the system settings this box will appear . If you want to execute the changes and update your system at home press the Update button.
- B. A popup will appear advising you that your home GPRS system will be charged for the data uploaded and down loaded to facilitate the change.
- C. If you are happy to accept the charges and wish to proceed press the Yes button. If you do not want to continue with the update press the No button.



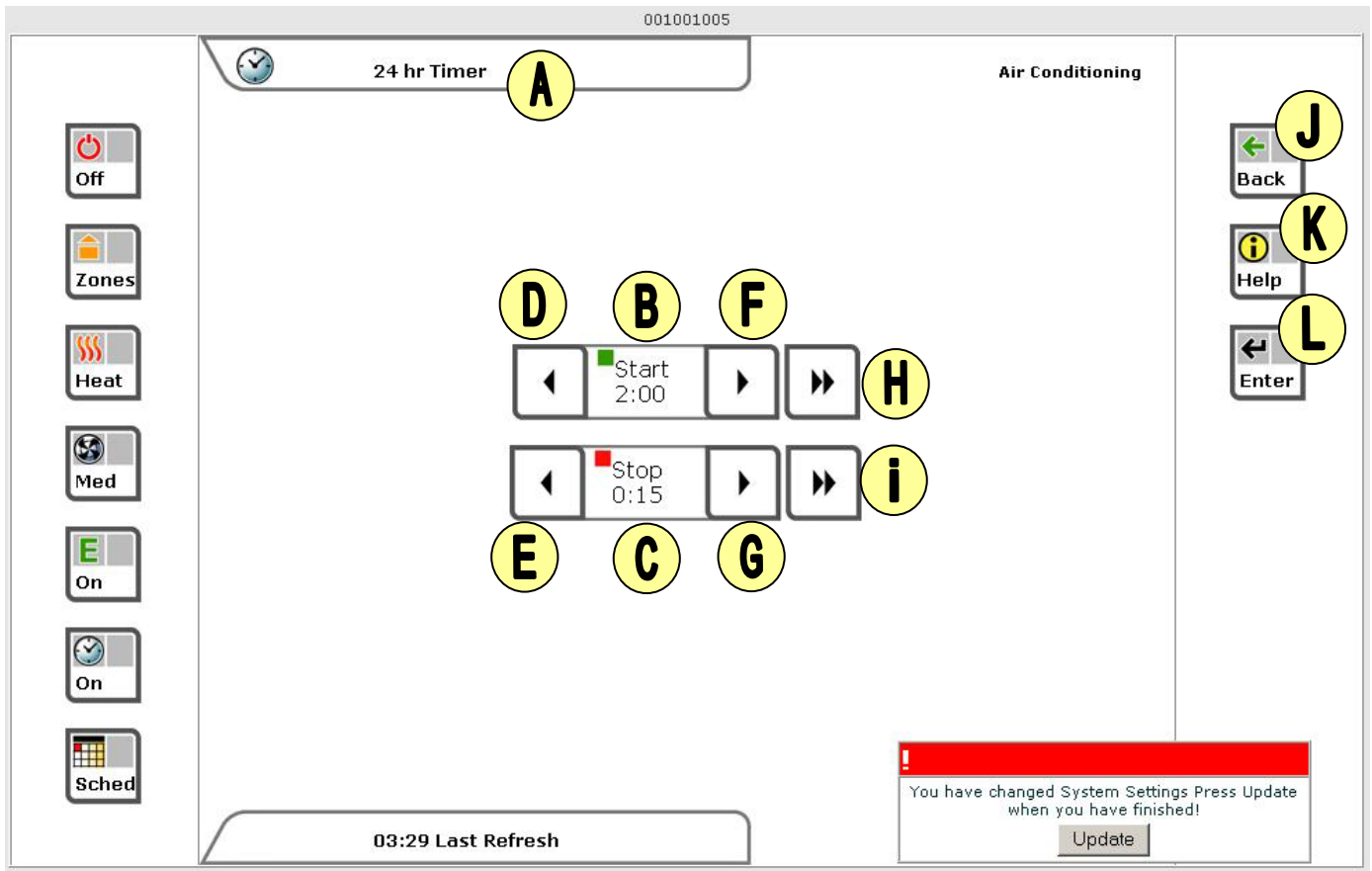
- A. When in the main menu (FIG 3) press this button and the mode menu will roll out for you to select one of four options described below. mode it ran in.
- B. In Cool mode the system will run in a cooling mode only. It will not run unless there is a cooling requirement from one of the zones.
- C. In Heat mode the system will run in a heating mode only. It will not run unless there is a heating requirement from one of the zones.
- D. In Vent mode the Supply Air fan will run but the heating and cooling will be suspended. It is recommended that the required zones are manually opened when operating in a vent mode.
- E. In Auto mode the system will automatically select to run in a cooling or heating mode. It will select the most appropriate mode depending on the number of zones requiring cooling and the number requiring heating. If the number of zones requiring cooling and heating are equal the system will use the last



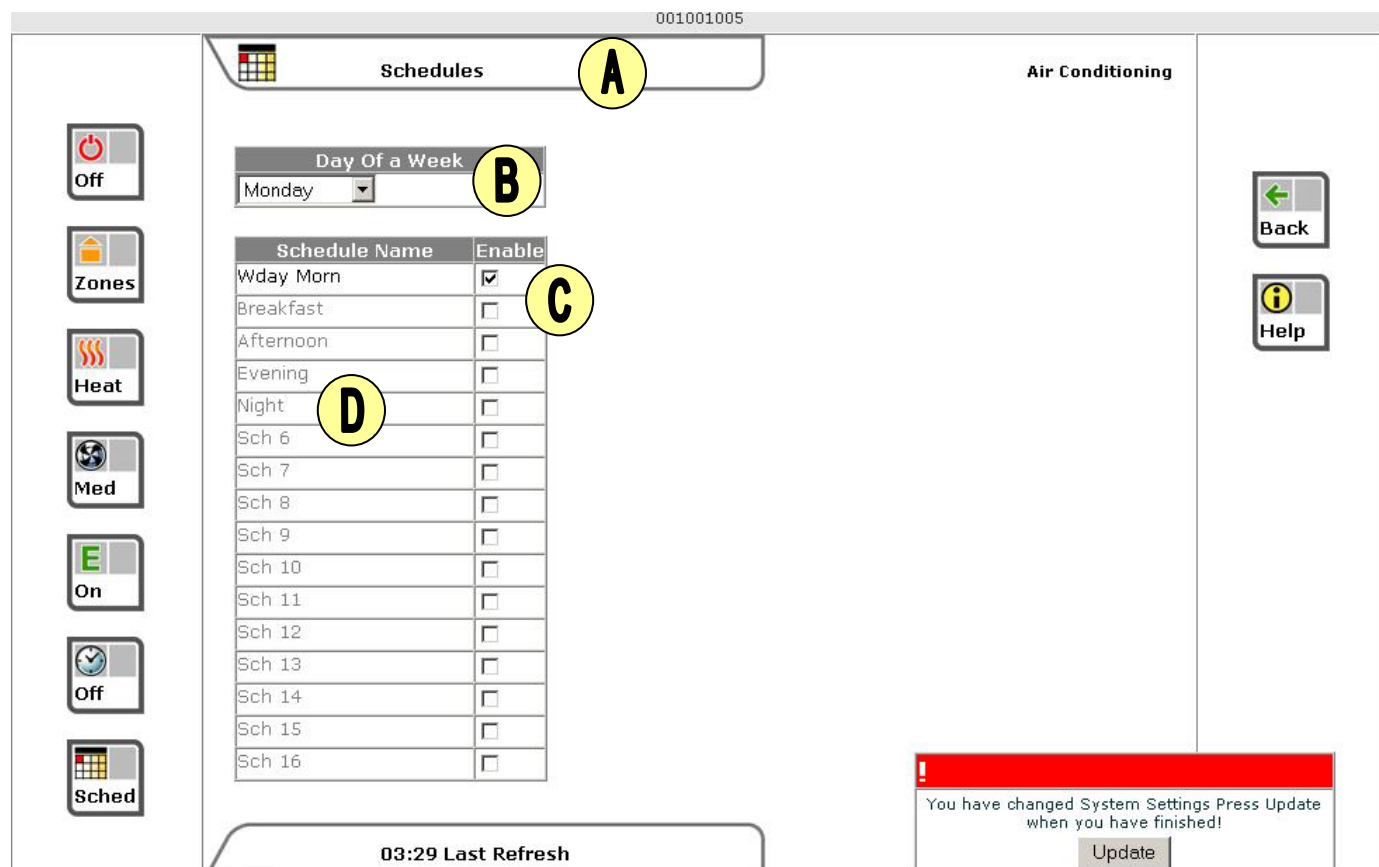
- A. When in the main menu (FIG 3) press this button and the fan menu will roll out for you to select one of three options described below.
- B. The fan will run at its highest speed. Recommended in times of extreme outdoor temperatures.
- C. The fan will run at its medium speed. System capacity will be reduced when running in this mode.
- D. The fan will run at it's lowest speed. Recommended for quiet or night time operation. System capacity will be reduced when running in this mode.



- A. When in the main menu (FIG 3) press this button and the 24 hour timer menu will roll out for you to select one of three options described below.
- B. Press Set to access the 24 hour timer set up screen where you can set new Start and Stop times. (FIG 9)
- C. Press On to enable the current 24 hour timer settings. Note when 24 hour timer is enabled, it will start and stop the air conditioning unit at the times set everyday until the 24 hour timer is disabled by using the Off button (D) see below.
- D. Press Off to disable the current 24 hour timer settings. Note, setting it off will not turn off the system if it is currently running.



- A. Indicates you are in the 24 hr timer set up menu.
- B. Current 24 hr timer “Start” time. A/C system will switch On automatically at this time.
- C. Current 24 hr timer “Stop” time. A/C system will switch off automatically at this time.
- D. Decrease “Start” time in 15 minute intervals.
- E. Decrease “Stop” time in 15 minute intervals.
- F. Increase “Start” time in 15 minute intervals.
- G. Increase “Stop” time in 15 minute intervals.
- H. Increase “Start” time in 1 hour intervals.
- I. Increase “Stop” time in 1 hour intervals.
- J. Go back to main menu without making changes.
- K. Press to access on screen help.
- L. Enter to accept new settings.



- A.** Indicates you are in the schedules menu.
- B.** Indicates you are in Monday's screen where you can enable or disable preset schedules for Monday. Use the drop down button to select other days of the week.
- C.** Tick indicates which schedules have been set to automatically start the system on Monday.
- D.** Click on the schedule name to view or change schedule settings.

001001005

Schedules

Air Conditioning

Off

Zones

Heat

Med

On

Off

Sched

Day Of a Week

Monday

Schedule Name	
Wday Morn	→
Breakfast	
Afternoon	
Evening	
Night	
Sch 6	
Sch 7	
Sch 8	
Sch 9	
Sch 10	
Sch 11	
Sch 12	
Sch 13	
Sch 14	
Sch 15	
Sch 16	

Wday Morn

Start 6:00

Stop 8:00

Zone Name	Status
KITCHEN	→
DINING	Closed
MASTER	21.0 °C
JOHN	23.0 °C
MARY	24.0 °C

KITCHEN

24.0 °C

Temp

Temp

Open

Temp Control

Close

N/A

Back

Help

03:29 Last Refresh

You have changed System Settings Press Update when you have finished!

Update

- A. Highlighted name indicates you are in the set up screen for Wday Morn schedule .
- B. Adjust schedule start and stop times here.
- C. Click on room names to adjust room setting when this schedule is operating.
- D. Adjust room setting here.

GEN III HOME AUTOMATION SMS CONTROL (FIG 12)

GETTING STARTED

The following is a description of the SMS commands available.

ACTION REQUIRED	SEND SMS
Switch system ON	AC.ON
Switch system OFF	AC.OFF
Change fan speed to high	AC.HIGH
Change fan speed medium	AC.MED
Change fan speed low	AC.LOW
Change mode heat	AC.HEAT
Change mode cool	AC.COOL
Change mode vent	AC.VENT
Change mode auto	AC.AUTO
Set zone (5) to open	AC.Z5 OPEN
Set zone (2) to closed	AC.Z2 CLOSE
Set zone (1) to climate control at 22°C	AC.Z1 22
Initiate preset button 2	AC.PRESET2
Request system status	AC.STATUS
Change SMS PIN number to 1234	AC.CHANGEPIN1234

REPLY SMS	MEANING
AC.ON.COOL.HIGH	Current status system is ON, in a Cooling mode and the fan is on High
(Err.AB: bad system,) AC.OFF.HEAT.LOW	An error was sent. The system was typed as AB instead of AC. This was followed by the current system status
(Err.FANHIGH: bad command,) AC.OFF.HEAT.LOW	An error was sent. The fan speed command was typed as FANHIGH instead of HIGH. This was followed by the current system status
(Err.Z30 CLOSE: wrong zone number,) AC.OFF.HEAT.LOW	An error was sent. Zone 30 does not exist. This was followed by the current system status
(Err.Z5 OPAN: bad zone command,) AC.OFF.HEAT.LOW	An error was sent. Zone 5 command was typed as OPAN instead of OPEN. This was followed by the current system status
(Err.Z5 13: setpoint out of limit,) AC.OFF.HEAT.LOW	An error was sent. Zone 5 was requested to run at a temperature outside of the systems limits. This was followed by the current system status
(Err.12A4:invalid pin number,)	An error was sent. The new PIN number was typed as 12A4 instead of 1234. This followed by the current system status

GEN III HOME AUTOMATION SMS CONTROL (FIG 13)

BASIC MESSAGING

To simplify the use of this service it is recommended that your home automation number is saved in your mobile phone address book and the most commonly used SMS's are saved as templates.

If sending an SMS from a mobile phone with a trusted number there is no need to put a PIN in the number, however if the mobile phone is not a trusted number then the message must be started with PIN####. For example if the PIN number is 3455 then the message to switch the air conditioning system on would be **PIN3455.AC.ON**

The commands are not case sensitive.

After the home automation module has received and processed the SMS, it will send a confirmation back to the mobile phone that sent the command. The confirmation SMS contains the status of the system for example:

AC.ON/OFF.MODE.FAN

Where:

ON/OFF indicates whether the system is running or not (ON, OFF)

MODE indicates the current mode the system is in (COOL, HEAT, VENT, AUTO)

FAN indicates the current speed of the fan (LOW, MED, HIGH).

If the command in the SMS contains an error then in the confirmation message that error will be indicated and it will then be followed by the current system status.

Correct commands will be executed.

MORE COMPLEX MESSAGES

More than one action can be sent in a single SMS. The order of the actions is irrelevant and up to 6 actions can be sent in a single message. For example:

AC.ON.HIGH.COOL.Z1 23

Please read these terms carefully, and be sure that you understand them.

1 Your obligations

1.1 We will provide you with the Service and will use reasonable care and skill in doing so. In order for us to provide you with the Service, there are things that we need to ask you to do. These are that you:

- use the service for the proper purpose for which it was installed, namely operating the System on the Premises;
- not use, attempt to use or allow others to use the Service in a way that, in our reasonable opinion, interferes with other customers' use or enjoyment of the Service or interferes with our efficient or proper operation of the Service;
- pay all fees and charges associated with your use of the Service, in accordance with clause 3;
- make sure you keep your account information, password, data and Equipment secure;
- ensure that any equipment provided by you does not damage the Service or our facilities which we use to provide the Service; and
- not permit unauthorised access to the System.

1.2 There are certain things that, despite our best efforts, we cannot guarantee or provide in relation to the Service. This means we have to ask you to acknowledge each of the following:

- We will use reasonable care and skill in providing the Service and will provide the Service in accordance with this Agreement. However, given the nature of telecommunications networks (including the Service's reliance on systems and services not owned or controlled by us), we cannot promise that the Service will be continuous, accessible at all times or fault-free.
- We may not be able to meet a request from you to provide detailed information about your usage of the Service.
- We may monitor use of the Service to investigate a breach of this Agreement.
- We are not responsible for any loss caused by equipment provided by someone other than us.

2 Details of the Service

2.1 In order to take up the Service, you need:

- a System installed on the Premises; and
- access to a telecommunications network.

2.2 The Service may also be accessed through our server, if you have internet access by logging onto the Website.

3 Charges for the Service

3.1 As with any service provided by us, we ask you to pay certain charges. With this Service, you are responsible for paying the charges set out in the Schedule (as amended from time to time in accordance with clause 3.2) for your selected pricing plan, starting from the Service Commencement Date and by the date specified on the invoice - even if the charges have been incurred by a person using the Service without your authorisation. You should only accept this Agreement if you agree to pay the charges set out in the Schedule.

3.2 We have chosen to structure our charges so that all monthly fees are payable in advance and any additional SMS charges are payable in arrears. Other fees and charges that are payable by you as set out in the Schedule are payable by the due date specified on the invoice. We issue invoices for the Service within 30 days of the closure of each billing period.

3.3 If you do not use your monthly access fees allocated, any surplus allowance will not be carried over into the next monthly billing cycle.

3.4 The Additional Charges you use over and above your monthly access fees allocated, will be incurred at the rate specified in Item 4 of the Schedule.

3.5 We are entitled to charge an Additional User Access Fee for an additional user to access the Service.

3.6 If we include a credit or benefit on your account that you were not entitled to receive, (or we give you more than you were entitled to receive) we can recover the over-credit or over-payment from you by:

- including a debit on your bill;
- if the Service has been terminated, including a debit on a bill for any other service provided by us to you; or
- if you no longer have any billing relationship with us, by taking such other steps as are reasonable in the circumstances.

3.7 We may allow you to choose to be billed for the Service by:

GEN III HOME AUTOMATION SERVICE AGREEMENT

providing us with your credit card details for us to debit your charges for the Service, if your plan permits payment via this method;
or
other billing methods that we may make available from time-to-time.

3.8 We may provide you with the option to pay for the Service via credit card. If you choose to provide us with your credit card details for the purposes of paying for the Service, we may:

bill all fees and charges to your credit card on a monthly basis from the Service Commencement Date;
disclose your credit card details to, and obtain information from, any financial institution or credit card issuer to verify the credit card details;
take steps to verify that there is sufficient credit on your credit card account to meet likely fees; and
charge any Cancellation Fee payable under clause 4 to your credit card.

3.9 We may charge interest at the Prescribed Rate on any fees and charges unpaid for more than 30 days for which a tax invoice has been issued.

3.10 We are entitled to increase our charges without notifying you and you agree to pay such increase in charges, in the manner set out in this clause 3.

4 Commencement and termination of this Agreement

Agreement Commencement

4.1 We ask you to note that this Agreement commences on the following dates:

If you complete an online Application Form, on the date you submit the Application Form; or
If you sign an Application Form, on the date you sign the Application Form.

Service Commencement

4.2 We ask you to note that the Service commences on the earlier of:

the date you first use the Service;
21 days after we notify you that the Service has been activated (if you already have the Equipment).

Cooling-off period

4.3 If you are not satisfied with the Service during the Cooling-Off Period you may terminate this Agreement at any time within the Cooling-Off Period by giving us 7 days written notice.

Your right to terminate this Agreement

4.4 We understand that, at some stage, you may no longer wish to continue with the Service for a number of reasons. You may terminate this Agreement at any time by calling our Accounts Department.

4.5 Subject to clause 4.6, if you terminate this Agreement after the end of any Cooling-Off Period and before the end of your Contract Term, you must pay us the Cancellation Fee, and you may be required to pay Service charges for use of the Service arising prior to termination under this clause.

4.6 You will not have to pay the Cancellation Fee to us if, prior to the Service Commencement Date, you return the Equipment to us with all the components and in good order.

4.7 You will not have to pay the Cancellation Fee if you have installed the Service and:

you are unable to connect to the our server as a result of no coverage or poor coverage, and you meet the requirements of our policy; or
we reasonably determine that your Equipment is faulty.

4.8 Your obligation to pay the Cancellation Fee does not limit or affect the rights you may have under the Trade Practices Act 1974 (Cth) in relation to the Equipment or the Service.

Our right to terminate or suspend this Agreement

4.9 We may terminate the Service if:

you are in serious breach of this Agreement (you will be in serious breach if you breach your obligation to pay our charges for the

GEN III HOME AUTOMATION SERVICE AGREEMENT

Service in clauses 1.1 c. or breach clauses 1.1e. or 5.3 of this Agreement); and we have notified you in writing of your breach and you have failed to remedy the breach within 7 days of our notice (if the breach can be remedied). If the breach is something which cannot be remedied, we may immediately terminate the Service with notice to you. Engaging in conduct that breaches clauses 1.1e. or 5.3 of this Agreement are breaches that are not capable of remedy.

4.10 If we terminate the Service under clause 4.9 during your Contract Term, you must pay us the Cancellation Fee and any fees incurred before termination.

Your rights to terminate or suspend

4.11 You may terminate the Service if:

we are in serious breach of this Agreement (we will be in serious breach if we breach our obligation to use reasonable care and skill in providing the Service); and
you have notified us in writing of our breach and we have failed to remedy the breach within 30 days of your notice (if the breach can be remedied). If the breach is something which cannot be remedied, you may immediately terminate the Service with notice in writing to us.

4.12 If you terminate the Service under clause 4.11 during your Contract Term, you will not have to pay us the Cancellation Fee.

4.13 At certain times, we need to perform maintenance on or protect our networks to keep providing a high performing service to users. This means that we may sometimes need to limit or suspend the Service if it is necessary for the purpose of maintenance, integrity, protection or restoration of our networks or the users of our networks. If we need to limit or suspend the Service under this clause, we will give you as much notice as we reasonably can in the circumstances and we will endeavour to ensure that the limitation or suspension is for as short a period as is reasonably possible.

4.14 You may suspend the operation of the System for no longer than 3 consecutive calendar months provided there are no outstanding charges payable by you under this Agreement and you have given us not less than 21 days notice prior to the Suspension Date in writing.

4.15 Exercise of our rights under clause 4.13 does not affect your Contract Term or our rights under this Agreement.

The effect of termination

4.16 We need to make sure that certain things occur if you or we terminate this Agreement. So, if this Agreement is terminated:

any software licences granted to you under this Agreement will immediately terminate and you must return to us or destroy the Software and all copies as we direct; and
you must immediately return any of our property to us.

4.17 If we terminate this Agreement under clause 4.9 or suspend the System in accordance with clause 4.13 and, at your request, we later agree to provide you with the Service again, you may need to pay us the reconnection fee set out in the Schedule.

5 Ownership and use of the Equipment

5.1 To facilitate the supply of the Service to you, we may choose to provide Equipment to you during the term of this Agreement. If we do so, risk in the Equipment passes to you when the Equipment is delivered to you.

5.2 The Equipment, which is owned by us, will remain our property until the Service Commencement Date at which time ownership of the Equipment will pass to you.

5.3 To protect our interests in the Equipment which is owned by us, we ask, and you agree, that unless and until ownership of the Equipment passes to you under clause 5.2, you will:

not sell the Equipment;
not damage the Equipment; and
not give a third party possession or use of the Equipment without our prior consent.

6 Maintenance of the Service

We encourage you to use our technical support services for genuine problems with the Service. We will use reasonable efforts to rectify the problem as soon as possible. However, we ask you to acknowledge that if we respond to a technical support call, and we believe on reasonable grounds that there is no Service problem, or that we did not cause the Service problem, we may charge you a

GEN III HOME AUTOMATION SERVICE AGREEMENT

service fee that will be notified to you prior to our site visit.

7 Limitation of liability

Our liability to you

7.1 This contract is made up of the terms that are expressly set out in this contract and those implied by laws that cannot be excluded by us. No other terms apply.

7.2 We accept our liability to you if we breach this Agreement or act negligently under the principles applied by the courts, except as set out in clauses 7.4 and 7.5.

7.3 As you have taken up the Service predominantly for personal, domestic or household use, we do not accept liability for any business related losses that result from the use of the Service.

7.4 We are not liable for any loss to the extent that it is caused by you, for example, through your negligence or breach of this Agreement.

7.5 Subject to clause 7.6, we do not accept liability arising from our breach of contract or negligence:

- for any personal injury or death to you, your employees, agents and contractors in relation to the supply of the Service;
- for any damage to your real or tangible property resulting from the supply of the Service, but we limit our liability to our choice of repairing or replacing the property or paying the cost of repairing or replacing it; and
- unless clause 7.2 applies, for any other cost or expense you reasonably incur that is a direct result of, and flows naturally from, such breach or negligence (but excludes loss of profits, likely savings and data), but we limit our liability for all such claims in aggregate to the total amount payable to us under this Agreement in respect of the first year of the Contract Term.

7.6 For any liability which cannot lawfully be excluded as it is under this clause 7, our liability is limited to re-supplying or paying the cost of re-supplying services and repairing, replacing or paying the cost of repairing or replacing goods.

7.7 Notwithstanding anything else in this clause 7, our liability will be reduced to the extent the loss or damage is caused by you, your employees, agents or contractors.

7.8 We will not be responsible for any loss or damage arising from circumstances outside our reasonable control.

Your liability to us

7.9 You are liable to us if you breach this Agreement or act negligently under the principles applied by the courts. However, you are not liable for any loss we suffer to the extent that it is caused by us, for example, through our negligence or breach of this Agreement.

8 Information

8.1 Information concerning you will be held in a database. The database will contain your name, address, telephone numbers, bank account or credit card details, billing details, information relating to the provision and use of the Service, and information provided by you in connection with this Agreement or the Service.

8.2 This information (other than bank account and credit card details) may be used:

- to enable us to perform our obligations to you under this Agreement, including to provide the Service;
- to enable us to ensure that you perform your obligations under this Agreement; and
- by any entity related to us and any service provider, for planning, research, or if required by any law or if you give us your express consent, for the promotion and marketing (whether targeted, direct or indirect) of our products and services or the products or services of any service provider and any entity related to us.

8.3 In addition to our other rights under this clause 8, we may give Credit Information about you to a credit reporting agency to:

- obtain a consumer credit report about you; or
- allow the credit reporting agency to create or maintain a credit information file containing information about you.

8.4 In addition to our other rights under this clause 8, we may (in accordance with the Privacy Act 1988 (Cth)):

GEN III HOME AUTOMATION SERVICE AGREEMENT

obtain and use information concerning your commercial activities and commercial credit worthiness from a credit reporting agency or other business that reports on commercial credit worthiness to assess your application for the Service (if the application is for consumer credit) or collect overdue payments;
obtain or use a consumer credit report about you from a credit reporting agency to assess your application for the Service (if it is for commercial credit) or collect overdue payments; and
disclose information about you to other credit providers or obtain and use information from other credit providers for the purposes of assessing your application for the Service, your ongoing credit worthiness or the status of any account held by you with us or with any other credit provider.

8.5 You consent to the collection, use and disclosure of information as set out in this clause 8.

9 Transferring the Service or this Agreement

9.1 Your rights under this Agreement belong to you alone and is specific to the Premises. You may not transfer your rights and obligations in respect of the Service or this Agreement without our prior consent. Our consent will not be unreasonably withheld.

9.2 From time to time, we may need to ask another party to provide some aspect of the Service to you. We may transfer or novate any of our rights or obligations under this Agreement to a reputable, credit worthy third party who agrees to be bound by our obligations under this Agreement. We will notify you if this happens.

10 Taxes

10.1 The charges in the Schedule may not include all taxes. You must pay us any applicable taxes that we include as part of your invoice for the Service. Applicable taxes may include any stamp and other duties, fees, taxes (including GST) and charges relating to your purchase of any Equipment, this Agreement or the performance of this Agreement, and any other transaction arising out of this Agreement.

10.2 GST may be imposed on a supply we make to you under this Agreement. Unless the consideration payable for the supply is expressed to include GST you must pay us an additional amount to cover the GST. We will issue a Tax Invoice to you for any supply on which GST is imposed. GST may be imposed on a supply we make to you under this Agreement. Unless the consideration payable for the supply is expressed to include GST, you must pay us an additional amount to cover the GST. We will issue a Tax Invoice to you for any supply on which GST is imposed.

10.3 In this clause 10, "GST" and "Tax Invoice" have the same meaning as in the A New Tax System (Goods and Services Tax) Act 1999 (Cth).

11 General Terms

11.1 Neither party waives any of its rights under this Agreement merely because it does not exercise them, or there is a delay in our exercising them.

11.2 This Agreement is governed by the laws of the Australian State or Territory in which you are connected to the Service.

11.3 Clauses 5, 7 and 8 survive termination of this Agreement (regardless of any other clauses that may survive termination).

11.4 If we need to notify you of any matters relating to the Agreement we ask, and you agree, that we may use post, fax, or email to the default email address that you provide to us. You must regularly check the default email address.

GEN III HOME AUTOMATION SERVICE AGREEMENT

12 Dictionary

Words in this Agreement with initial capital letters (for example, Agreement) have defined meanings, as follows:

"Additional Charges" means any additional charges incurred in access of the monthly access fee allowance provided in Item 3 of the Schedule.

"Additional User Access Fee" means a fee charged to add an additional trusted mobile number to our registered authorised users that are permitted to access the Service.

"Agreement" means these Terms and Conditions including the Schedule and the Application Form.

"Application Form" means

- if you apply online, the online application form for the Service you submitted on the Website;
- if you apply by telephone, the application form you ask us to complete; or
- if you sign an application form, the application form you sign.

"Cancellation Fee" means the cancellation fee set out in the Schedule.

"Contract Term" means the period you nominated on the Application Form and starting on the Service Commencement Date, being not less than 12 months.

"Cooling-Off Period" means 30 days from the date of this Agreement.

"Credit Information" means:

- identity particulars (name, address, and date of birth);
- your application for credit or commercial credit, including the amount applied for;
- the fact we are a current credit provider to you;
- payments which are overdue by more than 60 days and for which debt collection has commenced;
- advice that payments are no longer overdue in respect of a default which has been listed;
- information that you have committed a serious credit infringement; and
- cheques drawn by you for more than \$100 and which have been dishonoured more than once.

"Customer" means a customer who takes up the Service.

"Equipment" means the equipment and parts used in connection with the Service.

"Premises" means the premises at which the Service is conducted and at which the System is installed.

"Prescribed Rate" means a rate of 6.5 percent per annum.

"Service" means the remote control Gen III access service which activates the System, via short messaging service (SMS) or by logging onto the Website;

"Service Commencement Date" means the date defined in clause 4.2.

"Software" means any software we supply to you for use in conjunction with the Service, including any upgrades and manuals.

"Suspension Date" means the date that the Service is suspended in accordance with clause 4.14.

"System" means an air conditioning system installed on the Premises.

"You" and **"Your"** (with or without initial capital letters) means the person named as the customer on the Application Form.

"We", **"Our"**, and **"Us"** (with or without initial capital letters) means Advantage Air Aust. (ABN 77 056 510 555) and its employees; as well as its agents, sub-agents and their respective employees.

"Website" means Our website.

GEN III HOME AUTOMATION TERMS AND CONDITIONS

SCHEDULE

1. Monthly access fees

DATA (per month)	SMS CONFIRMATION per month)	ACCESS FEE (per month)
0.5MB	10	\$10.00

Your included data and SMS confirmation text messages are available for the calendar month – so if you don't use it all it won't roll over to the next month.

2. Additional charges

DATA : 2¢ per 1.0 KB over and above the 0.5MB monthly allowance.

SMS: 30¢ per SMS confirmation over and above the 10 SMS monthly allowance.

3. Contract Cancellation Fees

If you decide to cancel your service early, you will be liable for a cancellation fee of a maximum of \$60, pro rated for the months remaining on your contract term.

For example, a customer who wants to cancel 9 months into a 12 month contract may have to pay a termination fee of $\$60 \times 3/12$ (the number of months left to run on the contract divided by 12 months) = \$15.00.

4. Reconnection fees

There is a standard \$25 fee for reconnection if the Service has been disconnected because of non-payment or cancellation.

AGREEMENT

I agree to the terms and conditions and schedule of charges set out in the Advantage Air Service.

Full Name: _____

Signed: _____ Date: _____

Address: _____

Phone: _____

***Serial Communication Protocol – Instruction Set.
Version 2.0***

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Serial port commands to interface to the GEN III system via the Advantage Air Home Automation Module.

1.0 Introduction

An external party can develop an application to control our Gen III air conditioning system, be it PC based or other. Connection is through the RS232, RS485, RS422 or RS422 with flow control port on the Home Automation Module (HAU module). The baud rate is set to 19200. These commands are text based. After each command is executed a report message is sent. There is no message buffering and so a command must be sent after a report message has been received. A command must be followed by a carrier return character ("r" or 0x0D). The report message is also followed by the carrier return.

The HAU also can provide unsolicited messages with the system status, for instance.

Example:

To turn system on send this message:

C: SRU=1

Then if command successful the following is reported back.

R: OK

Where the C: and R: stand for command and replay, respectively, and are not to be sent.

The HAU also can provide unsolicited messages with the system status, for instance.

2.0 Home Automation Board Status

2.1 Board Reset (+RESET).

This message is sent when the board powers up or is reset for any reason.

2.2 Ready for commands (+READY).

When the Home Automation Board is powered up or reset it needs to get the system settings. During this time no command execution is possible, if a command is issued the following response will be sent: +NOT READY. The board will send +READY, when it has downloaded all information and is ready to be issued commands.

2.3 Reset the board (RESET).

This command performs a controlled hardware reset.

C: RESET=1

When the board cycles through the reset process it will send:

R: +RESET

And when it is ready for commands, it will send:

R: +READY

3.0 System Commands.

These commands allow control of the AC system

3.1 System Run (SRU).

Use this command to turn the system ON or OFF.

SRU=[on/off]

On/off can be:

1 for ON and

0 for OFF.

Example:

C: SRU=1

R: OK

To check whether the system is running send the following

C: SRU=?

R: +SRU=1

R: OK

3.2 System Fan (SFA).

Use this command to change the fan speed

SFA=[SystemFan]

Where the SystemFan can take on the following values:

1 for LOW

2 for MEDIUM

3 for HIGH

Example:

C: SFA=2

R: OK

To check what speed the fan set to send the following

C: SFA=?

R: +SFA=1

R: OK

3.3 System Mode (SMO).

Use this command to change the system mode.

SMO=[SystemMode]

Where the SystemMode can take on the following values:

1 for COOL-ing

2 for HEAT-ing

3 for VENT-ing

4 for AUTO

Example:

C: SMO=3

R: OK

To check what mode the system is set to send the following

C: SMO=?

R: +SMO=1

R: OK

3.4 Fresh Air Mode (FRE).

to change fresh air mode

Use this command to change the Fresh Air mode. Note that this hardware is optional and this command should not be used when the Fresh Air module has not been installed.

FRE=[FreshAirMode]

Where the FreshAirMode can take on the following values:

1 for Outside Air

2 for Recirculated Air

4 for Automatic Selection

Example:

C: FRE=4

R: OK

To check current setting of the Fresh Air module use the following command

FRE=?

This command will also return NOT INSTALLED if the module is not installed in the system.

Example:

C: FRE=?

R: +FRE=1

R: OK

3.5 Filter Mode (FIL).

To set filter mode

Use this command to change the filter setting. Note that this hardware is optional and this command should not be used when the Filter module has not been installed.

FIL=[FilterON/OFF],[IoniserON/OFF],[UVLightON/OFF]

Where FilterON/OFF can be:

1 for ON

0 for OFF

IoniserON/OFF can be:

1 for ON

0 for OFF

UVLightON/OFF can be:

1 for ON

0 for OFF

Example:

C: SMO=3

R: OK

To check the current setting of the filter module send the following command

FIL=?

This command will also return NOT INSTALLED if the filter module is not attached to the system.

Example:

C: FIL=?

R: +FIL=1,0,0

R: OK

3.6 System Status Message (+SYS).

The system status message is transmitted with the latest settings of the system. This message is also transmitted whenever the settings have been changed and the automatic update function is enabled.

+SYS=[on/off],[SystemFan],[SystemMode],[Economy],[FreshAirMode],[FilterON/OFF],[IoniserON/OFF],[UVLightON/OFF]

Where:

On/off can be:

1 for system running and
0 for System not running.

SystemFan can be:

1 for fan LOW
2 for fan MEDIUM
3 for fan HIGH

SystemMode can be:

1 for mode COOL
2 for mode HEAT
3 for mode VENT
4 for mode AUTO

FreshAirMode can be:

1 for Outside Air
2 for Recirculated Air
3 for Automatic Selection

FilterON/OFF can be:

1 for ON
0 for OFF

IoniserON/OFF can be:

1 for ON
0 for OFF

UVLightON/OFF can be:

1 for ON
0 for OFF

Example:

+SYS=1,1,1,0,4,0,0,1

3.7 Request Current System Status (RCS).

Use this command to find out what the current system status is.

RCS=?

The module will respond with the following information.

+SYS=[on/off],[SystemFan],[SystemMode],[Economy],[FreshAirMode],[FilterON/OFF],[IoniserON/OFF],[UVLightON/OFF]

For description look at section 2.2.6.

Example:

C: RCS=?

R: +SYS=1,1,1,0,4,0,0,1

R: OK

4.0 Zone Commands.

These commands can be used to adjust zone settings such as set point temperature, zone name, etc.

4.1 Change Zone Settings (ZSE).

Use this command to change zone settings. The zones can be OPENed, CLOSED or put into temperature control mode. When in the temperature control mode the setpoint temperature can be varied between 15 and 30 degree Centigrade in steps of 0.5 degree.

ZSE=[ZoneNumber],[ZoneMode],[Setting]

Where ZoneNumber can be any number between 1 and the number of Zones the system is set to, ZoneMode can be:

1 for Temperature Control

2 for Manual Control (open/close)

Setting can be:

If the ZoneMode is 1 then the Setting is the Setpoint temperature. Setpoint Temperature is to be given as an integer value. For instance, if the desired set point is 22.5 then the Setting sent should be 2250.

Otherwise if the ZoneMode is 2 then the Setting can be

0 for CLOSE

1 for OPEN

Example (close zone 2):

C: ZSE=2,2,0

R: OK

Example (set zone 2 in temperature control mode with set point 25C)

C: ZSE=2,1,2500

R: OK

4.2 Current Zone Setting (+ZST).

This message provides information about the setting of zones and transmitted periodically if the automatic update function is enabled.

.

+ZST=[ZoneNumber],[ZoneMode],[Setpoint],[Position],[CurrentTemperature]

Where:

ZoneNumber can be any number between 1 and the number of Zones the system is set to,

ZoneMode can be:

1 for temperature control

0 for manual control (open/close)

Setpoint is the current temperature the zone is set to (multiplied by 100)

Position can be:

1 for open

0 for closed

Current temperature is the actual temperature in the zone (multiplied by 100).

Example.

+ZST=4,1,2550,1,2530

4.3 Request Current Zone Status. (ZST)

Use this command to request the current status of a zone

ZST=[ZoneNumber]

Where the zone number is the zone for which the information is to be displayed. Then the module will respond with the following information:

+ZST=[ZoneNumber],[ZoneMode],[Setpoint],[Position],[CurrentTemperature]

Where the values are as in point 2.3.2.

Example:

C: ZST=4

R: +ZST=4,1,2550,1,2530

R: OK

4.4 Change Zone Name (ZNC).

Use this command to change a zone name. Note that this command can take several seconds to execute. The Advantage Air's control panel can only display 10 characters of a zone name but 21 can be stored.

ZNC=[ZoneNumber],[ZoneName]

Where:

ZoneNumber can be any number between 1 and the number of Zones the system is set to,

ZoneName is the desired zone name (if the string is longer than 21 characters it will be cut)

Example.

C: ZNC=4,Bedroom

R: OK

4.5 Current Zone Name (+ZNA).

This message is the report of the current zone name. It will be transmitted when the automatic update function is enabled.

+ZNA=[ZoneNumber],[ZoneName]

Where:

ZoneNumber can be any number between 1 and the number of Zones the system is set to,

ZoneName is the current zone name

Example.

+ZNA=4,Bedroom

4.6 Request Current Zone Name (ZNA)

Use this command to request the current name of the selected zone.

ZNA=[ZoneNumber]

Where the ZoneNumber is between 1 and the number of zone the system is set to.

Example:

C: ZNA=4

R: +ZNA=4,Kitchen

R: OK

4.7 Request General System Settings (GSS)

Use this command to find out what temperature range is allowable for the set point temperatures of zones. This value is adjustable with the Advantage Air software.

GSS=?

The module will respond with the following information.

+GSS=[NumberOfZones],[MinimumTemperature],[MaximumTemperature]

Where the NumberOfZones is the number of zones the system is set to, MinimumTemperature is the

minimum set point temperature allowed in all the zones in the system and the MaximumTemperature is the maximum set point temperature allowed in all zones in the system.

Example:

C: GSS=?
R: +GSS=7,16.0,28.5
R: OK

4.8 Request Automatic System Update (ASU)

Send this command to enable automatic system update. If enable the communications module will periodically send system status, zone status. This information will also be sent when a change in the system has occurred. For example when a zone has been closed or the fan speed has been changed.

ASU=[status]

Where if status is 1 then the automatic update is enabled or if status is zero then the updating is disabled. This flag is volatile and will be reset after any reset or power disruption.

C: ASU=1
R: OK

5.0 GSM Commands. (not implemented)

5.1 Send SMS (SMS)

Use this command to send SMS. This command will only be executed if the GSM module is installed and plugged into the Home Automation module.
SMS=[PhoneNumber],[MessageText],

APPENDIX A.

Revisions.

Date	Revision	Updates
12/09/2006	V2.0	1. Added the +RESET and +READY status messages during reset or startup. 2. Added the reset command RESET=1. 3. Added the NOT_INSTALLED status messages for the filter and fresh air modules.

FRESH AIR

CONTROLS FRESH AIR SYSTEM

AdvantageAir

OUTDOOR AIR
ROOF COWL



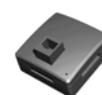
CONTROL BOX



WALL CONTROLLER



ENTHALPY SENSOR



24V DAMPER
MOTOR



TYPICAL CABLE



FEATURES

- Simple to operate.
- Introduces fresh air into the building when outside conditions are suitable.
- Automatically selects most appropriate air source depending on enthalpy differential to match mode of operation.
- Up to 3 air sources to choose from:
 1. Return air (RECIRC)
 2. Outdoor air
 3. Roof air
- Significantly reduces air conditioning running costs.
- Improves air quality and freshness.
- Can be run on 100% Outdoor air to flush out smells and stuffiness.
- Maximum and minimum settings for all air sources.
- Actual temperature and enthalpy readings.
- Dirty filter alarms on control panel to advise when filters need cleaning.
- Sensor fault indication on control panel.
- Flashing and cowl UV stabilised plastic to prevent degradation of materials and will not corrode.
- 3 layer electrostatic filters in roof cowl or in roof source.
- Roof cowl coloured to match roof. Suitable for metal or tile roofs.

APPLICATIONS

- Ideal for domestic and light commercial reverse cycle air conditioning systems.

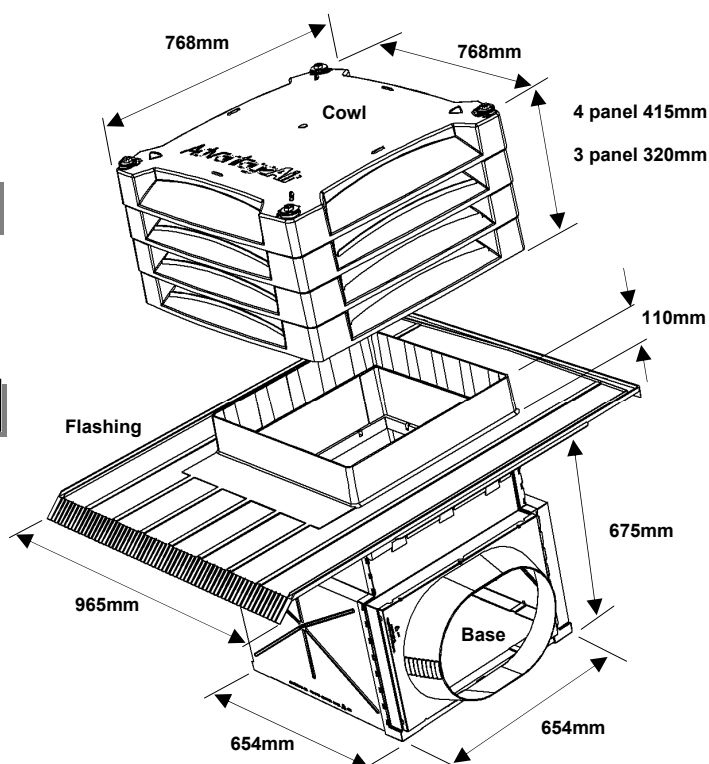
CONSTRUCTION

- Cowl is moulded from engineering polymers with maximum UV stabiliser.
- 3 layer electrostatic filters in roof cowl and roof air grille.
- Uses AAIRWEB™ technology

OPTIONAL EXTRAS

- Optional dirty filter alarms for each air source to advise you when the filters require cleaning.
- Security relief grilles can be supplied if home is well sealed
- Can be fully integrated to operate on Advantage Air's GEN III touch panel control systems.

COWL/FLASHING DIMENSIONS

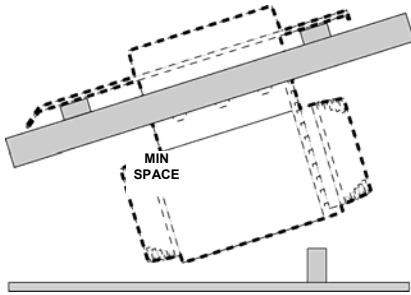


CONTROLS FRESH AIR SYSTEM – COWL INSTALLATION

AdvantageAir

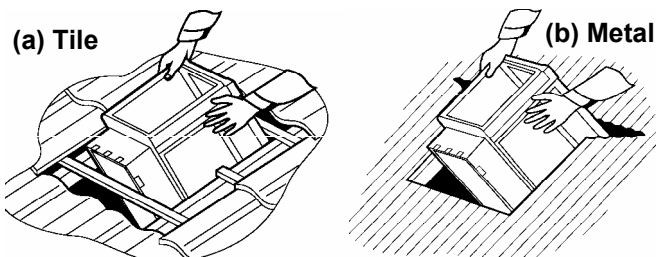
1. Install the outdoor air cowl in accordance with AS1668 and not closer than 10 meters from any obnoxious exhaust.

2. You will require the following minimum roof space measured perpendicular to the tiles of 675 mm. Ensure there are no structural timbers likely to obstruct the take-offs. Will cater for roof pitches up to 35°. Do not exceed this angle.

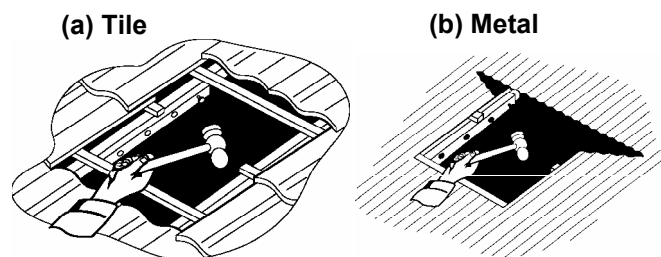


2. (a) If a tile roof, remove tiles and trim tile batons to provide an opening 550x550mm.
(b) If a metal roof, cut opening in roof sheet and trim batons top provide an opening of 600x600mm.

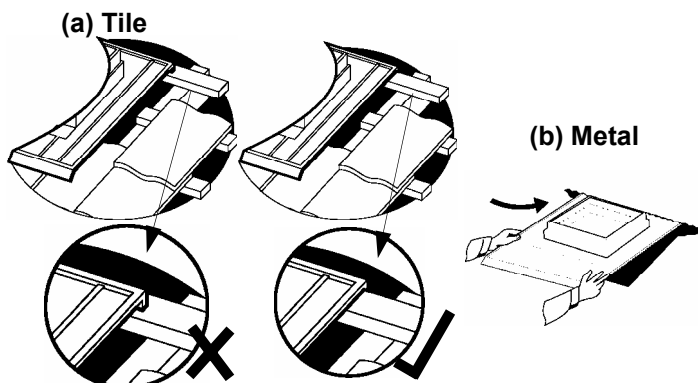
3. Pass all duct and fittings through opening and clear the area in the roof space around the dropper. Pass the assembled dropper base through the opening and carefully place on the ceiling.



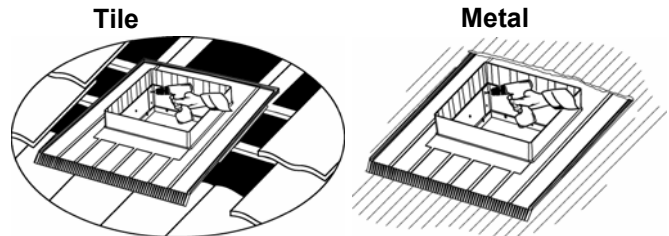
4. Pack the opening with timber off cuts if the distance between trusses is exceeds 550mm.



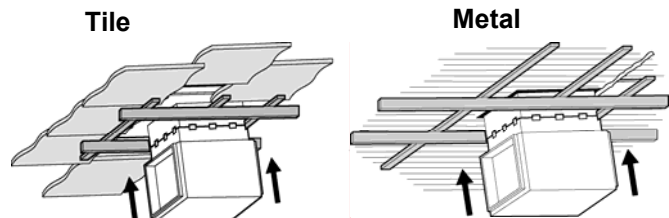
5. Install the flashing into the hole.
(a) Tile roofs, ensure the top of the flashing is clear of the tile batons as indicated below.
(b) Metal roofs, slide flashing underneath the top cut.



6. Ensure flashing is square with the roof tiles/roof line and using the 12-11 x 40 HEX HEAD type 17 w/seal full thread screws provided, loosely install one screw per side to hold the flashing in place. DO NOT FASTEN THESE TWO SCREWS.

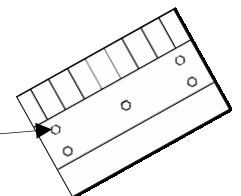


7. From inside the roof space ensure the orientation of the dropper base is correct. Clip the dropper base onto the underside of the flashing. Ensure there are no obstructions to the flexible duct adaptors.

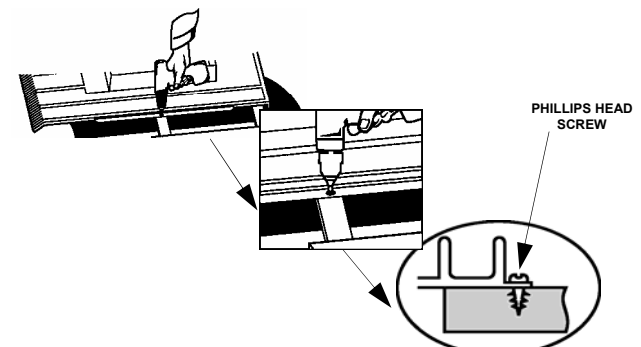


8. Install the remaining screws into the flashing and fasten. Use five screws on each rafter in the positions shown below.

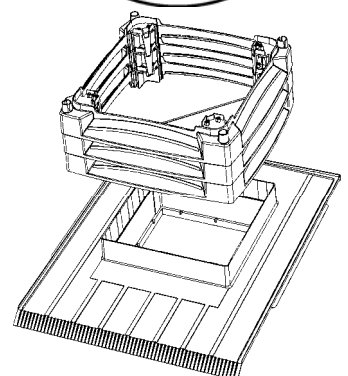
5 HEX HEAD SCREWS PER RAFTER



9. For tile roofs only, trim & replace tiles over flashing.
10. For tile roofs only, fasten flashing down to roof batons via end tabs to obtain required curve in the flashing. (These screws are not provided).



11. Fit the Cowl with the top removed over the flashing neck.



No liability

Make sure you read and understand all the installation instructions before you install this Fresh Air Cowl/System. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Fresh Air Cowl/System.

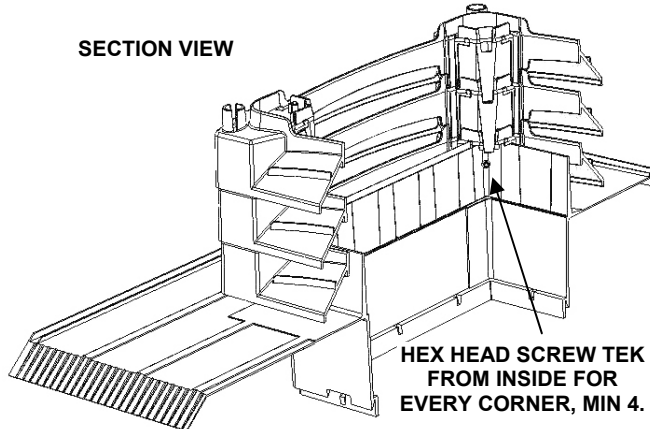
CONTROLS

FRESH AIR SYSTEM – COWL INSTALLATION

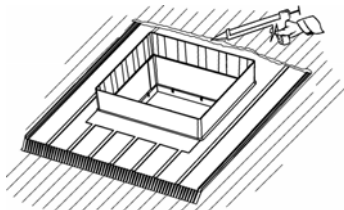
AdvantageAir

12. Using 40mm full thread Hex head screws provided, work from the inside of the flashing. Fix a minimum of one screw per corner (total of 4) at the midpoint of the flashing neck. Tighten screws gently to avoid stripping the plastic. For added strength extra screws can be used in the corners. **DO NOT SCREW INTO THE SIDES AS THE SCREWS WILL INTERFERE WITH THE FILTERS. ENSURE THAT THESE SCREWS ARE NO MORE THAN 30mm AWAY FROM THE CORNER WALLS OF THE FLASHING NECK.**

SECTION VIEW

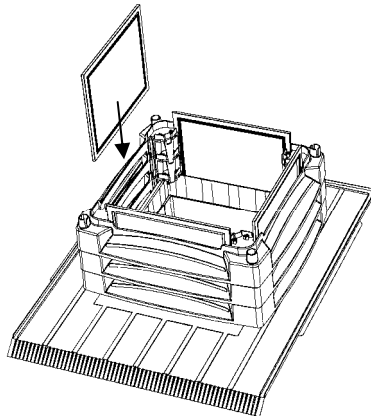


13. **For metal roofs**, apply silicon to where flashing meets roof sheet.

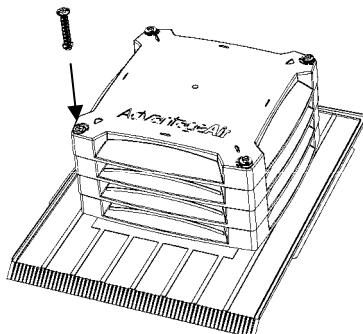


14. **For tile roofs**, replace roof tiles on the sides and trim tiles as usual to obtain a weather proof seal.

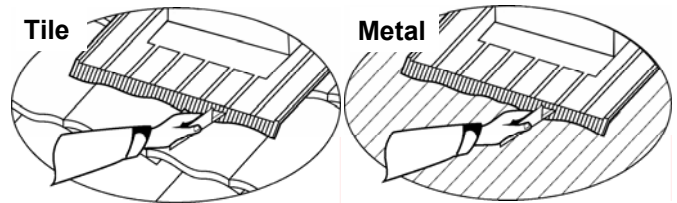
15. Slide the filters in the sides of the body and secure sensor and cable to the centre of the cross strap with cable ties.



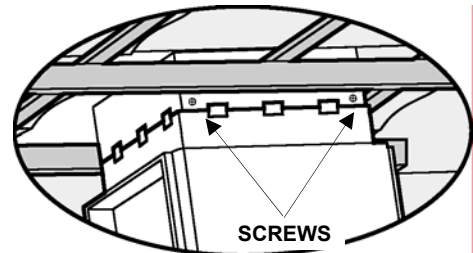
16. Fit the top and secure using lockpins on each corner. Twist and lock in place, ensure engraving triangles on the top panel and lock-pins align.



17. The front of the flashing can be trimmed with a Stanley knife to shape the front of the flashing to the roof profile. Suitable roofing screws can also be used to screw the flashing down to metal roofs only if desired. (These screws are not provided).

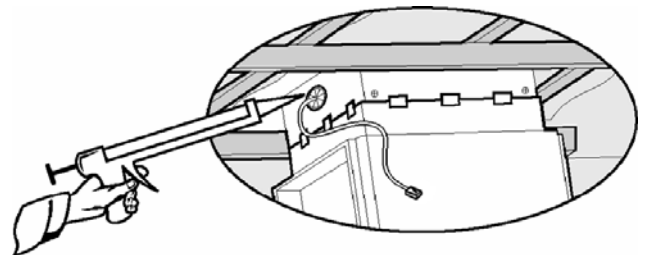


18. From inside the roof space, check the dropper base is securely clipped to the flashing if in doubt use a few self tapping screws to secure in place.



19. Drill hole in flashing for enthalpy sensor cable.

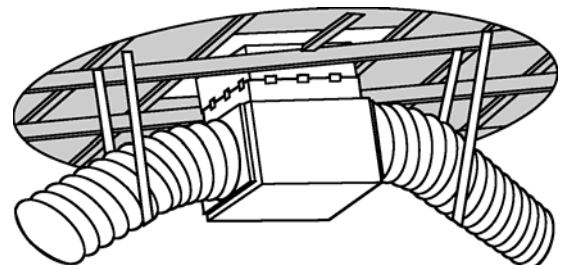
20. Pull enthalpy sensor cable through hole, seal and secure using silicon.



21. After taping the flexible duct to the neck adapters carefully clip the adapters onto the dropper base.

22. Ensure there are no sharp bends or distortions in the flexible duct at the dropper base.

23. It is recommended that the flexible duct is supported using hanging strap 1 meter from the dropper base.



24. Once the unit is running check all connections are secure.

25. Please recycle all packaging.



No liability

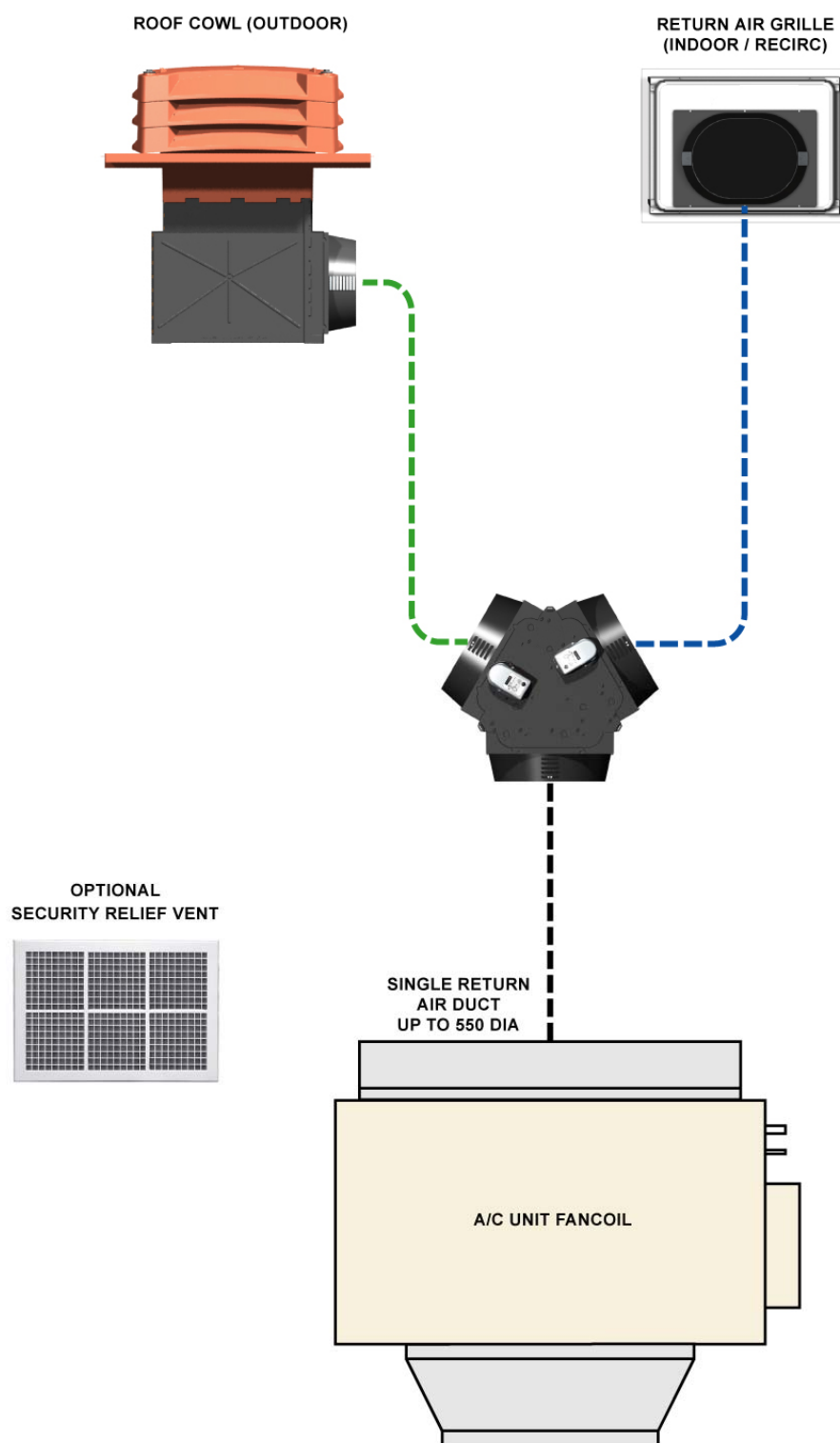
Make sure you read and understand all the installation instructions before you install this Fresh Air Cowl/System. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Fresh Air Cowl/System.

CONTROLS
FRESH AIR SYSTEM – DUCTING DIAGRAM
INSTALLATION OPTION (FASKIT2)

AdvantageAir

FRESH AIR - 2 SOURCE

SINGLE RETURN AIR DUCT UP TO 550 DIA
(SEE DETAIL WIRING DIAGRAM)

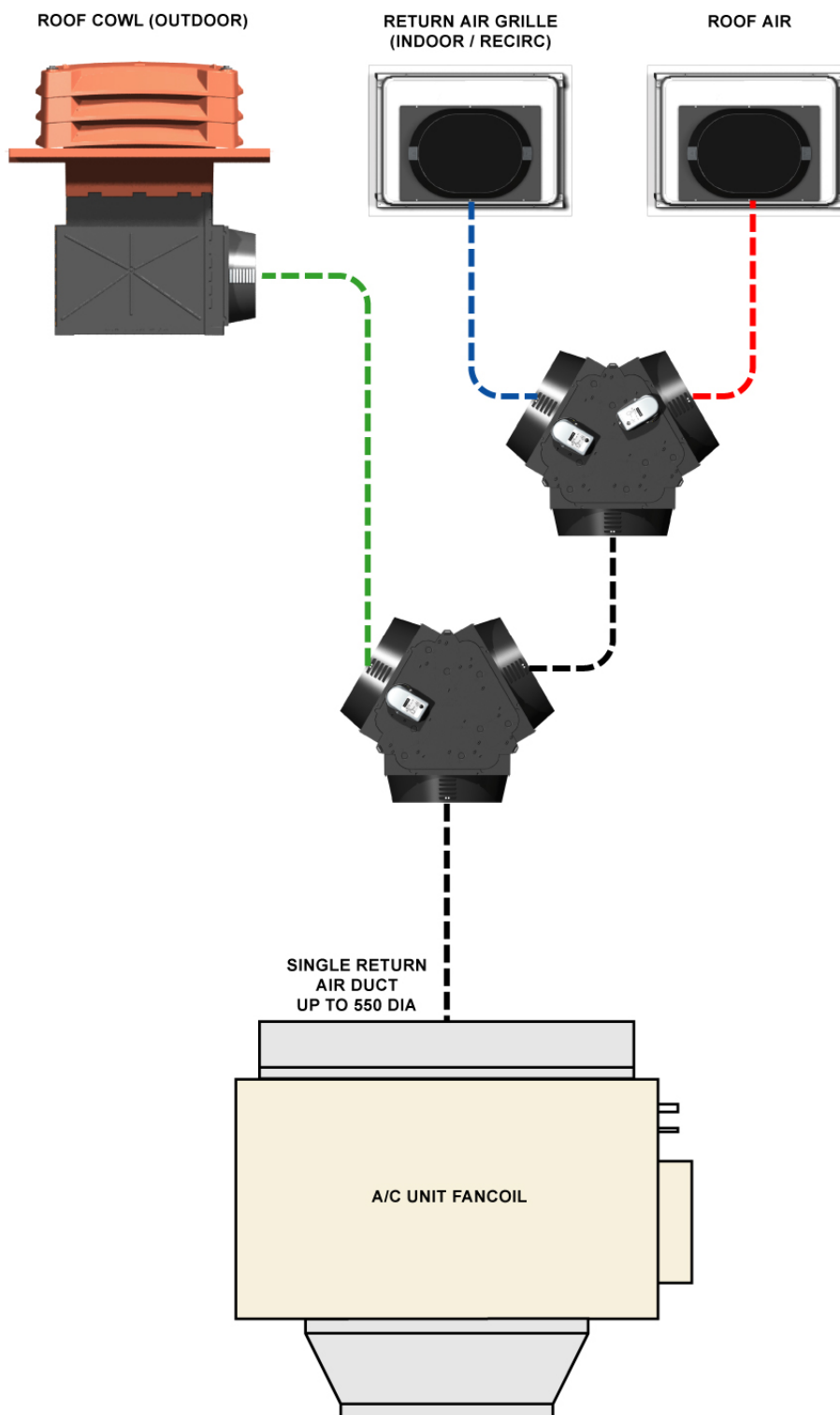


CONTROLS
FRESH AIR SYSTEM – DUCTING DIAGRAM
INSTALLATION OPTION (FASKIT3)

AdvantageAir

FRESH AIR - 3 SOURCE

SINGLE RETURN AIR DUCT UP TO 550 DIA
(SEE DETAIL WIRING DIAGRAM)

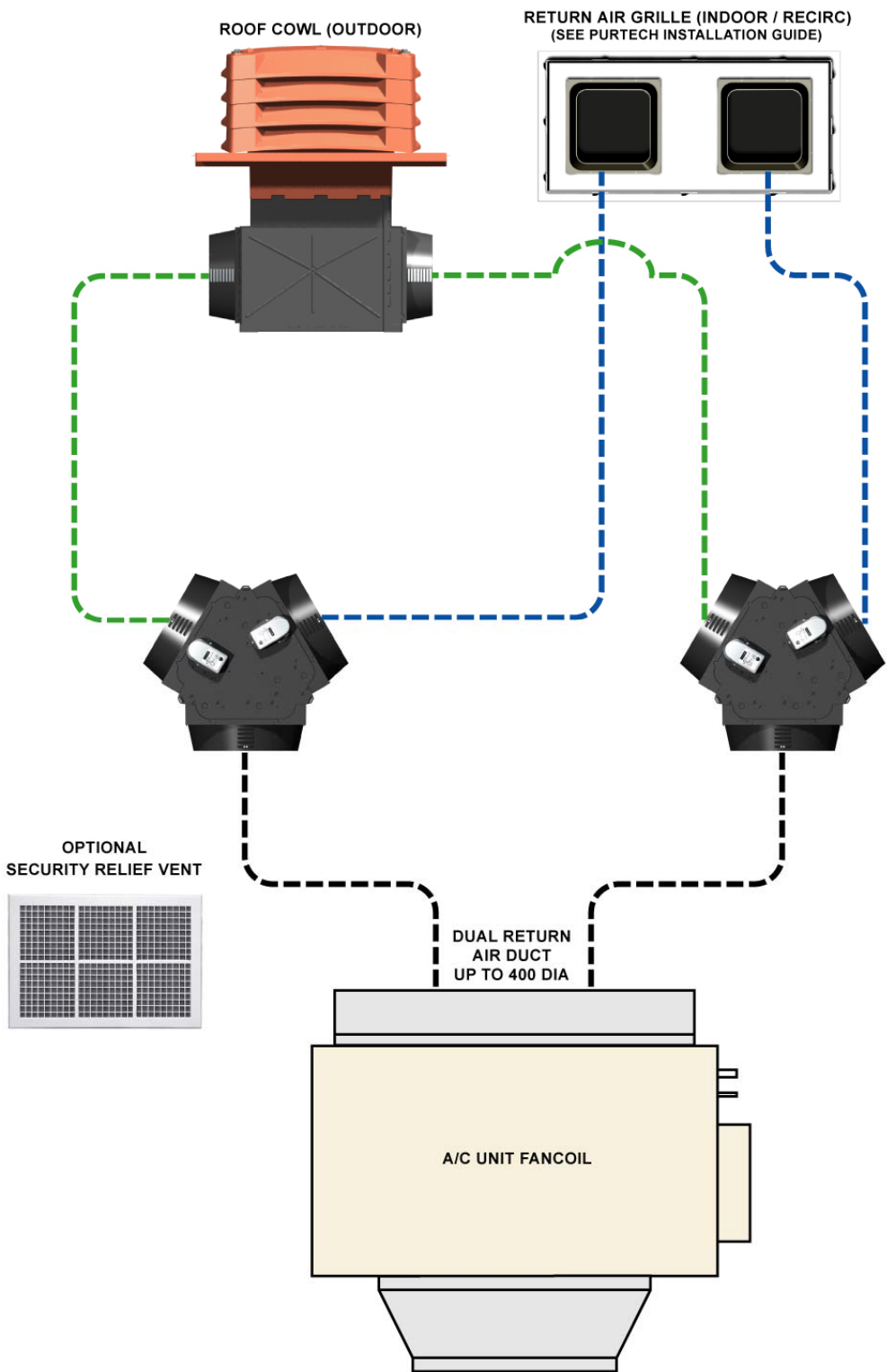


CONTROLS
FRESH AIR SYSTEM – DUCTING DIAGRAM
INSTALLATION OPTION (FADKIT2)

AdvantageAir

DUAL FRESH AIR - 2 SOURCE

DUAL RETURN AIR DUCT UP TO 400 DIA
(SEE DETAIL WIRING DIAGRAM)

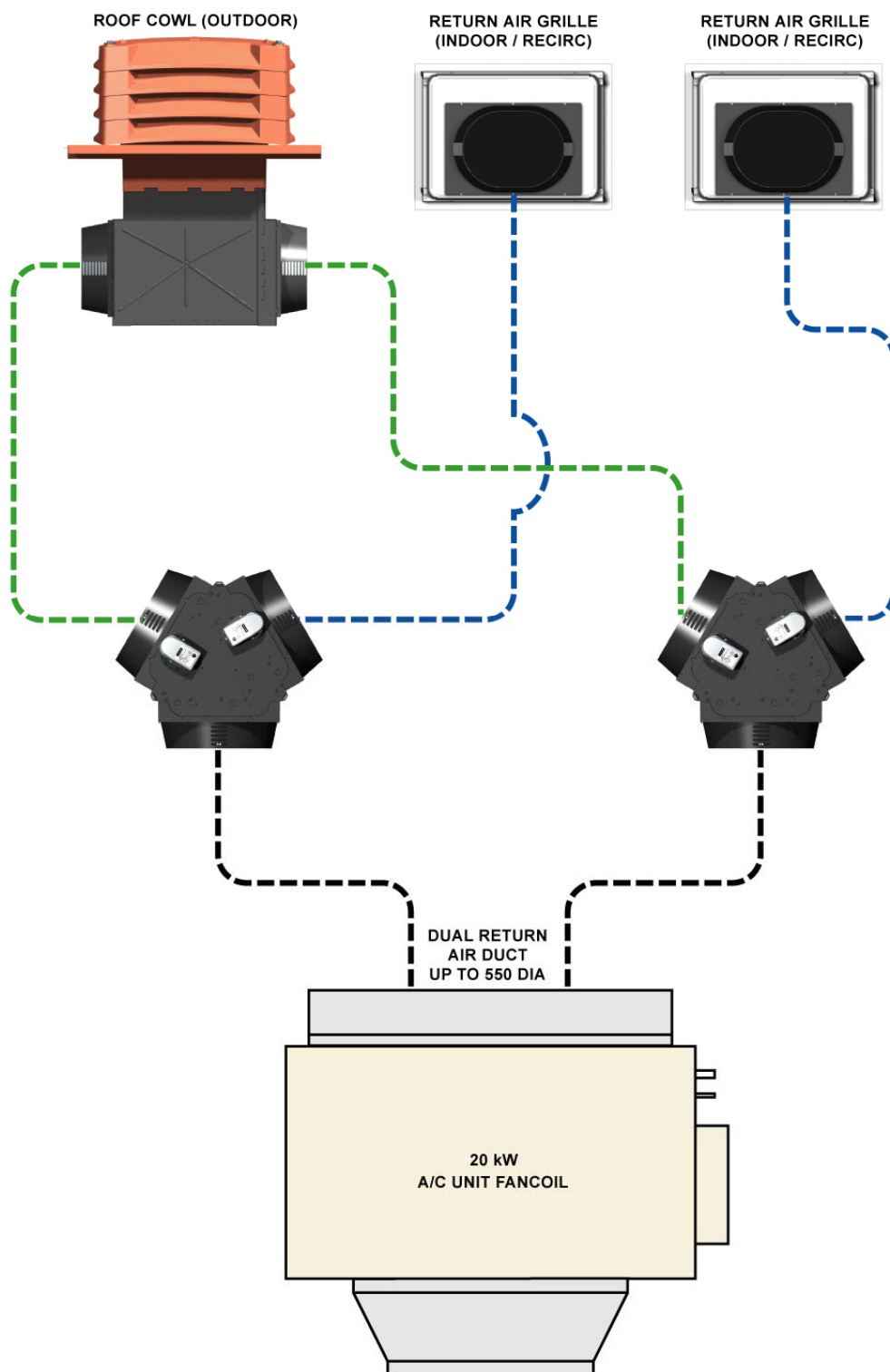


CONTROLS
FRESH AIR SYSTEM – DUCTING DIAGRAM
INSTALLATION OPTION (FADKIT2L)

AdvantageAir

DUAL FRESH AIR - 2 SOURCE

DUAL RETURN AIR DUCT UP TO 550 DIA
(SEE DETAIL WIRING DIAGRAM)

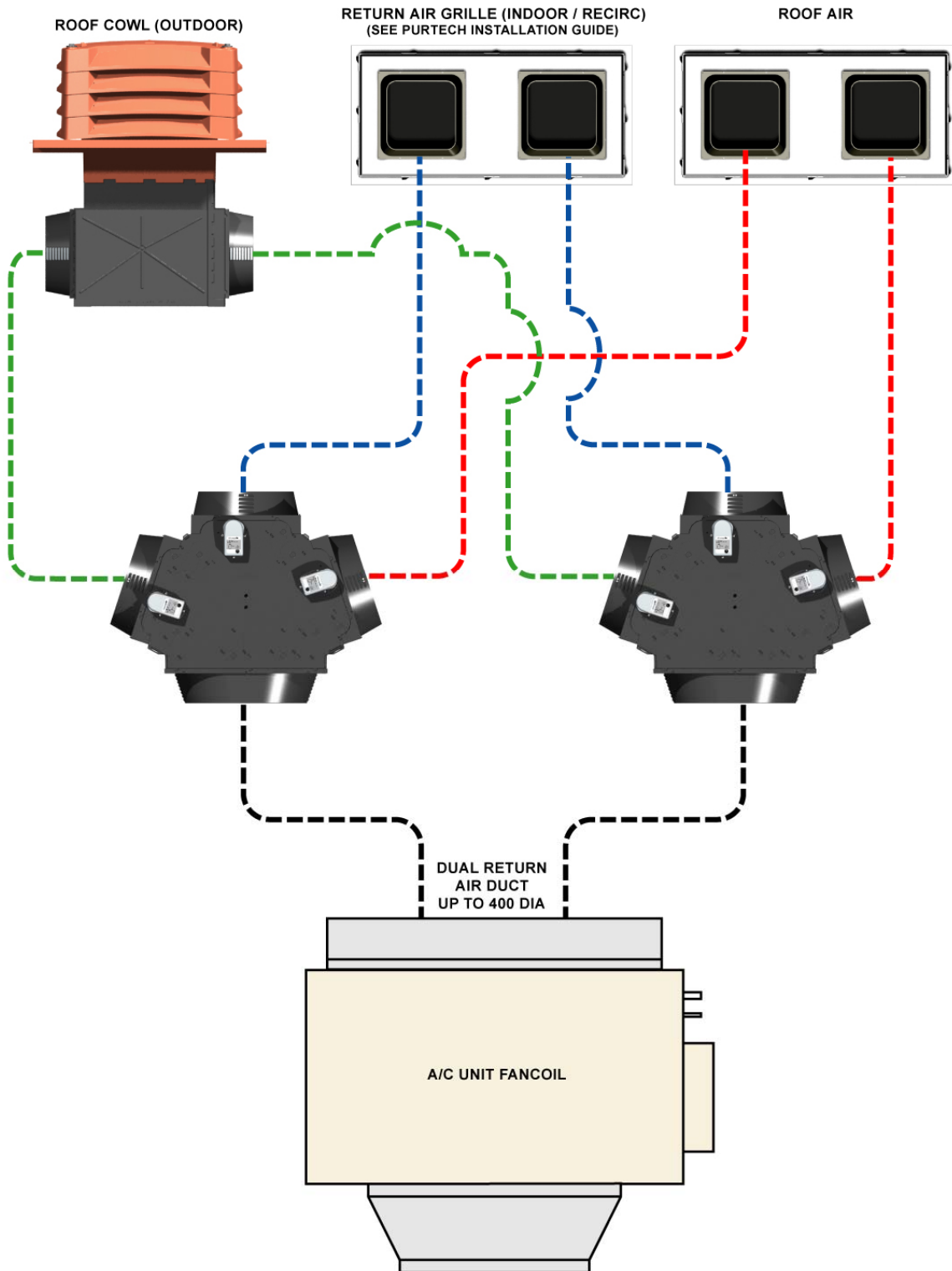


CONTROLS
FRESH AIR SYSTEM – DUCTING DIAGRAM
INSTALLATION OPTION (FADKIT3)

AdvantageAir

DUAL FRESH AIR - 3 SOURCE

DUAL RETURN AIR DUCT UP TO 400 DIA
(SEE DETAIL WIRING DIAGRAM)

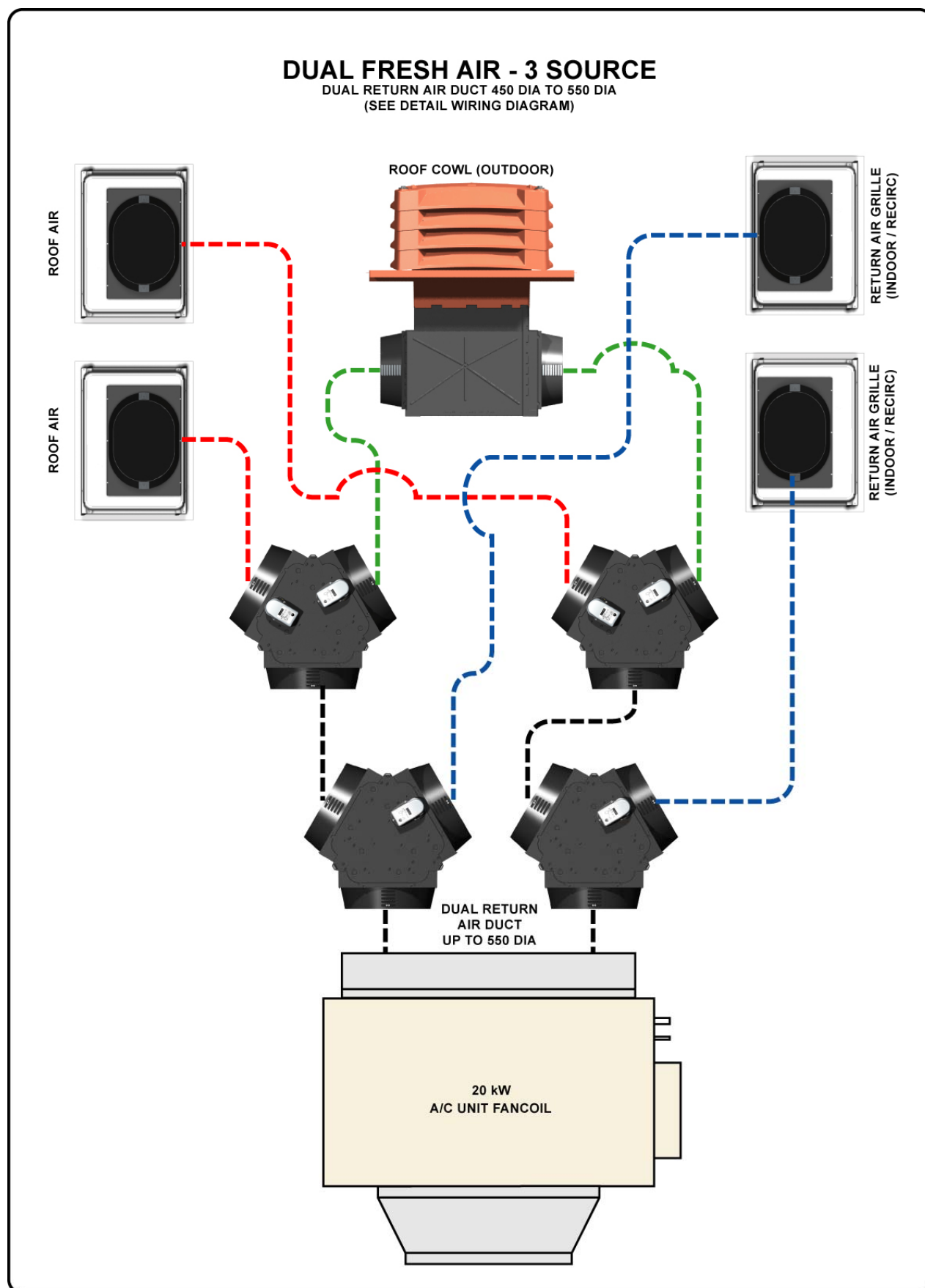


CONTROLS

FRESH AIR SYSTEM – DUCTING DIAGRAM

INSTALLATION OPTION (FADKIT3L)

AdvantageAir



*Advantage***Air**



CONTROLS STAND ALONE FRESH AIR – CONTROL SYSTEM INSTALLATION

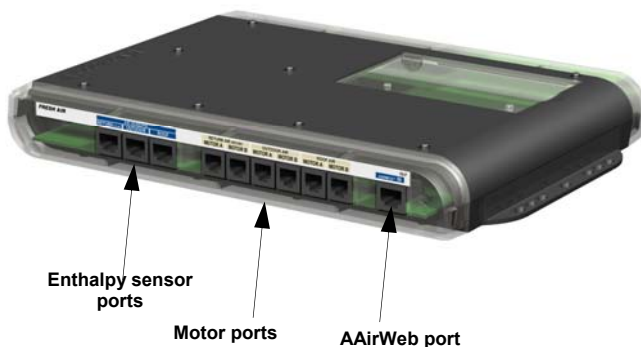
AdvantageAir

INSTALLATION

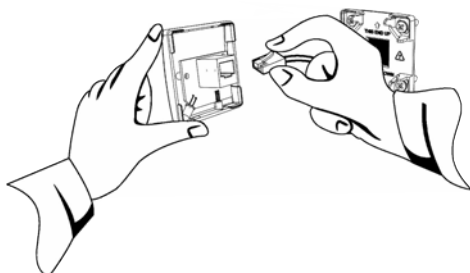
1. Locate and install the Fresh Air Control Panel, preferably next to the A/C controller.



2. Using the blue data cable provided, Connect the Fresh Air Control Panel to the AAIRWEB™ port in the Fresh Air Control Unit as per wiring diagram. ENSURE THE CABLE DOES NOT RUN NEXT TO HIGH VOLTAGE 240V LINES!



3. Set the correct dip switch setting on each Enthalpy sensor. I.e Outdoor air, Return air RECIRC or Roof air. Using the blue cables connect the sensor to the Fresh Air control box. Ensure the sensors are connected to the right port.



4. If not already installed, locate and secure the Enthalpy sensors as shown in fig 1 and 2 below. Connect the pressure sensors as shown in the photos. (optional)

FIG 1. ROOF COWL INSTALLATION OF ENTHALPY SENSOR AND PRESSURE SENSOR

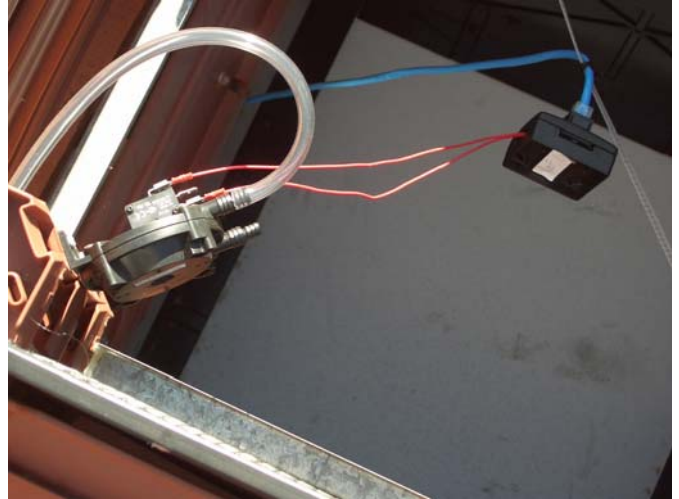
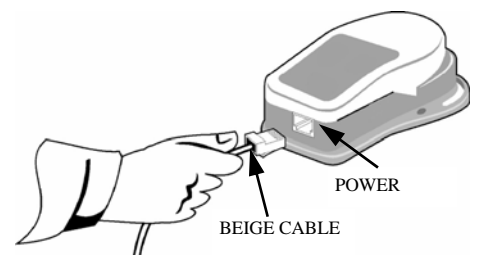


FIG 2. RETURN AIR AND ROOF AIR INSTALLATION OF ENTHALPY SENSOR AND PRESSURE SENSOR IN GRILLE



5. Connect the rest of the control system, Damper Motors, Power Supply as per the wiring diagram.



6. Power up the system by connecting the AC and DC power supplies to the Fresh Air Control Box.

CONTROLS

STAND ALONE FRESH AIR – CONFIGURATION

AdvantageAir

CONFIGURATION

7. Set up the system as follows:

Simultaneously press and hold the HEAT and OUT-DOOR buttons until the screen goes into a setup mode.

i. Use the RECIRC button to scroll through the options. Go to number of sources. Using the COOL button scroll to the number of air sources the installed system is using. Eg. Return air RECIRC and Outdoor air is 2 sources. Return air RECIRC, Outdoor air and Roof air is 3 sources. Once you have scrolled to the correct number of sources press the RECIRC button to scroll to the next step.

ii. If you selected 2 sources the next step will ask you what the second source is. You can choose between Outdoor air and Roof air. Return air RECIRC is always the first source. Using the COOL button scroll to the second source that is fitted on this installation. If 3 sources were selected under item (ii) there is no requirement to complete this step. Once you have scrolled to the correct second source press the RECIRC button to scroll to the next step.

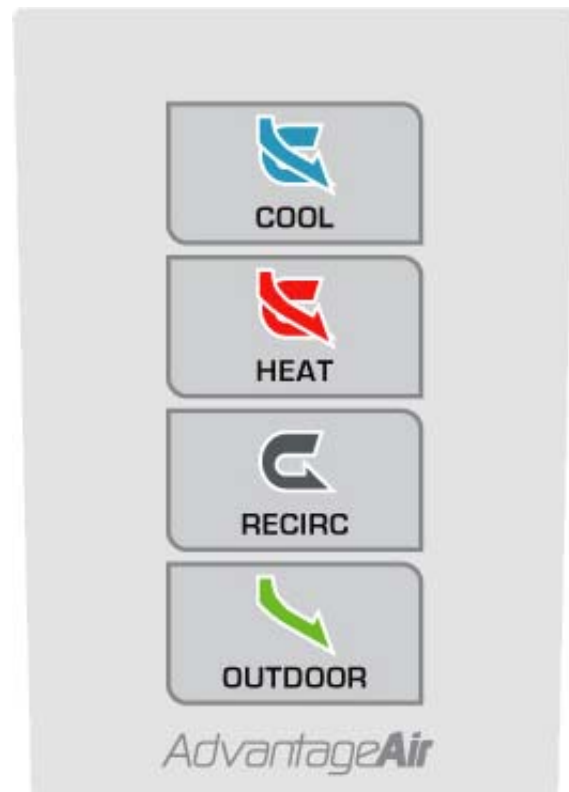
iii. At this step you will be asked to select the number of motors on each source, 1 or 2. Using the COOL button scroll to the required number of motors.

iv. At this step you are able to change the maximum and minimum % open for the dampers at each source. You can change the % open in 5% increments. Minimum settings can be between 0 and 35%. Maximum settings can be between 65 and 100%. Where only 2 sources are being used you are only required to select the maximum and minimum for the second source, the system will automatically match the return air maximum and minimum settings to ensure 100% air is always delivered back to the fan coil unit. When 3 sources have been selected maximum and minimum settings can be adjusted for both the outdoor air source and the roof air source. **WARNING** the following rules apply to this algorithm:

- MIN outdoor air and MAX roof air must be $\leq 100\%$.
- MIN roof air and MAX outdoor air must be $\leq 100\%$.

If these rules are broken a **SETUP ERROR** will be displayed and you will need to go back and adjust the % open to ensure they do not break the rules. If outdoor air and roof air are less than 100% the balance is automatically made up by the return air.

v. Press the OUTDOOR button to save changes and escape back to normal mode.



CONTROLS

STAND ALONE FRESH AIR – CONFIGURATION

AdvantageAir

VIEWING ACTUAL PARAMETERS

1. To view the current conditions press the following:
 - i. Simultaneously press and hold the COOL and OUTDOOR buttons until the screen goes into a view.
 - ii. Press the COOL button to scroll down and the HEAT button to scroll up.
 - ° T denotes dry bulb temperature
 - ° H denotes relative humidity
 - ° E denotes calculated enthalpy
 - iii. To escape back to the normal mode press the RECIRC button.
2. The following messages may be seen scrolling on the screen:
 - ° Roof filters dirty (optional)
 - ° Outdoor filters dirty (optional)
 - ° Return air filters dirty (optional)
 - ° Roof sensor fault
 - ° Outdoor sensor fault
 - ° Return air RECIRC sensor fault
 - ° Roof motor fault
 - ° Outdoor motor fault
 - ° Return air RECIRC motor fault

If filters are dirty they should be cleaned as soon as possible. Contact Advantage Air to arrange repairs if the sensors or motors are faulty.

TESTING

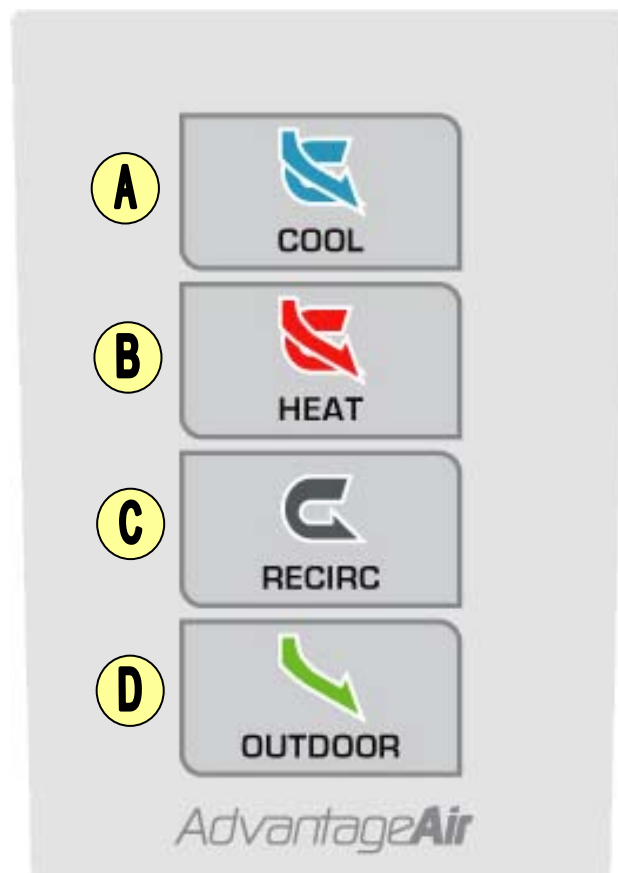
Test the system by performing the following:

1. On the Control Panel, switch to OUTDOOR. Outdoor damper motors should drive open all other sources should drive closed (unless they have a minimum setting). Check to see if the system is now running on Outdoor air. If any dampers have minimum or maximum settings check the damper position to ensure they are correct. Note—in a system with two sources and the second being roof, pressing OUTDOOR will select ROOF air.
2. Switch the Control Panel to RECIRC. RECIRC damper motors should drive open all other sources should drive closed (unless they have a minimum setting). Check to see if the system is now running on Return air only. Check minimum and maximum damper positions if set.
3. If the outdoor enthalpy is higher than the indoor enthalpy, switching the Control Panel to

COOL the system should run on Return Air RECIRC. Switching the system to HEAT will make the system run on Outdoor Air.

Note:

1. In COOL or HEAT mode, the system will only switch between indoor, outdoor or return air RECIRC only when the enthalpy differential is greater than 2.0 kJ/kg. This prevents system from hunting.
2. If minimum outdoor air quantities are specified dampers should be adjusted according to air quantity measurements not the damper position. If the required minimum air quantity falls between two minimum settings it may be necessary to trim or drill the outside air damper blade to obtain the exact amount of outdoor air required.



OPERATION

- A. During Summer, selecting COOL will optimise A/C performance as the system selects the air with the least energy from either indoor recirc, outdoor air or roof air.
- B. During Winter, selecting HEAT will optimise A/C performance as the system selects the air with the most energy from either indoor recirc, outdoor air or roof air.
- C. If RECIRC is selected the system will recirculate the maximum amount of return air.
- D. If OUTDOOR is selected the system will introduce the maximum amount of outdoor air. (Do not use this setting during extreme ambient temperatures as it will severely effect your indoor temperatures).

WARNING MESSAGES

Warning messages may appear on your screen and are of a critical nature. Some action is required to ensure the continued operation of the system. When the reason for the message is rectified the message will automatically clear after a few minutes. Below is more detail relating to the warning messages and suggested action

SCREEN MESSAGE	REASON FOR THE MESSAGE	SUGGESTED ACTION
RECIRC FILTER DIRTY	The return air filter is dirty.	1. Switch the Fresh Air system to operate in OUTDOOR MODE until the return air grille filters have been cleaned. 2. Remove and clean filter in return air grille. See maintenance section for details 3. Return Fresh Air system to normal operation.
OUTDOOR FILTER DIRTY	The filters in the outdoor roof cowl are dirty.	1. Switch the Fresh Air system to operate in RECIRC MODE until the outdoor roof cowl filters have been cleaned. 2. Remove and clean all outdoor roof cowl filters . See maintenance section for details 3. Return Fresh Air system to normal operation.
ROOF FILTER DIRTY	The filters in the roof cavity grille are dirty.	1. Switch the Fresh Air system to operate in RECIRC MODE until the outdoor roof cowl filters have been cleaned. 2. Remove and clean all in roof filters . See maintenance section for details. 3. Return Fresh Air system to normal operation
RECIRC SENSOR FAULTY, OUTDOOR SENSOR FAULTY or ROOF SENSOR FAULTY	One of the enthalpy sensors is faulty (The system will automatically default to RECIRC but the panel will display the last mode selected).	1. Switch the Fresh Air system to operate in RECIRC MODE. 2. Contact Advantage Air to repair the faulty sensor.
RECIRC MOTOR FAULTY, OUTDOOR MOTOR FAULTY or ROOF MOTOR FAULTY.	One of the Fresh air damper motors is faulty.	1. Contact Advantage Air to repair the faulty motor.

CONTROLS FRESH AIR SYSTEM – USER MANUAL

AdvantageAir

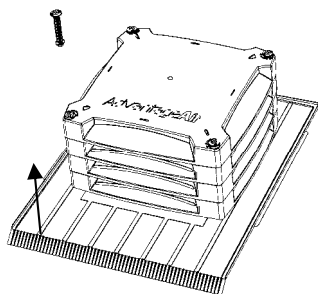
MAINTENANCE

The air filters in the system should be cleaned at least twice per year. If the dirty filter alarm option has been fitted the system will automatically advise you when any of the filters in the system require cleaning.

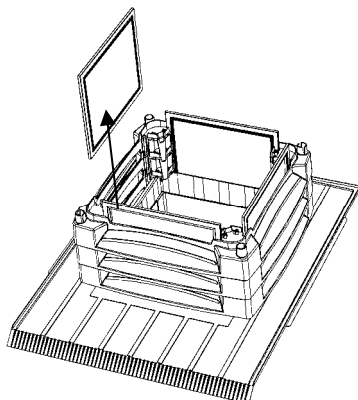
To clean your filters switch off you're A/C system. Remove them from the roof cowl and / or grille as shown below. Wash the filters in warm soapy water, rinse them in clean water and leave them to dry in the sun. Replace the filters. Secure grilles and panel etc.

REMOVING ROOF COWL FILTERS

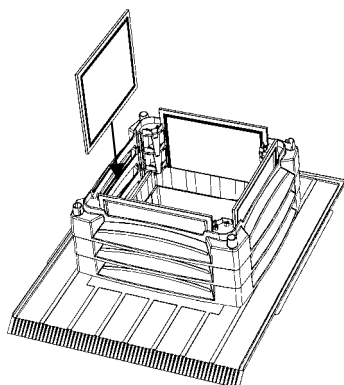
Using a large shifting spanner or your hand. Twist and remove the four lock pins on each corner. Remove the top panel of the cowl.



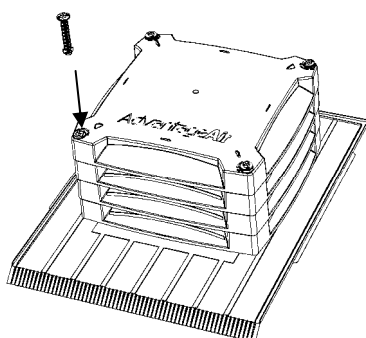
Slide the filters the filters out.



15. Once washed and dry, slide the filters in the sides of the body.

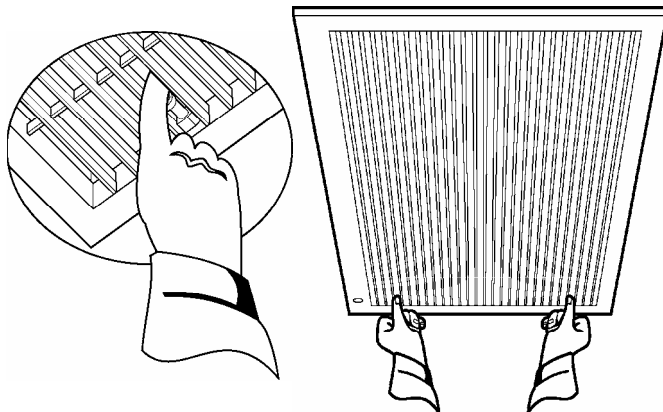


16. Fit the top and secure using lock pins on each corner. Twist and lock in place, ensure engraving triangles on the top panel and lock-pins align.

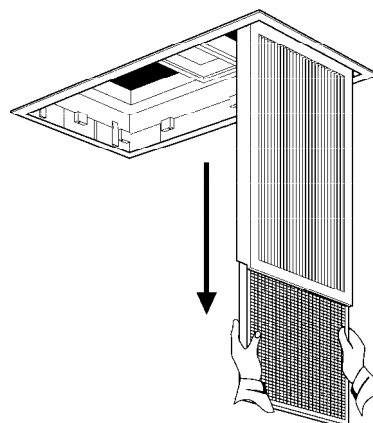


REMOVING RETURN AIR & ROOF GRILLE FILTERS

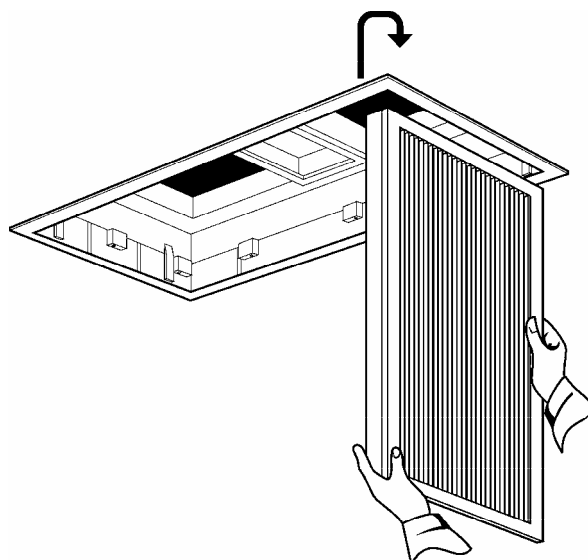
1. Unfasten the two end core clips and hinge the core down.



4. Slide the filter out from the core.
5. Wash in warm soapy water and rinse.
6. Leave in the sun to dry.



7. If the grille core requires cleaning.
8. Lift and unclip core.
9. Wash in warm soapy water, rinse and dry.



*Advantage***Air**

Diagram of the FAIRWEB™ Fresh Air Control Unit wiring and settings.

Top Section: Sensor Locations and Settings

- PURTECH (ROOF AIR):** Shows two sensor units. One is labeled "ENTHALPY SENSOR LOCATED IN PURTECH SET DIP SWITCH".
- ROOF COWL (OUTDOOR):** Shows a central outdoor air intake unit.
- RETURN AIR (RECIRC):** Shows two sensor units. One is labeled "ENTHALPY SENSOR LOCATED IN PURTECH SET DIP SWITCH".

Middle Section: Sensor Settings

- SENSOR SETTINGS:** A box containing "FRESH AIR SETTING" and "RETURN AIR SETTING".
- PURTECH (ROOF AIR):** Two sensor units labeled B and A.
- ROOF COWL (OUTDOOR):** Two sensor units labeled B and A.
- RETURN AIR (RECIRC):** Two sensor units labeled B and A.

Bottom Section: Wiring and Power

- FAIRWEB™:** A central blue line representing the main control bus.
- IN CONTROL UNIT WINDOW:** A box with a switch labeled "SET SWITCH TO INTEGRATED 2 SOURCE OR INTEGRATED 3 SOURCE".
- 240V GPO:** A power source connected to the unit.
- 24V AC:** A power source connected to the unit.
- FA (LIMITED TO 1) FRESH AIR CONTROL UNIT:** The main control unit.
- Wiring:** Blue lines connect the sensors to the FAIRWEB™ bus. Yellow lines connect the sensors to the control unit. A dashed line connects the control unit to the power source.

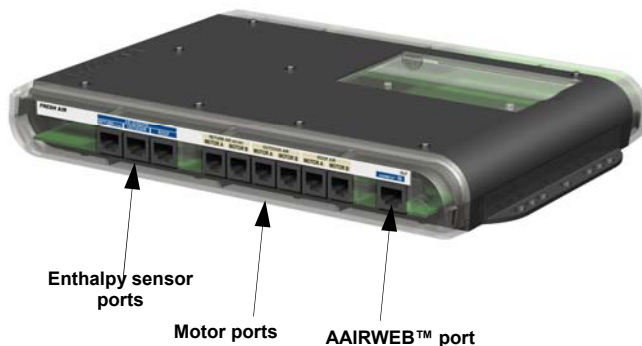


CONTROLS INTEGRATED FRESH AIR – CONTROL SYSTEM INSTALLATION

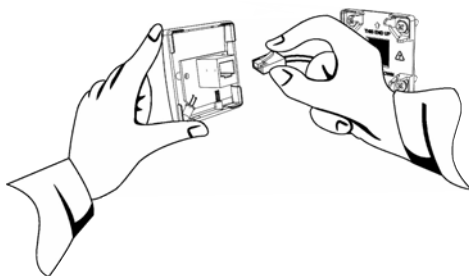
AdvantageAir

INSTALLATION

1. Set the switch on the Fresh Air Control Unit to either INTEGRATED 2 SOURCE or INTEGRATED 3 SOURCE (depending on the number of sources installed—see duct work options). Using the blue data cable provided, Connect the Fresh Air Control Unit to any AAIRWEB™ port in the GEN III control system. ENSURE THE CABLE DOES NOT RUN NEXT TO HIGH VOLTAGE 240V CABLES!



2. Set the correct dip switch setting on each Enthalpy sensor. I.e Outdoor air, Return air RECIRC or Roof air. Using the blue cables connect the sensor to the Fresh Air Control Unit. Ensure the sensors are connected to the right port.



3. If not already installed, locate and secure the Enthalpy sensors as shown in fig 1 and 2 below. Connect the pressure sensors as shown in the photos. (optional)

FIG 1. ROOF COWL INSTALLATION OF ENTHALPY SENSOR AND PRESSURE SENSOR

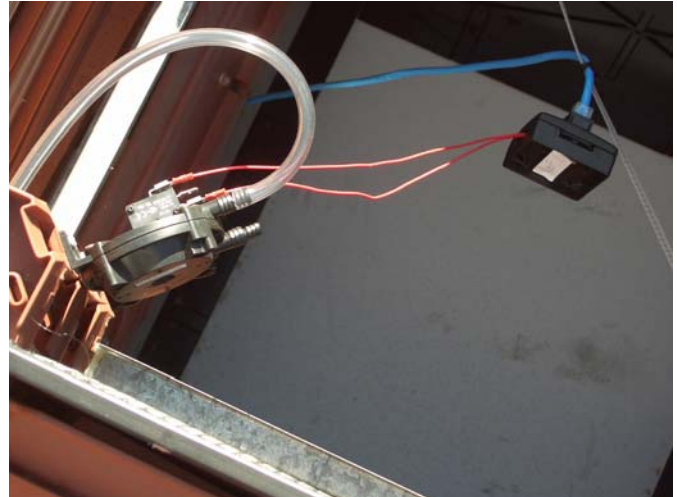
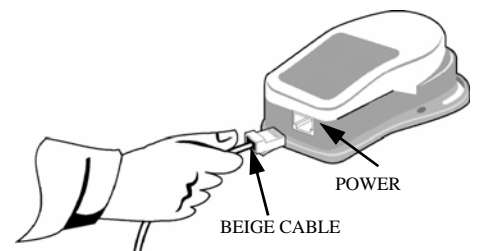


FIG 2. RETURN AIR AND ROOF AIR INSTALLATION OF ENTHALPY SENSOR AND PRESSURE SENSOR IN GRILLE



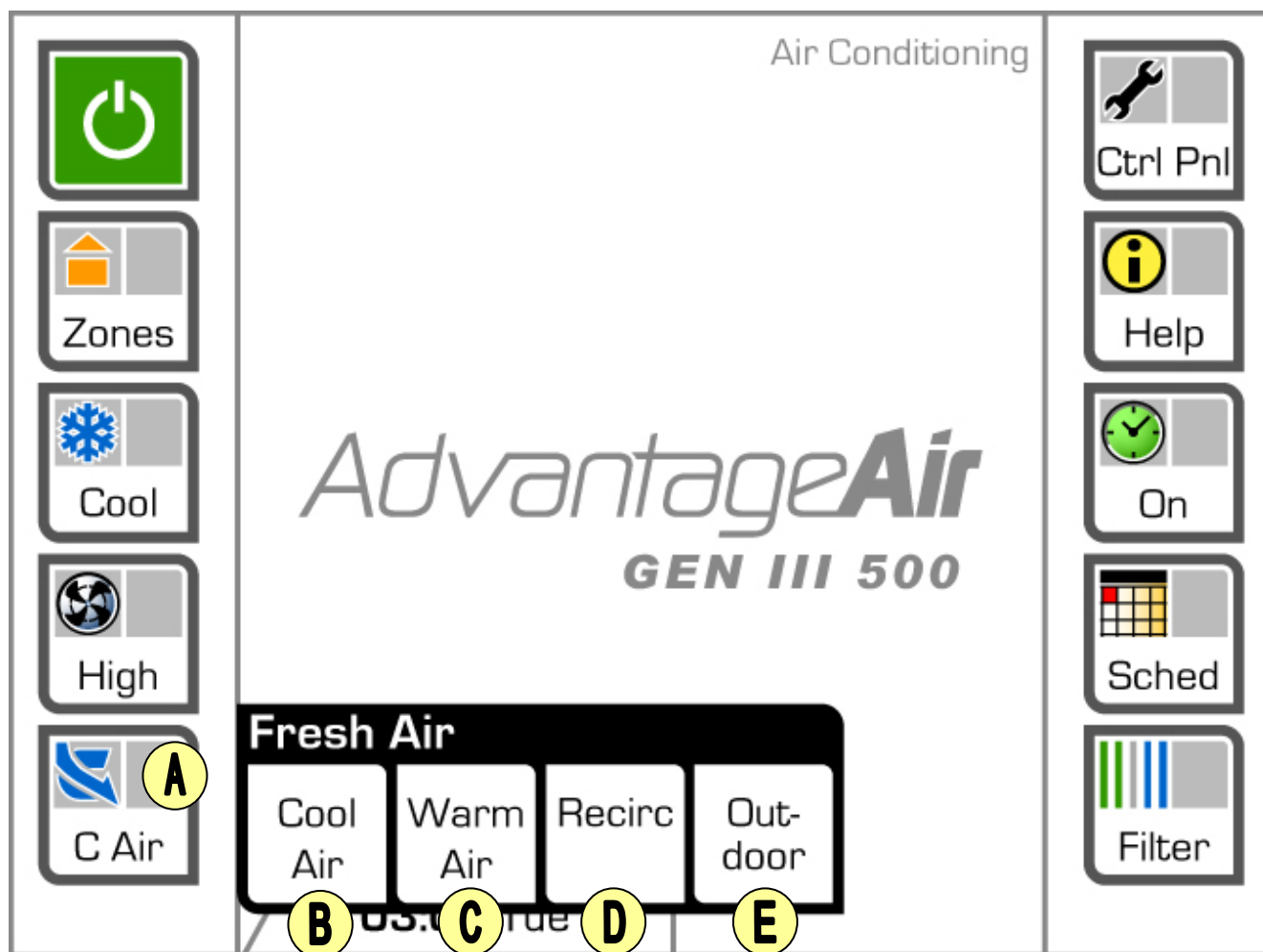
4. Connect the rest of the control system, Damper Motors, Power Supply as per the wiring diagram.



5. Power up the system by connecting the AC and DC power supplies to the Fresh Air Control Unit.

CONTROLS INTEGRATED FRESH AIR – USER MANUAL

AdvantageAir

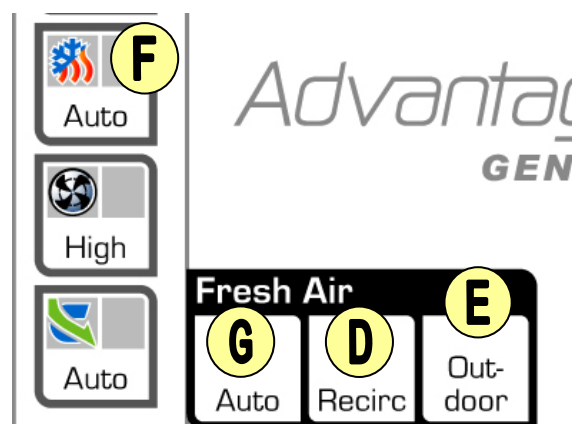


- A. When in the main menu (FIG 1) press this button and the Fresh Air menu will roll out for you to select one of four options described below. This feature is optional and will not appear if the Fresh Air Unit is not installed.
- B. In Cool Air the system will select the air source with the lowest enthalpy (least energy) and should be used in conjunction with the Cooling or Vent modes.
- C. In Warm Air the system will select the air source with the highest enthalpy (most energy) and should be used in conjunction with the Heating or Vent modes.
- D. In RECIRC the system will recirculate up to 100% indoor air.
- E. In Outdoor the system will introduce up to 100% outdoor air.

When in placed on inappropriate setting, indoors

temperatures may drift and cause discomfort. If in doubt set the system to run in RECIRC.

- F. When the A/C mode is set to Auto, the Fresh Air options are changed.
- G. In Auto A/C cooling or heating mode the Fresh Air system will find the most appropriate setting to maximize energy savings



CONTROLS

FRESH AIR SYSTEM – USER MANUAL

AdvantageAir

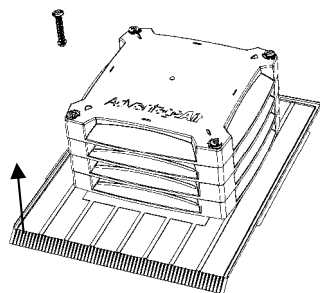
MAINTENANCE

The air filters in the system should be cleaned at least twice per year. If the dirty filter alarm option has been fitted the system will automatically advise you when any of the filters in the system require cleaning.

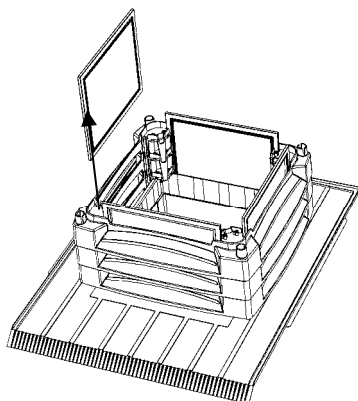
To clean your filters switch off you're A/C system. Remove them from the roof cowl and / or grille as shown below. Wash the filters in warm soapy water, rinse then in clean water and then leave them to dry in the sun. Replace the filters. Secure grilles and panel etc.

REMOVING ROOF COWL FILTERS

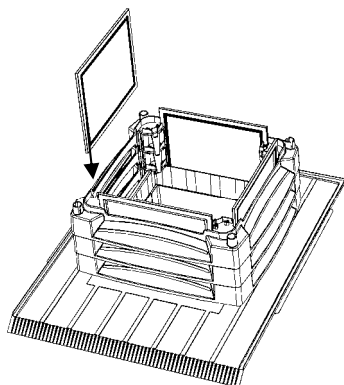
Using a large shifting spanner or your hand. Twist and remove the four lockpins on each corner. Remove the top panel of the cowl.



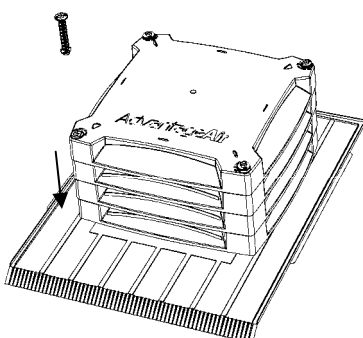
Slide the filters the filters out.



15. Slide the filters in the sides of the body.

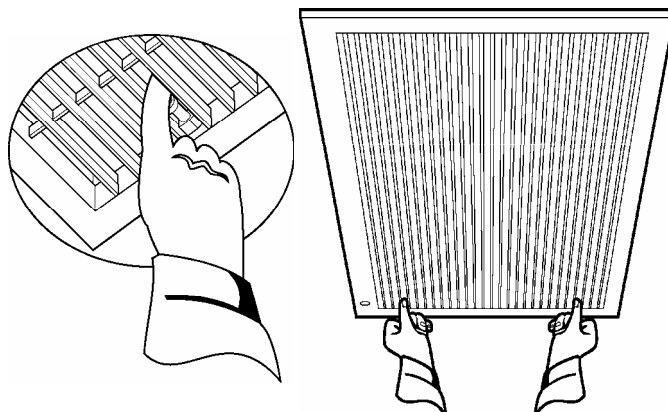


16. Fit the top and secure using lockpins on each corner. Twist and lock in place, ensure engraving triangles on the top panel and lock-pins align.

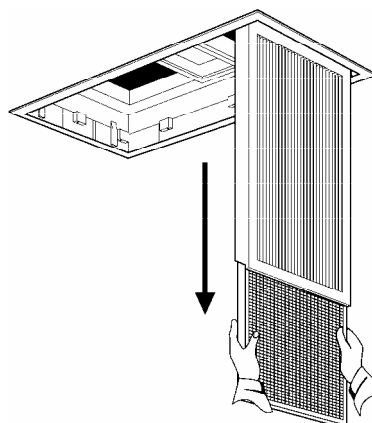


REMOVING RETURN AIR & ROOF GRILLE FILTERS

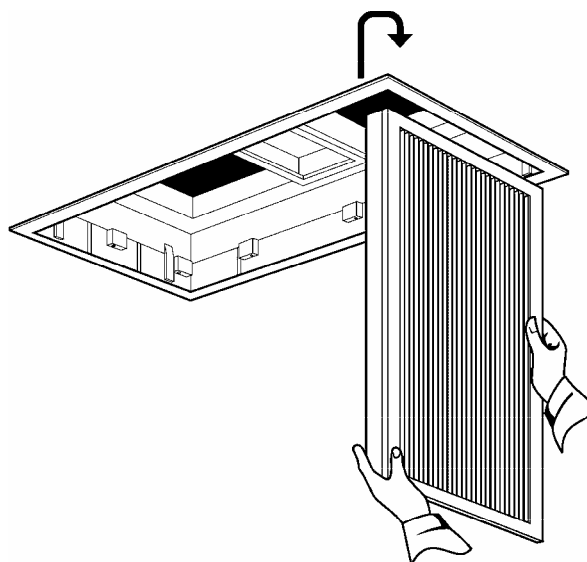
1. Unfasten the two end core clips and hinge the core down.



4. Slide the filter out from the core.
5. Wash in warm soapy water and rinse.
6. Leave in the sun to dry.



7. If the grille core requires cleaning.
8. Lift and unclip core.
9. Wash in warm soapy water, rinse and dry.



PURE AIR

CONTROLS PURE AIR FILTER BOX

AdvantageAir



FEATURES

- 3 stage filtration system
 - * Stage 1 is a 50mm thick Vee form disposable pre-filter that has an average atmospheric dust spot efficiency range of 30~35% as per ASHRAE standard 52.1 test method.
 - * Stage 2 is a 100mm thick high efficiency disposable filter that has an average atmospheric dust spot efficiency range of 90~95% as per ASHRAE standard 52.1 test method.
 - * Stage 3 is a three dimensional photo catalyst, titanium dioxide ultra violet radiation sterilizer (TiO_2).
- A dedicated fan is mounted in the housing to draw the air through the filter media.
- Typically installed to partially filter the air conditioning systems return air but can also be installed to filter 100% of supply air to an individual room. Can also be used to reticulate the air in a room
- When used as a partial return air filter it will clean and sterilize all the air in a typical well sealed house (150m^2) in approximately 30 minutes.
- Fitted with alarms to alert the occupants when any of the filters are dirty and require replacement.

BENEFITS

- Maintains clean healthy air quality throughout the home.
- Excellent for allergy or asthma sufferers. Removes sub micron particles such as dust, pollen, and bacteria.
- Effective destruction of the following:
 - * Escherichia Coli (E-Coli)
 - * Salmonella Typhimurium
 - * Pasteurella
 - * Coronavirus (transmissible gastroenteritis virus)
 - * Japan encephalitis virus.
- Removes many common household odours.

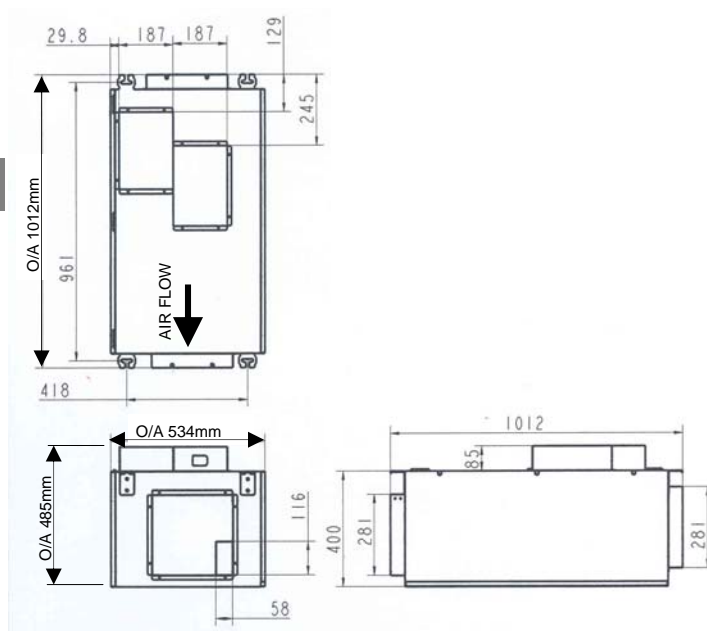
OPTIONAL EXTRAS

- Can be used as a standalone device with its own controls.
- Can be fully integrated to operate on Advantage Air's GEN III touch panel systems.
- Standard Advantage Air 200, 250 and 300 diameter neck adaptors clip onto the filter box for flexible duct connection.

CONSTRUCTION

- Double skin insulated sheet metal casing with hinged access door.
- Uses AAIRWEB™ technology

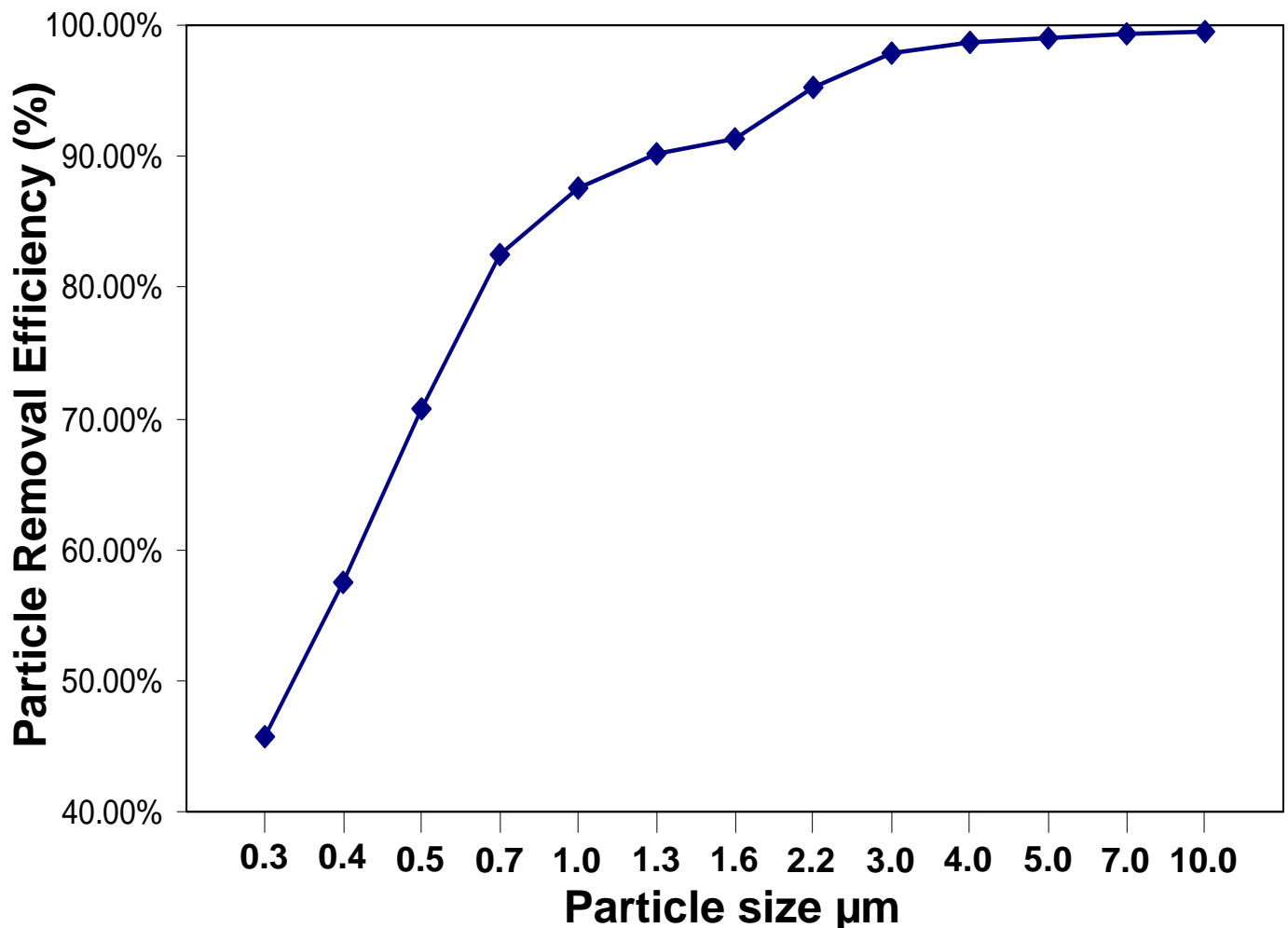
DIMENSIONS



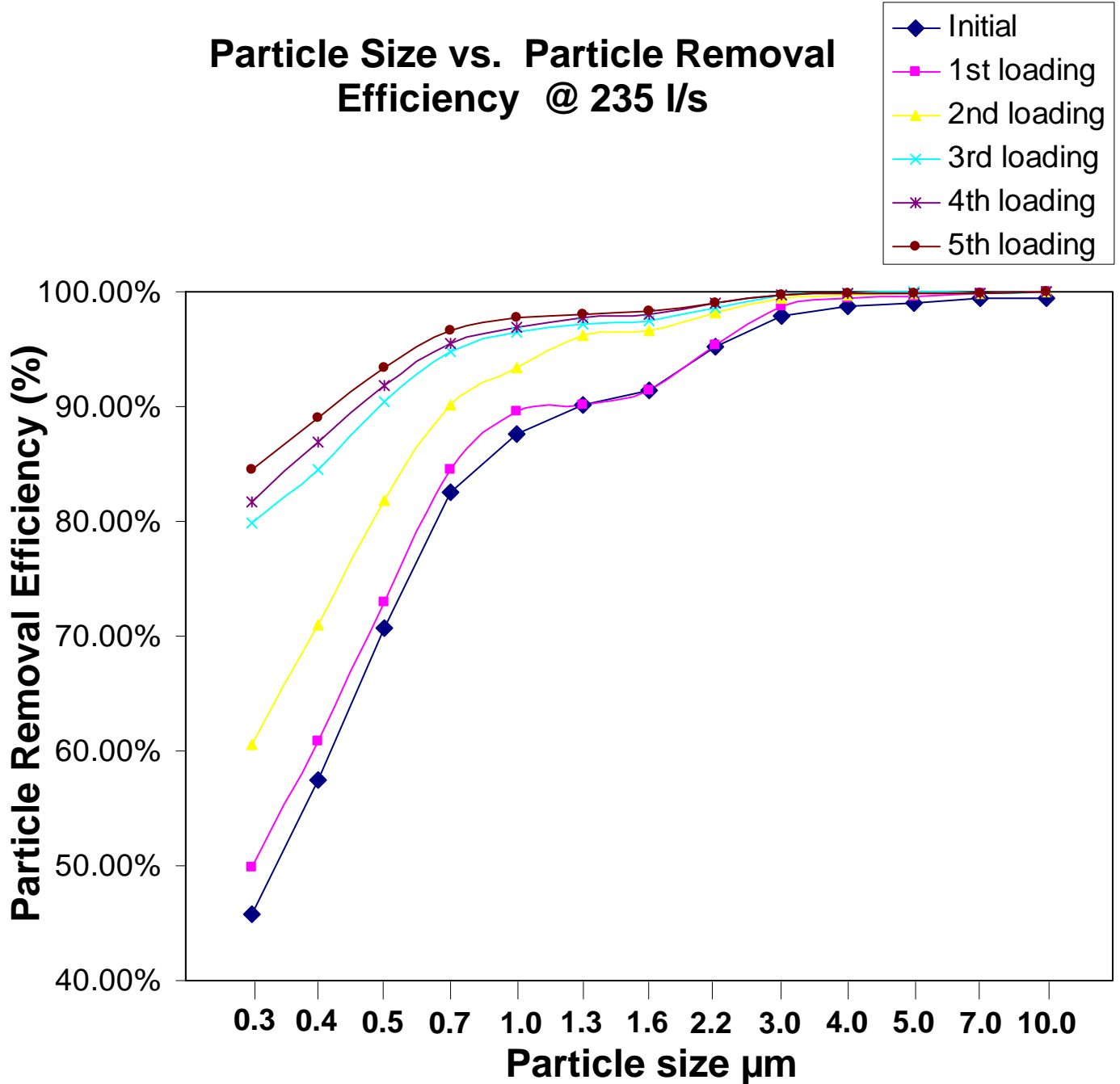
TEST DATA FOR PURE AIR FILTER BOX

- Tested to ANSI/ASHRAE standard 52.2-1999
- Rated air flow 235l/s
- Initial resistance 137 Pa
- Final resistance 354 Pa
- Dust holding capacity 96.1 grams
- Composite Average Efficiencies
 - E1= 64.1%
 - E2= 91.1%
 - E3= 98.8%

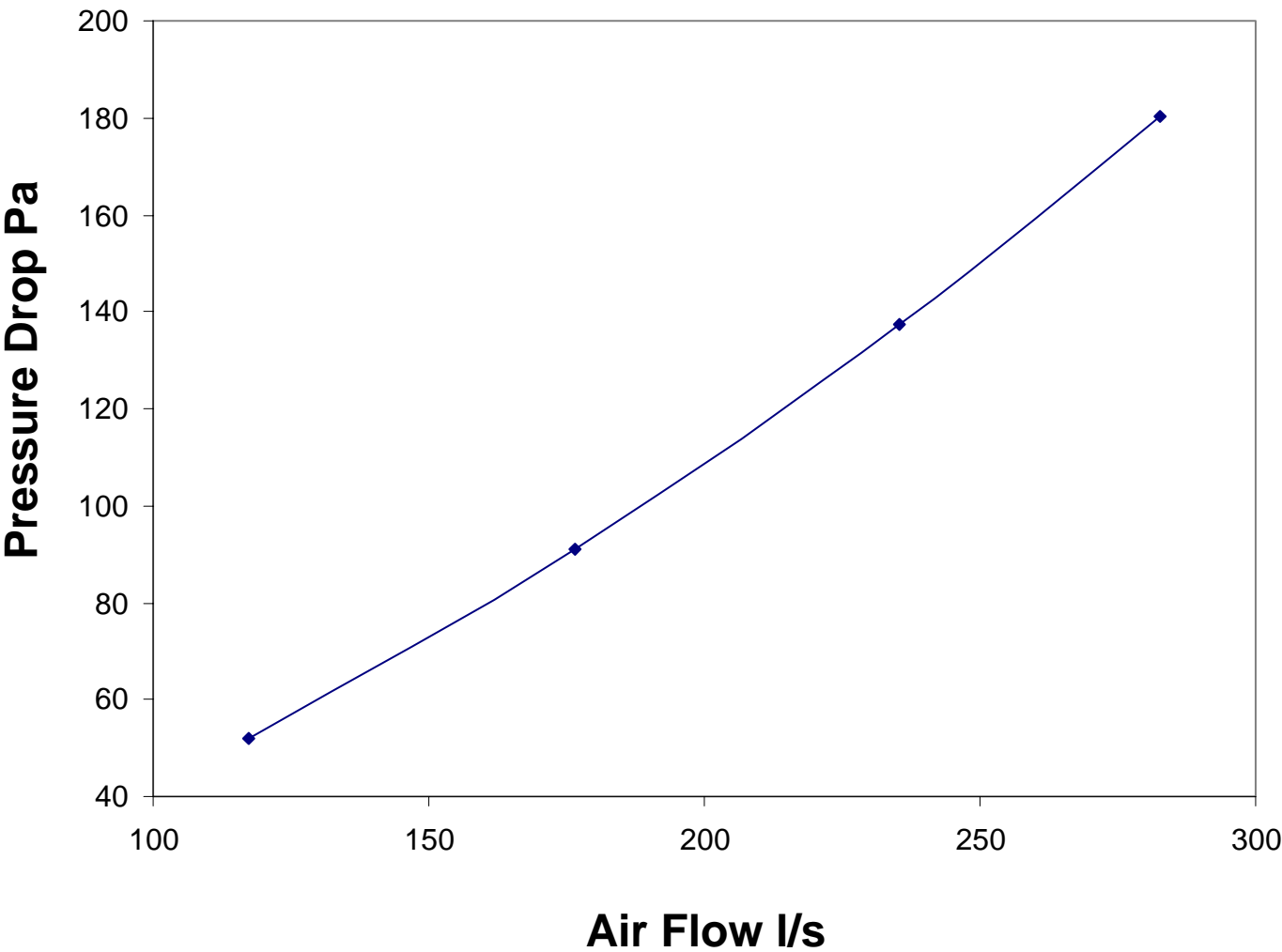
Particle Size vs. Composite Particle Removal Minimum Efficiency Curve @ 235 l/s



Particle Size vs. Particle Removal Efficiency @ 235 l/s



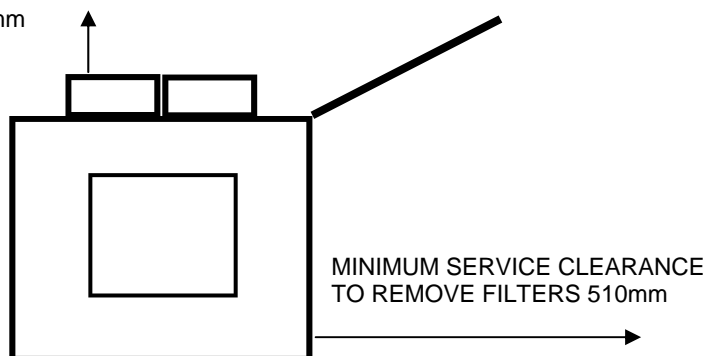
Pressure Drop vs. Air flow



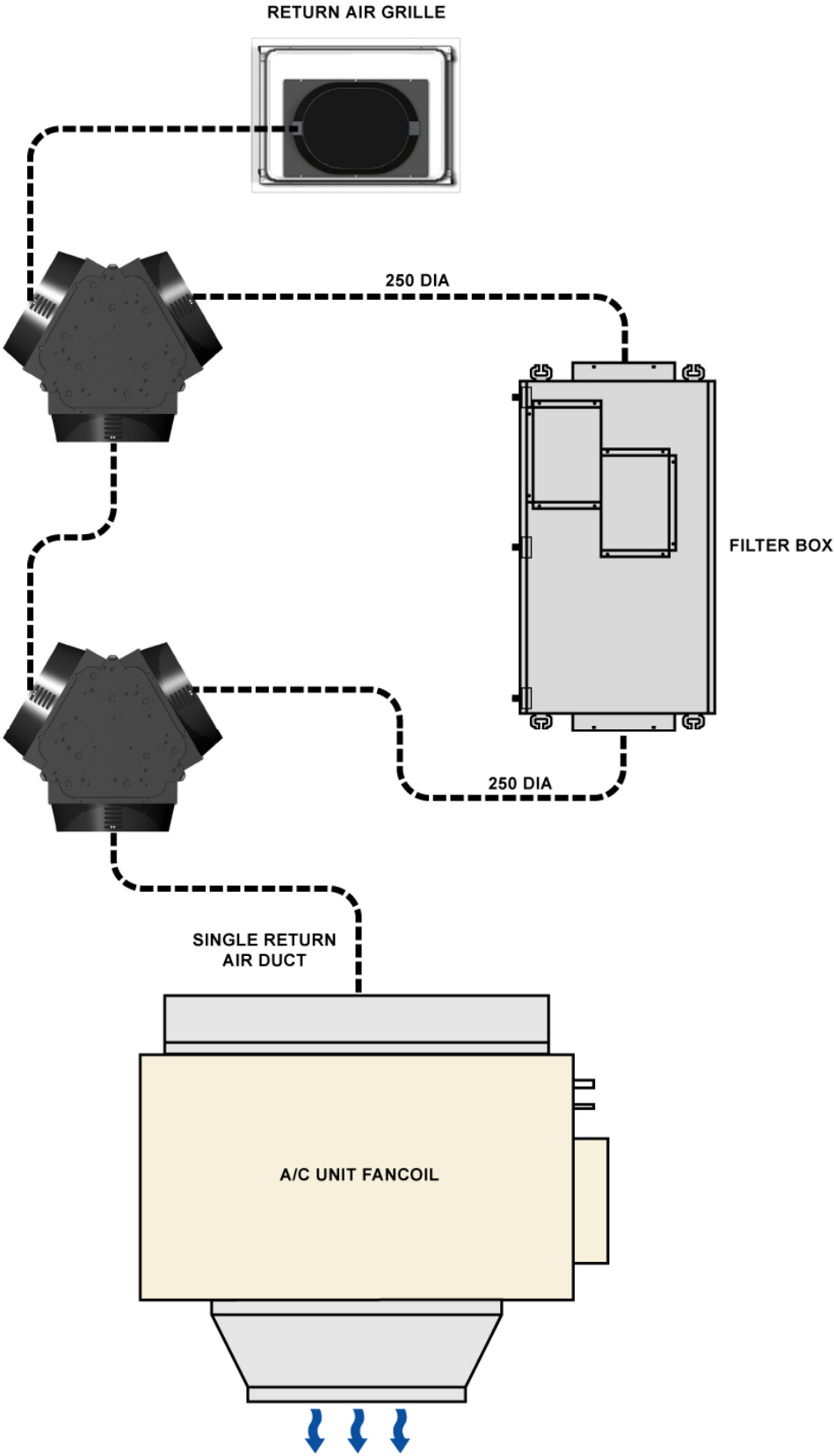
FILTER BOX INSTALLATION

- Unit must be installed in accordance with all national and local safety codes.
- Ensure the direction of air flow is correct.
- The unit should be hung from the roof structure and suitable anti vibration mountings must be used to minimize the transfer of vibration to the building.
- The minimum maintenance clearance must be maintained to ensure adequate serviceability.
- Screw plastic neck adaptors to the square metal spigots and seal them with duct tape.
- Connect the flex ductwork.
- It is recommended that the flexible duct is supported using hanging strap 1 meter from the filter box.
- In high humidity areas it may be necessary to install a condensate safety tray under the unit.

MINIMUM SERVICE CLEAR-
ANCE ABOVE UNIT 105mm

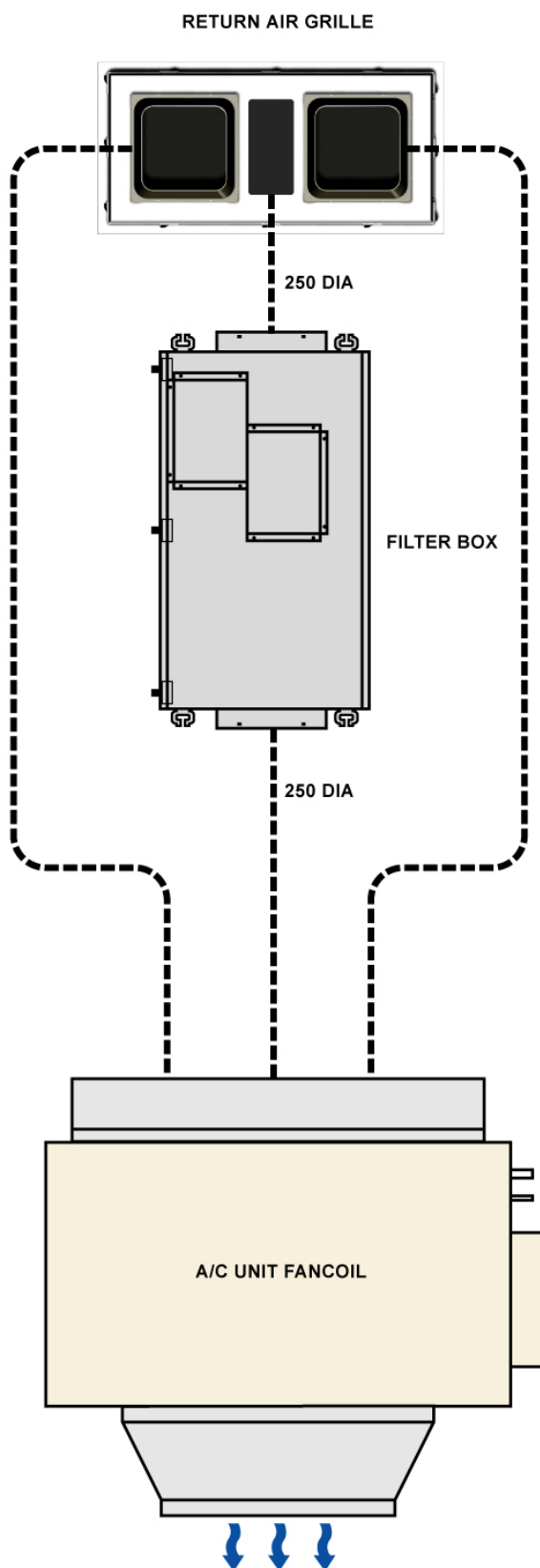


CONTROLS
PURE AIR – DUCTING DIAGRAM
SUGGESTED CONFIGURATION 1



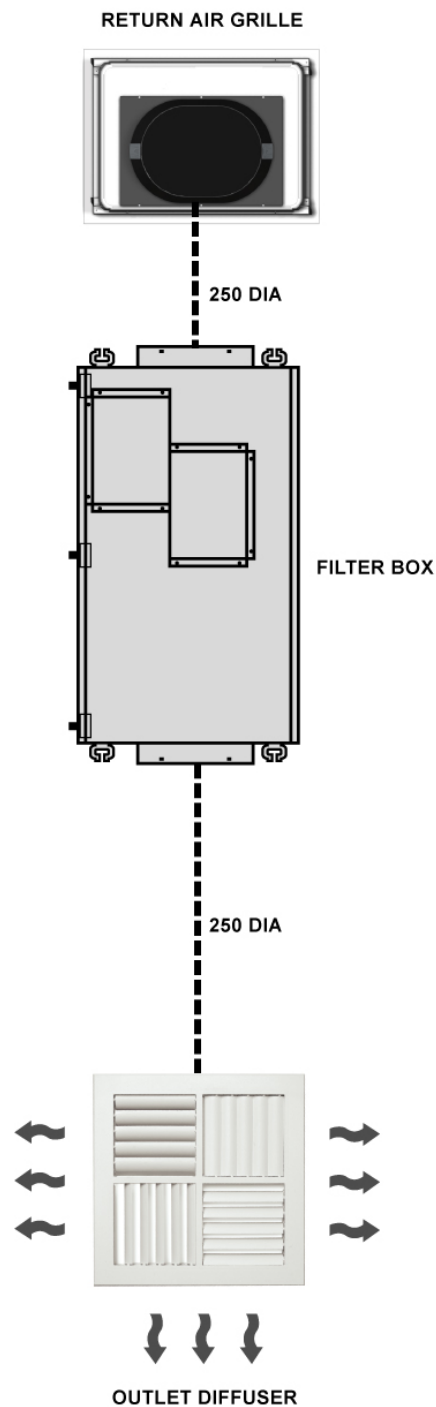
CONTROLS
PURE AIR – DUCTING DIAGRAM
SUGGESTED CONFIGURATION 2

AdvantageAir



CONTROLS
PURE AIR – DUCTING DIAGRAM
SUGGESTED CONFIGURATION 3

AdvantageAir



CONTROLS PURE AIR STAND ALONE – CONTROL SYSTEM INSTALLATION

AdvantageAir

INSTALLATION

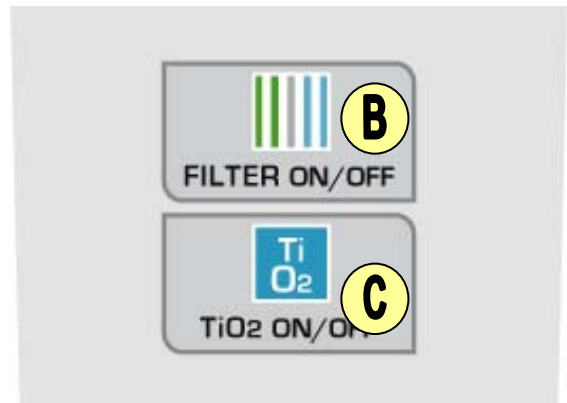
1. Locate and install the Pure Air Control Panel, preferably next to the A/C controller.
2. Using the blue data cable provided, Connect the Pure Air Control Panel to the AAIRWEB™ port on the Pure Air Filter Box as per wiring diagram. **ENSURE THE CABLE DOES NOT RUN NEXT TO HIGH VOLTAGE 240V LINES!**
3. Connect the 12 V DC power supply from the high voltage box to the control box as per the wiring diagram.
4. Install a 3 Pin GPO within 1.5 meters of the Pure Air Filter Box.
5. Connect the 240V IEC power cord from the high voltage control box to the 3 Pin power point as per the wiring diagram.
6. Switch on the power to the unit.



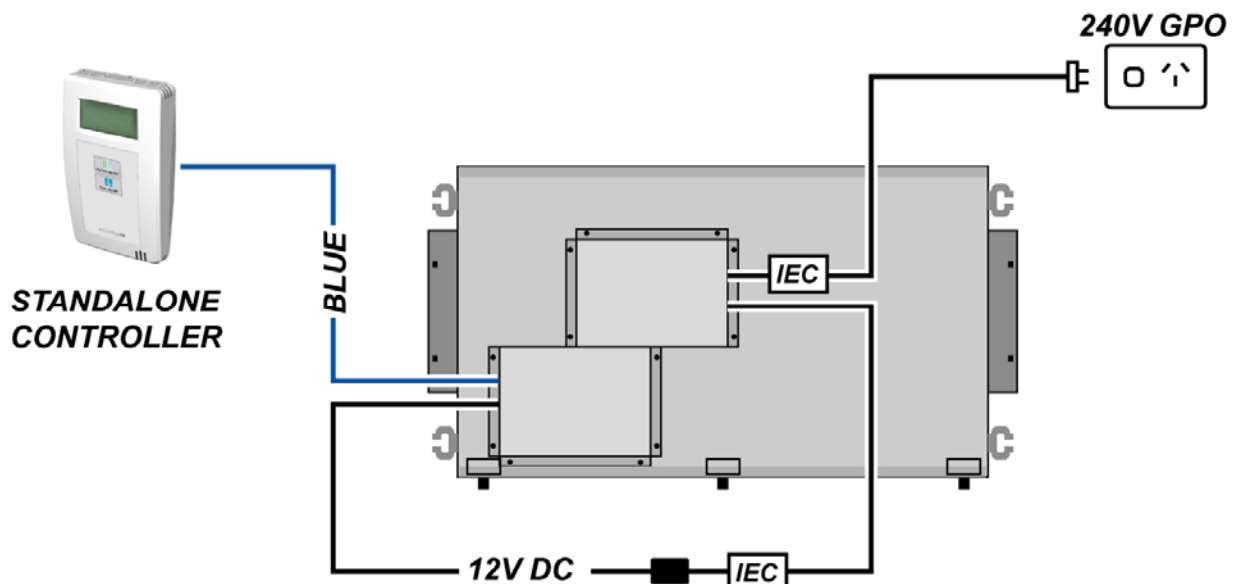
TESTING & COMMISSIONING

Test the system by performing the following:

- A. Check all the filters are installed with the air flow in the correct direction.
- B. From the control panel switch the Filter ON. Check the fan to ensure it is running and the air flow is in the correct direction.
- C. Switch the Filter ON and the TiO² ON. Check to ensure the fan is running and both lamps are illuminated.
- D. Switch the Filter OFF and leave the TiO² ON. Check to ensure the fan and lamps are all off.
- E. Ensure there are no alarms relating to DIRTY FILTERS
- F. Close the access door and ensure all thumb screws are tight.
- G. Check for air leaks and seal with silicone or duct tape.
- H. Instruct the owner in the operation of the system.



WIRING



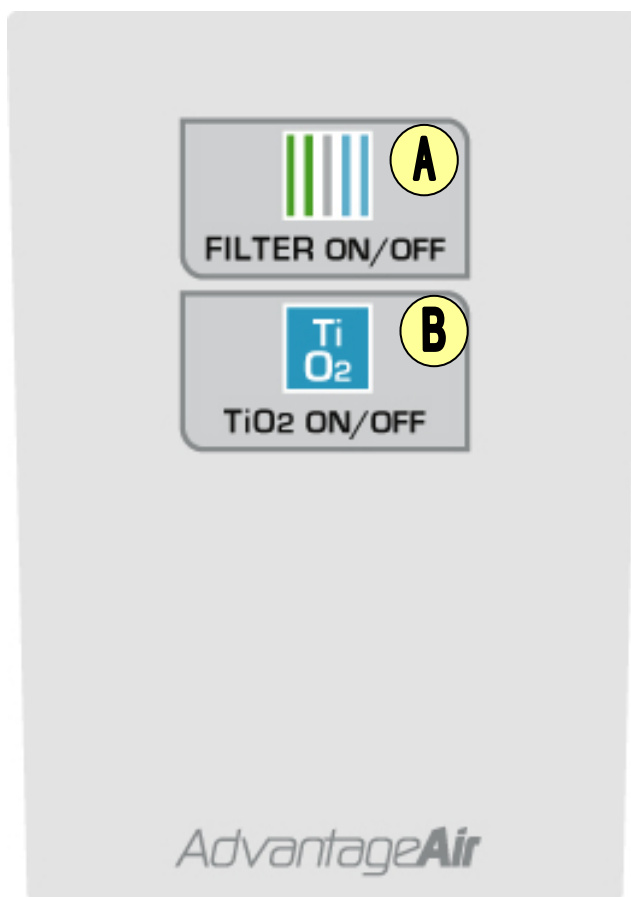
CONTROLS PURE AIR STAND ALONE – USER MANUAL

AdvantageAir



OPERATION

- A. Ensure all the external doors and windows are closed. Switch the air conditioning unit ON (if fitted as part of an air conditioning system). Press the ON/OFF button (A) to switch the Filter ON. The filter should be run for a minimum of 60 minutes to ensure a high level of filtration.
- B. The TiO_2 will assist with the destruction of bacteria and viruses. Press the TiO_2 ON button (B). The TiO_2 is ineffective if switched ON when the Filter is OFF so always run the TiO_2 and Filter together. The system is designed to automatically switch off the TiO_2 when the Filter is OFF.
- C. If at anytime a "DIRTY FITLER!" message is displayed on the screen contact Advantage Air to arrange service and replacement of the filter requiring attention. The service person will also advise if it is appropriate to change the other filters or the TiO_2 lamps at the time of service.



CONTROLS PURE AIR / GEN III INTEGRATED – CONTROL SYSTEM INSTALLATION

AdvantageAir

INSTALLATION

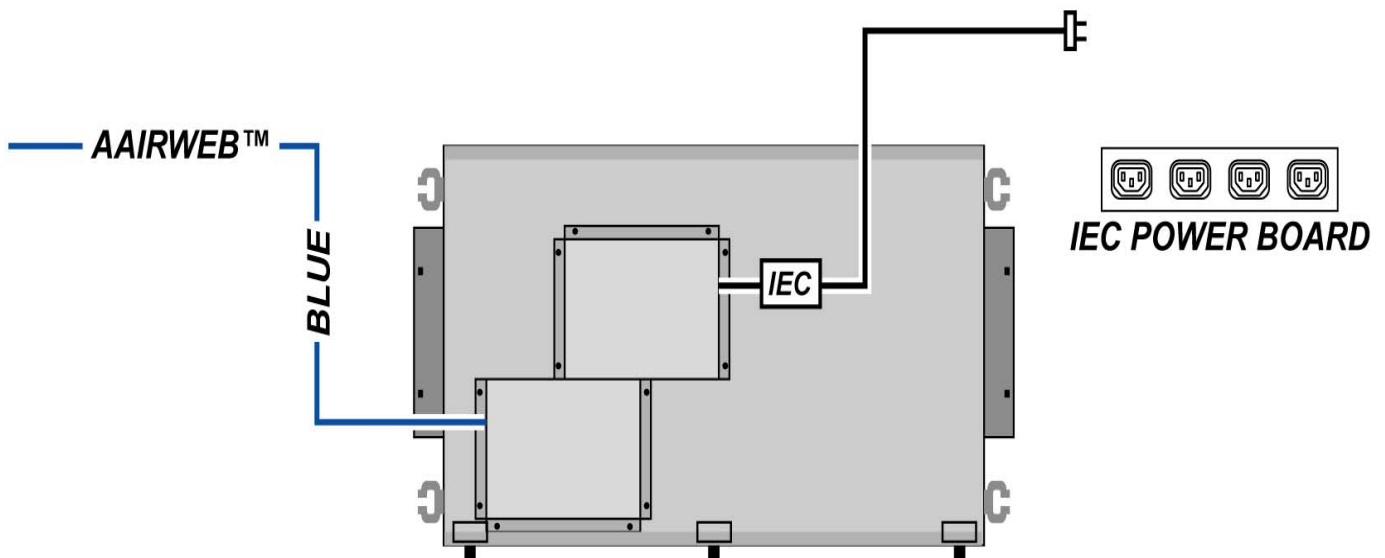
1. Using the blue data cable provided, Connect the Pure Air Filter box to any AAIRWEB™ port on the Gen III control system as per wiring diagram. ENSURE THE CABLE DOES NOT RUN NEXT TO HIGH VOLTAGE 240V LINES!
2. Install an 240V IEC power cord from the Pure Air Filter Box to any IEC power point on the GEN III control system. If there are no spare IEC points you will need to install an IEC distribution board first as per the wiring diagram.

TESTING & COMMISSIONING

Test the system by performing the following:

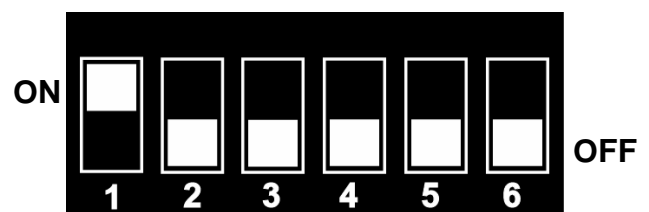
- A. Check all the filters are installed with the air flow in the correct direction.
- B. From the Touch panel switch the Filter ON. Check the fan to ensure it is running and the air flow is in the correct direction.
- C. Switch the Filter ON and the TiO² ON. Check to ensure the fan is running and both lamps are illuminated.
- D. Switch the Filter OFF and leave the TiO² ON. Check to ensure the fan and lamps are all off.
- E. Ensure there are no alarms relating to DIRTY FILTERS
- F. Close the access door and ensure all thumb screws are tight.
- G. Check for air leaks and seal with silicone or duct tape.
- H. Instruct the owner in the operation of the system.

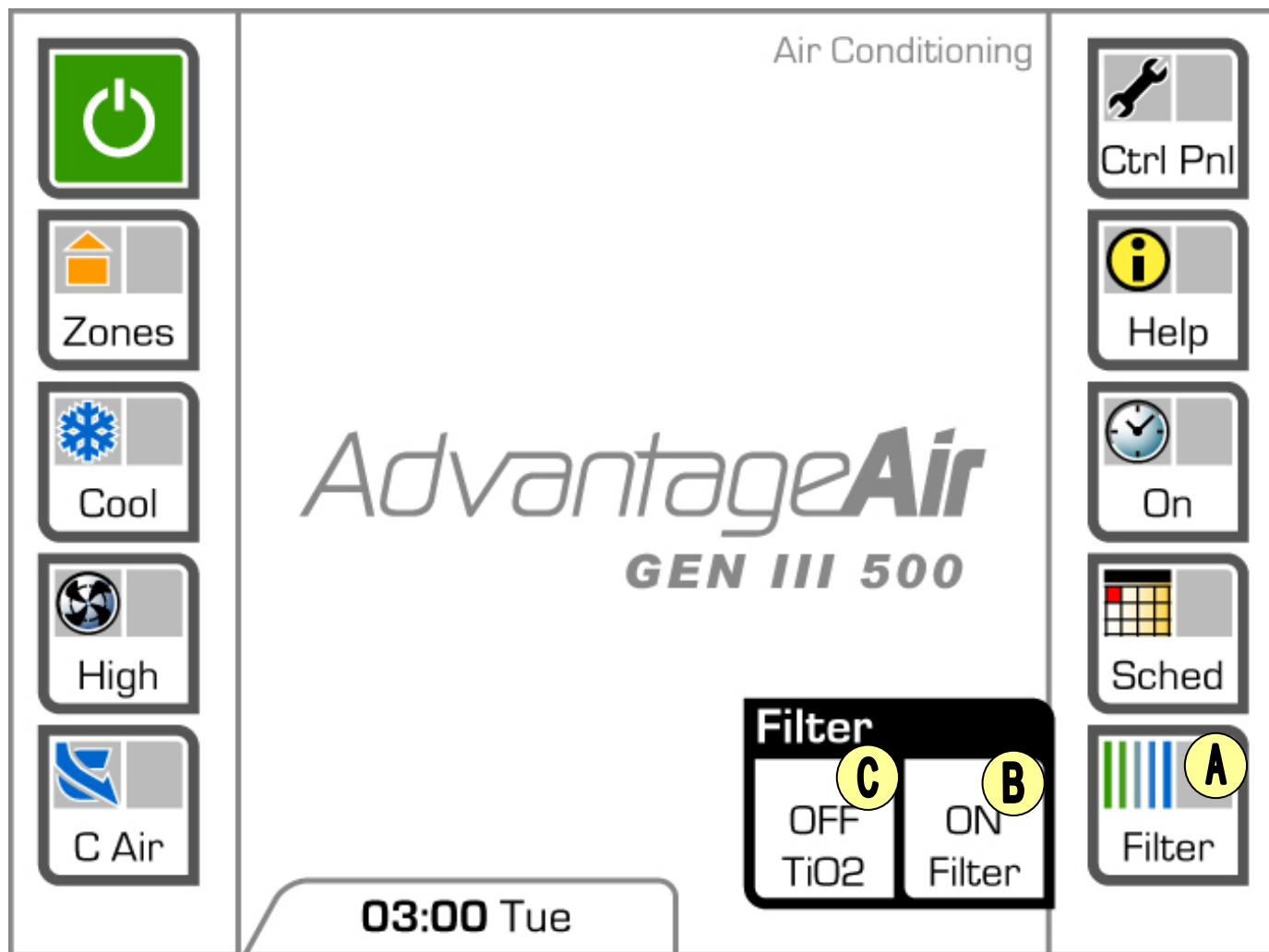
WIRING



DIPSWITCH SETTING

The typical dipswitch setting for the filter located in the return air path is as shown below. This is the factory default setting and should not be altered.





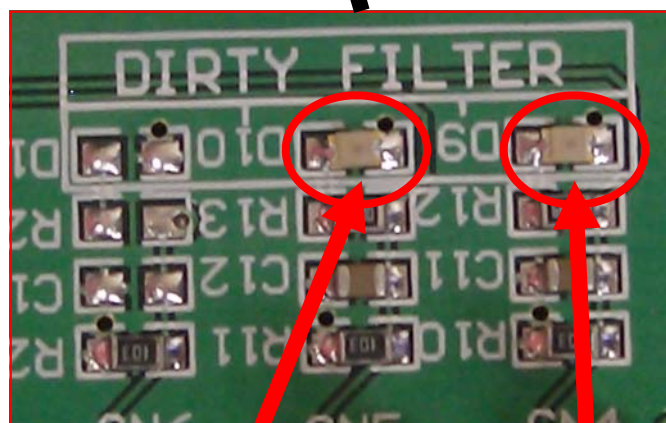
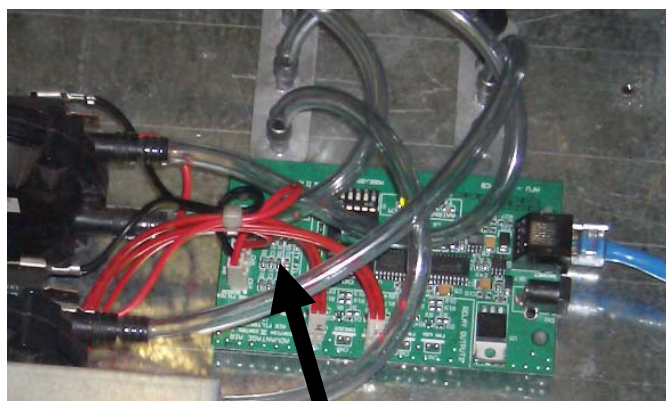
- A. When in the main menu (FIG 1) press this button and the Pure Air Filter module will roll out for you to select two options described below. This feature is optional and will not appear if the Pure Air Filter Unit is not installed.
- B. Ensure all the external doors and windows are closed. Switch the air conditioning system ON. Press this button to switch the Filter ON . The filter should be run for a minimum of 60 minutes to ensure a high level of filtration.
- C. Press this button to turn the TiO² ON. The TiO² is ineffective if switched ON when the Filter is OFF so always run the TiO² and Filter together. The system is designed to automatically switch off the TiO² when the Filter is OFF.
- D. If at anytime the following warning message is received “High efficiency filters dirty”. Please contact Advantage Air to arrange service and replacement of the filter requiring attention.

The service person will also advise if it is appropriate to change the other filters or the TiO² lamps at the time of service.

SERVICING

The control panel will cycle the message DIRTY FILTER! To indicate that one or more of the filters in the Pure Air filter box require replacement. To replace the filters undertake the following:

- A. Ensure the filter is on. Unscrew the control panel cover on the Pure Air filter box.
- B. One or more of the DIRTY FILTER LED'S will be illuminated indicating which filter requires replacement. See picture below



**MEPA filter
LED**

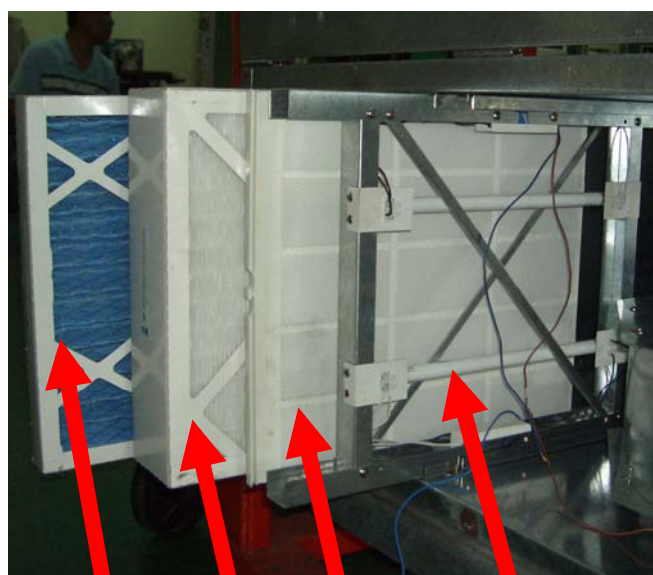
Pre filter LED

- C. Turn the FILTER OFF.
- D. Open the access panel and remove the dirty filter.
- E. Install a new filter, ensuring the air flow direction is correct.
- F. Turn the FILTER ON and check the UV lamps. If any of the lamps are faulty replace both lamps and both capacitors.
- G. Check the TiO_2 filter media and wash with warm soapy water if necessary.

- H. Close the access panel and screw closed.
- I. Check Dirty Filter LED's again.
- J. Check the pressure drop across the filter that was not replaced to ensure it has sufficient life not to require replacement. The readings should be :
 - * Pre filter: less than 90 Pa
 - * MEPA filter: less than 190 Pa

If the pressure drop is greater than the those stated above the other filter should also be replaced at this time .

- K. Replace the sheet metal control panel cover.
- L. Check the Control Panel to ensure correct operation and no dirty filter messages are present.



Pre filter

Mepa filter

TiO_2 media

UV lamps

OTHER CONTROLS

CONTROLS ZONE STATION III

AdvantageAir



TOUCH PANEL & STYLUS



MASTER CONTROL



24V DAMPER
MOTOR



TYPICAL
CABLE

FEATURES

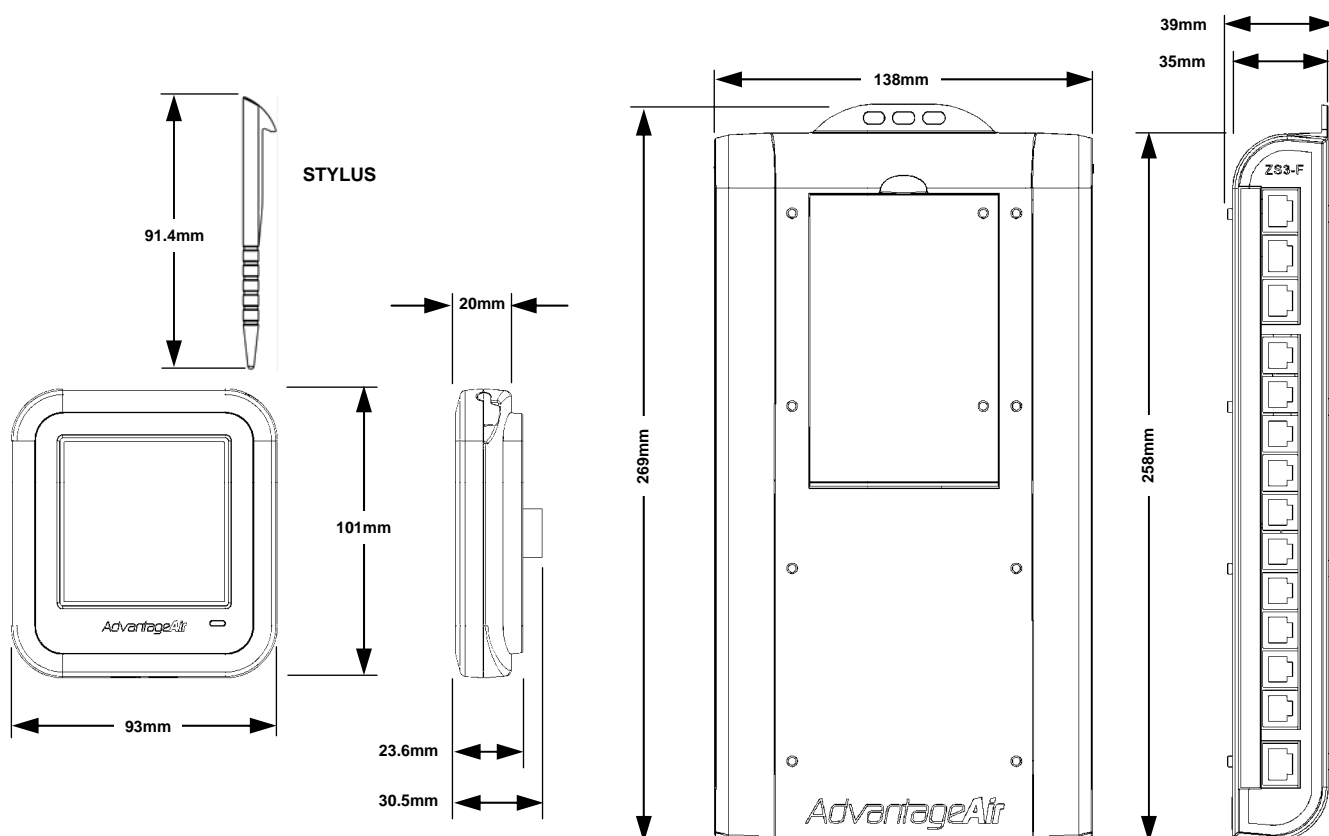
- Can be configured for the following use:
 - Zone Open/Close Control only
 - A/C Unit Control only
 - Zone Open/Close Control + A/C Unit Control
- Up to 10 on/off zones and 8 VAV zones can be controlled from the panel.
- Programmable zone names.
- Up to two touch panels can be installed on a system i.e., upstairs and downstairs.
- 4 presets available. All zones can be preconfigured to respond to a particular setting with the press of a single button.
- Up to 3 electronic constant zones are available eliminating the need for fixed ducted constants.
- Uses Advantage Air's grey 24V damper motors.

APPLICATIONS

- Residential and light commercial ducted reverse cycle and gas heating systems.

OPTIONS

- Additional 8 VAV Zones (VAV3) for independent temperature control can be added and controlled.
- Additional Touch panel .
- Wired return air sensor.



CONTROLS ZONE STATION III INSTALLATION INSTRUCTIONS

AdvantageAir

MAIN MENU (USER ACCESSIBLE)

Accessed by pressing the **Control button**. 

ITEM	DESCRIPTION	Value/Selection	
CHANGE ZONE NAME	Customising zone names	10 Characters	
CONFIGURE PRESETS	Setup Preset zone settings		
AUDIO ON/OFF	Enable / Disable Audio Beep	On/Off	
SERVICE ADVANCED	System configuration and setup. To be used by service technician only. No user configurable parameters.	See Below	

SERVICE ADVANCED MENU (NON-END USER ACCESSIBLE)

Accessed by entering the **Control button**. 

Then press the **Service Advanced** button 4 times + bottom right-hand side of the touch panel screen.

ITEM	DESCRIPTION	Value/Selection	System Type
NO OF ZONES	No of zones connected to the system.	0—10	All
NO. OF CONSTANT	The number of constant zones which required to be kept open at all times.	0—3	All
SENS SELECT	A/C Unit control thermostat selection. If 'Panel' is selected, it uses 'Master' Panel. If RA is selected, an optional RA sensor is used.	Panel / Return Air	A/C Unit Control
MASTER	If there are 2 panels connected, it determines which panel is the master for temperature sensing.	YES / NO	A/C Unit Control
MAX TEMP	Set the Maximum Allowable A/C Unit Set point	Min Temp—30 deg C	A/C Unit Control
MIN TEMP	Set the Minimum Allowable A/C Unit Set point	15 deg C—Max Temp	A/C Unit Control
RA OFFSET	Applies an Offset to the Return Air Temperature while the A/C unit runs in heating. I.e. Actual Temp reading will be lower by the RA OFFSET value.	0—5 deg C	A/C Unit Control

No liability


Make sure you read and understand all the installation instructions before you install this Zone Station 3 system. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Zone Station 3 system.

CONTROLS ZONE STATION III INSTALLATION INSTRUCTIONS 'ZONE OPEN/CLOSE CONTROL ONLY'

AdvantageAir

1. Ensure A/C system is running correctly.
2. Switch off the A/C system.
3. Mount the Touch Panel(s) at the desired locations. Adopt 'good thermostat installation practice', e.g. away from heat source, location which represents the zone.
4. Connect the system as per **DIAGRAM 1**.
5. See **DIAGRAM 5** if connecting **VAV3** to **ZS3**.
6. If *Constant Zones* feature is used, ensure that the first constant zone motor is connected to Zone 1 and the second and third constant zone is connected to Zone 2 and 3 respectively (if applicable).
7. Power up the system.
8. On Panel# 1, if the system has NEVER been setup, you will be presented with **Service Advanced** menu. Configure the following parameters:
 - **No. of Zones**
 - **No. of Constants**
 - Ignore the rest of the parameters as they are not applicable to this model.

If the system has previously been setup, from the Home Screen:

- 1 Press the Control button 
- 2 Press **Service Advanced** 4 times and press the bottom right hand part of the screen to enter **Service Advanced** menu.
9. Press **DONE** once the desired settings have been entered or **CANCEL** to exit screen.
10. Go to **CHANGE ZONE NAME** to customise zone names. See user manual.
11. Press **DONE** or **BACK** to go to the home screen when finished.
12. From the A/C unit control panel turn on the A/C unit, High Fan Speed. On the Touch panel turn zones on and off and check to ensure the zones motors are connected to the correct rooms.
13. If Panel# 2 is connected, remove and reconnect the blue cable connection. This will update/restore settings on Panel# 2.

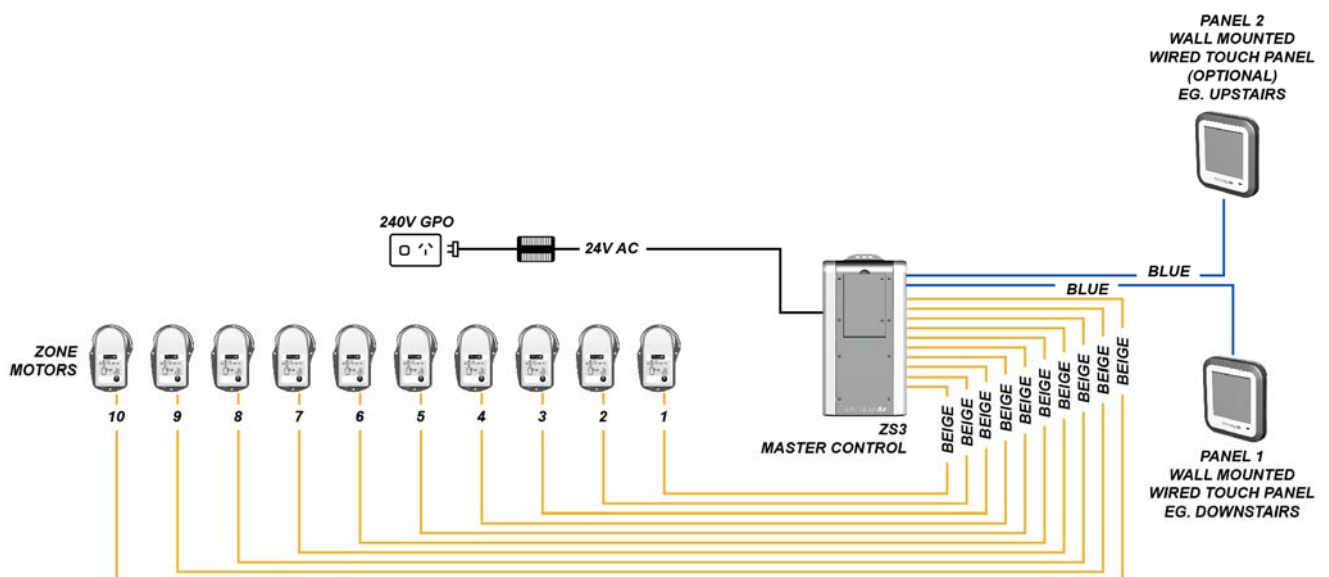


DIAGRAM 1 — ZONE OPEN/CLOSE CONTROL ONLY

No liability

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CONTROLS ZONE STATION III INSTALLATION INSTRUCTIONS

AdvantageAir

'ZONE OPEN/CLOSE CONTROL + A/C UNIT CONTROL'

1. Wire the A/C Unit to the ACUCM as per wiring DIAGRAM 2a or 2b. Ensure the ACUCM is in the TEST mode.
2. Mount the Touch Panel(s) at the desired locations. Adopt 'good thermostat installation practice', e.g. away from heat source, location which represents the zone.
3. Connect the system as per **DIAGRAM 3**.
4. If *Constant Zones* feature is used, ensure that the first constant zone motor is connected to Zone 1 and the second and third constant zone is connected to Zone 2 and 3 respectively (if applicable).
5. Power up the system.
6. Test the ACUCM as per instruction:
 - Low, Med and Hi Fan Speed
 - Cool and Heat ModeOnce the AC unit is confirmed to be operating correctly, reset the ACUCM by:
 - Unplugging the blue cable,
 - Set the switch to 1st Stage
 - Reconnect the blue cable
7. On Panel# 1, if the system has NEVER been setup, you will be presented with **Service Advanced** menu. Configure the following parameters:
 - **NO OF ZONES**
 - **NO OF CONSTANTS**
 - **SENS. SELECT***
 - **MASTER***
 - **MAX TEMP***
 - **MIN TEMP***
 - **RA OFFSET***Items marked (*) already have default values. See '**FEATURES**' for setup.

If the system has previously been setup, from the Home Screen:

- 1 Press the **Control button** 
- 2 Press **Service Advanced** 4 times and press the bottom right hand part of the screen to enter **Service Advanced** menu.

8. Press **DONE** once the desired settings have been entered or **CANCEL** to exit screen.
9. Go to **CHANGE ZONE NAME** to customise zone names.
10. Press **DONE to enter and return** to go to the home

screen or **CANCEL** to go back without any changes.

11. Turn on the A/C unit, High Fan Speed. On the Touch panel turn zones on and off and check to ensure the zones motors are connected to the correct rooms.
12. If Panel# 2 is connected, remove and reconnect the blue cable connection. This will update/restore settings on Panel# 2.

FEATURES:

Thermostat Selection

If there are 2 touch panels installed in the system, you can select which touch screen's temperature sensor is used to control the AC unit.

1. Go to the touch screen which you would like to be used to control the AC unit.
2. Under **Service Advanced**,
 - Sens. Select = Panel
 - Master = Yes.
3. Go to the 2nd touch panel (slave).
4. Under **Service Advanced**,
 - Master = No.

Return Air Selection

By default, the built in temperature sensor in the touch panel is used to control the AC unit operation.

If the optional return air sensor is used in lieu of the thermostat on the touch panel sensor:

1. Ensure the Return Air Sensor is connected. See Diagram# 3
2. Under **Service Advanced**, **Sens. Select**, select **RA**.

RA Offset

This feature enables you to apply a temperature offset to the 'actual temperature' reading, while the system is running in heating mode. E.g., If the RA Offset = 2, then the Actual Temp is decreased by 2 deg C

Max Temp / Min Temp

You can limit the range of set point that the end user can adjust by configuring the Max Temp and Min Temp values.

No liability

Make sure you read and understand all the installation instructions before you install this Zone Station 3 system. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Zone Station 3 system.

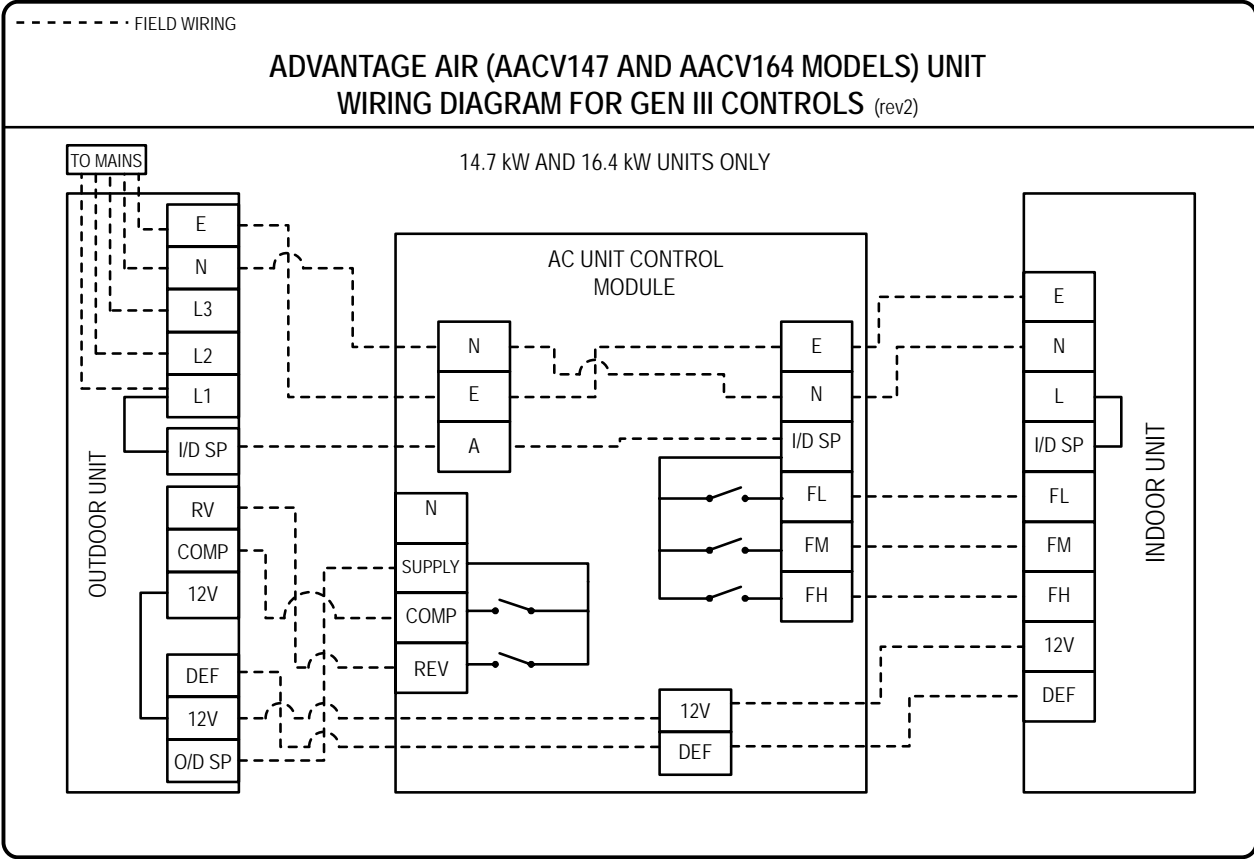


DIAGRAM 2a — ACUCM to A/C Unit Connection

No liability
Make sure you read and understand all the installation instructions before you install this Zone Station 3 system. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Zone Station 3 system.

**CONTROLS ZONE STATION III
INSTALLATION INSTRUCTIONS
'A/C UNIT CONTROL'**

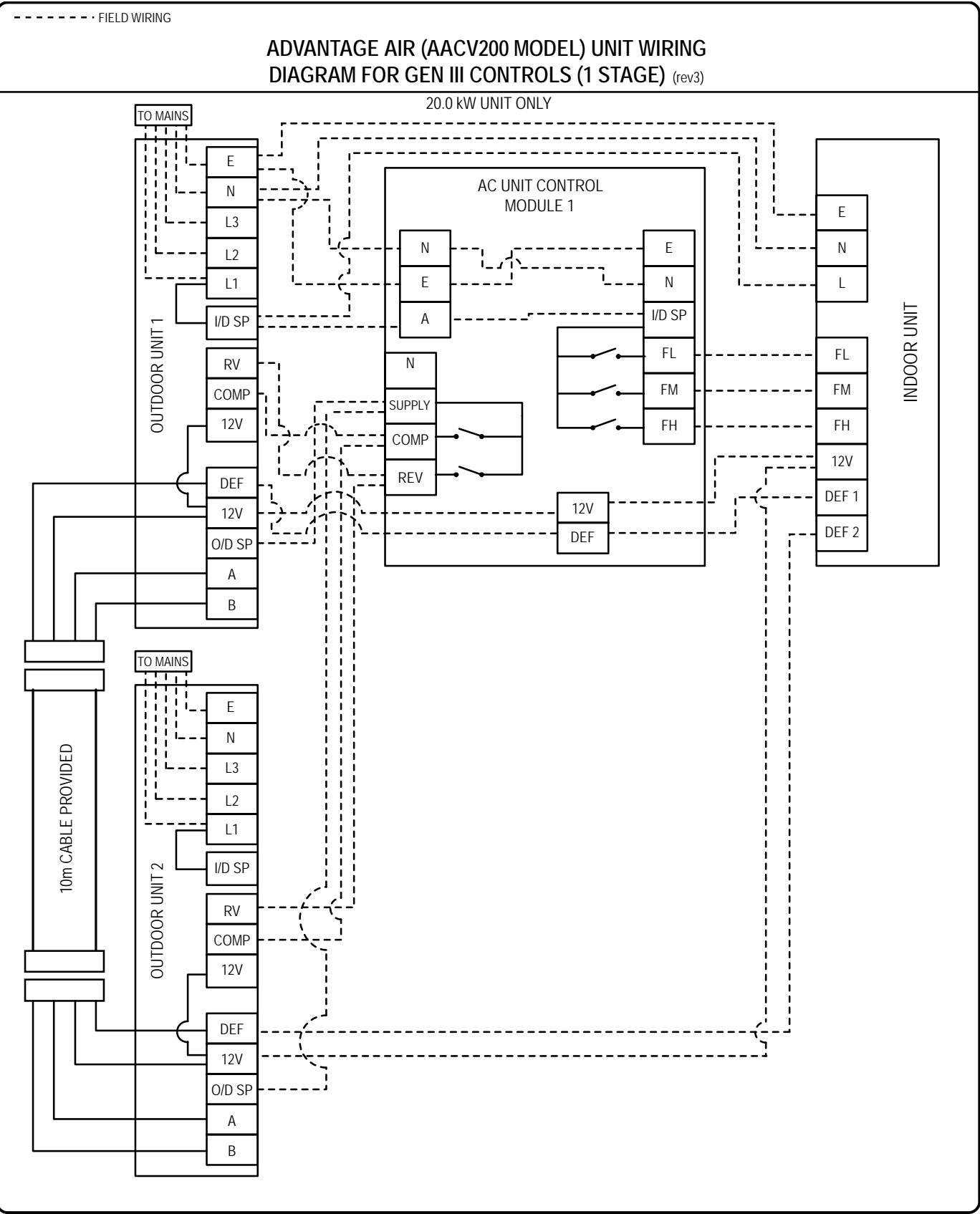


DIAGRAM 2b — ACUCM to A/C Unit Connection

No liability
Make sure you read and understand all the installation instructions before you install this Zone Station 3 system. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Zone Station 3 system.

CONTROLS ZONE STATION III INSTALLATION INSTRUCTIONS 'ZONE OPEN/CLOSE CONTROL + A/C UNIT CONTROL'

AdvantageAir

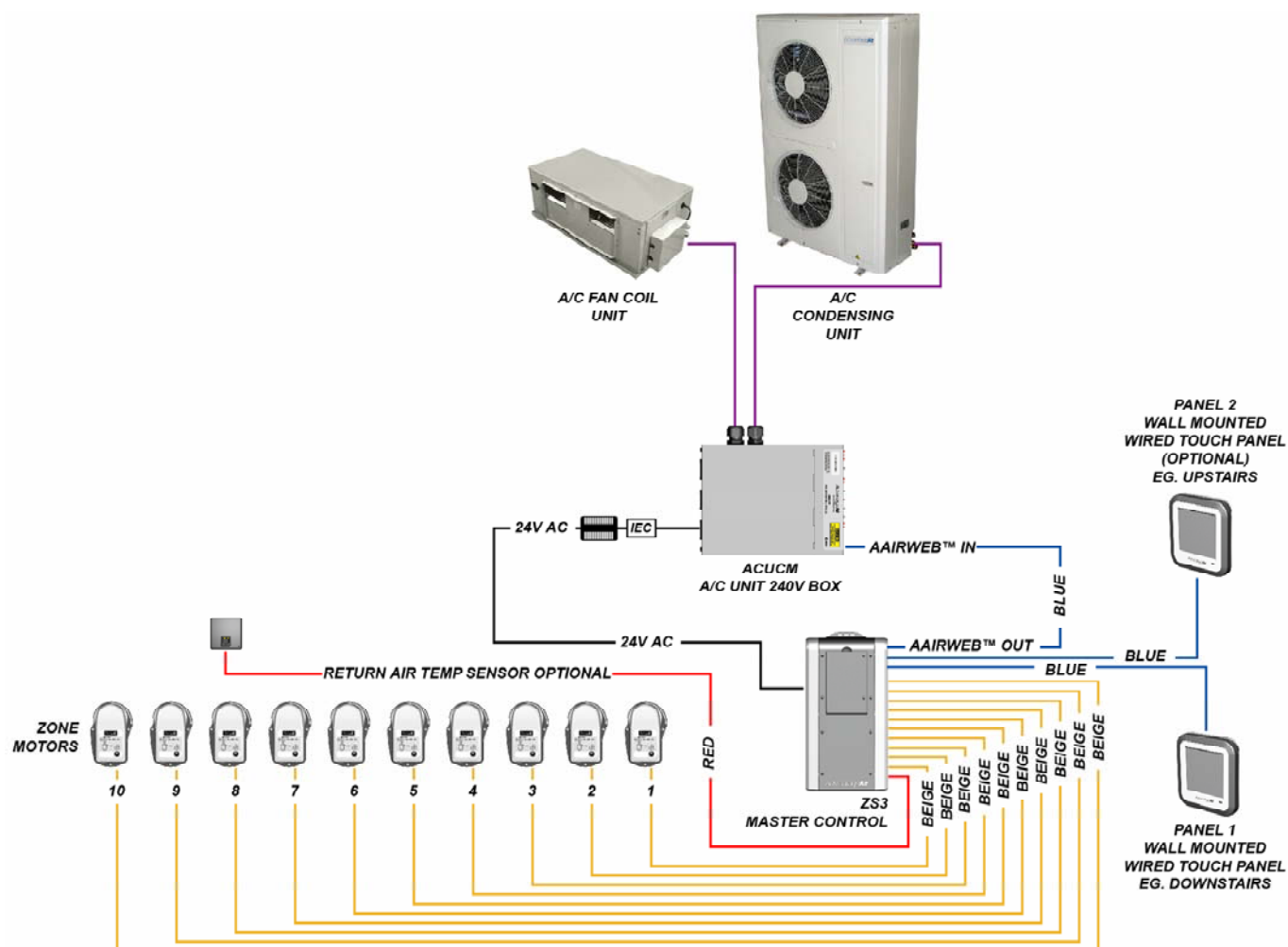


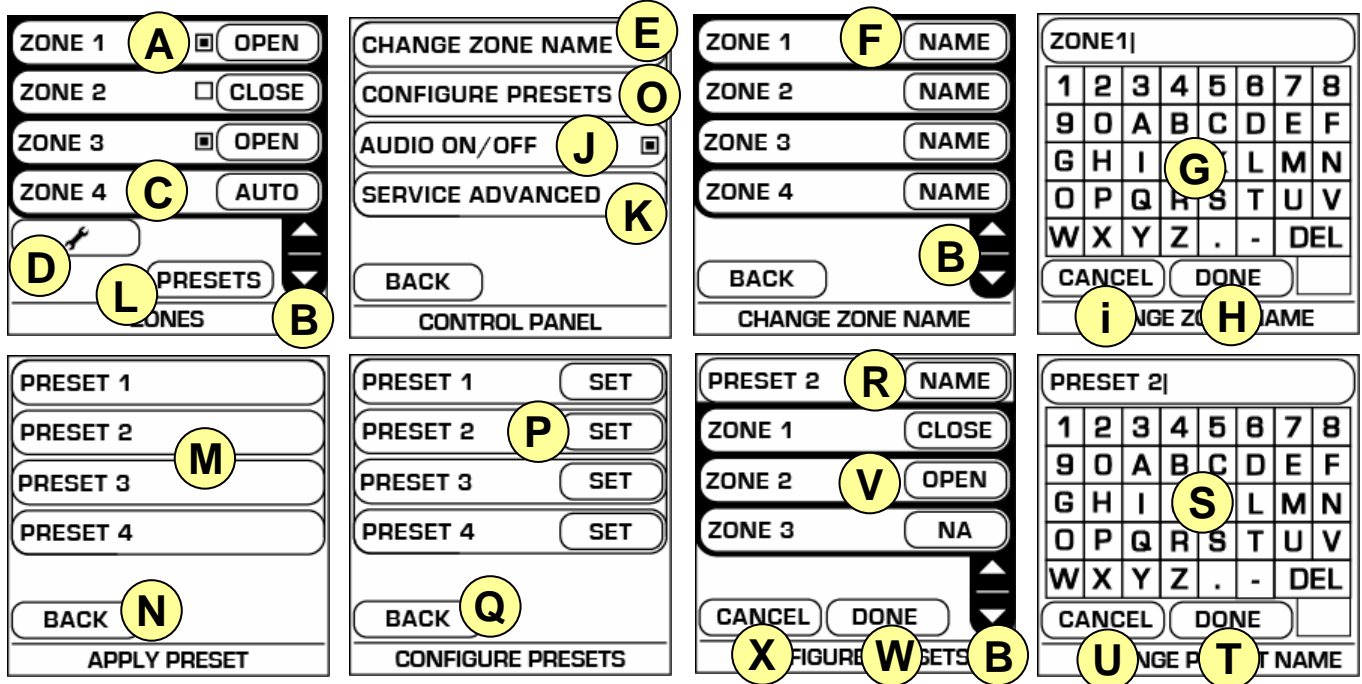
DIAGRAM 3—ZONE OPEN/CLOSE CONTROL + A/C UNIT CONTROL

No liability

Make sure you read and understand all the installation instructions before you install this Zone Station 3 system. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Zone Station 3 system.

CONTROLS ZONE STATION III USER MANUAL 'ZONE OPEN/CLOSE CONTROL ONLY'

AdvantageAir



Opening / Closing Zones

- Select the Zone which requires Air Conditioning by pressing the zone button. The status of the zone is indicated by the display (A).
- If there are more than 4 zones in the system, use the UP and DOWN button to scroll to the next/previous zones (B).
- If additional VAV Zones are installed you will be able to set the zone to **OPEN** / **CLOSE** / **AUTO**. You will not be able to adjust its temperature from this panel (C).

Change Zone Name

- Press the Control button (D).
- Press Change Zone Name (E).
- Press the zone that you would like to change name (F).
- Use the built in keyboard to make the changes (G) and press **DONE** (H) to enter or **CANCEL** (i) to go to previous screen without any changes.

Audio On/Off

- Press the Control button (D).
- Select Audio On/ Off to enable or disable sound (J).

Service Advanced

- System configuration and setup (K). To be used by service technician only. No user configurable parameters.

Presets

- Presets allow you to set all the zones into a pre-configured zone setting without having to individually set the zones manually.
- Press the **PRESET** button (L).
- This will give you a selection of 4 Presets (M).
- Press any of the 4 Presets to apply the pre-configured zone settings. Applying a preset here will

automatically return you to the home (previous) screen.

- Press **BACK** to return to previous screen if no presets are selected (N).
- To setup or change Presets press the Control button (D).
- Press **CONFIGURE PRESETS** button (O).
- Press **SET** to set the required preset (P) or press **BACK** (Q) to go to previous screen.
- Press **NAME** to change preset name selected (R).
- Enter new preset name using the key pad (S) and press **DONE** (T) to enter or **CANCEL** (U) to go to previous screen without any changes.
- To change zone settings for this preset, press the desired zone buttons to set to **OPEN**, **CLOSE**, **AUTO** or **NA** (V). **AUTO** will only appear for any VAV zones. **AUTO** will keep the VAV zone in climate control. **NA** (not applicable) does not change any of the zones settings when the preset is applied. Press **DONE** (W) to enter preset changes or **CANCEL** (X) to go to previous screen without any changes.

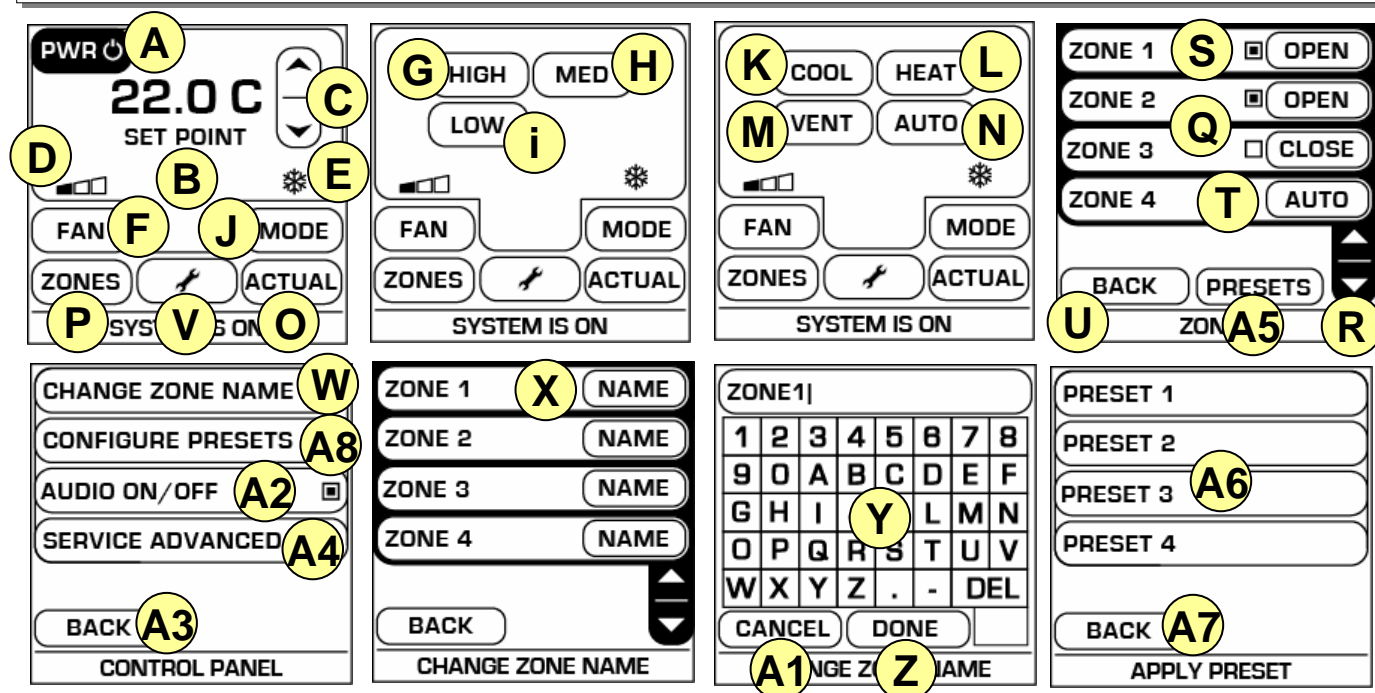
OPERATION

- Depending on the setup of the system, a minimum number of **OPEN** zones may need to be maintained for safe operation of the A/C system.
- If the minimum number of **OPEN** zone(s) are not maintained, the system will automatically override the appropriate zone(s) and open them.
- If the system does not respond to a command due to a power surge, reinitialise the system by pressing the RESET switch at the bottom (underneath) the touch panel casing.

CONTROLS ZONE STATION III USER MANUAL

AdvantageAir

'ZONE OPEN/CLOSE CONTROL + A/C UNIT CONTROL'



A/C Unit Operation

- Press **PWR** to turn the A/C unit **ON** or **OFF** (A). An LED light at the bottom right of touch panel casing will indicate if the A/C unit is on or off.
- Display indicates temperature set point (B).
- Press the **UP** or **DOWN** button to adjust your desired temperature (C).
- Icon (D) displays fan speed **LOW**, **MED** and **HIGH**.
- Icon (E) displays A/C mode of operation **COOL**, **HEAT**, **VENT** and **AUTO**.
- Press **FAN** (F) to select **HIGH** (G), **MED** (H) or **LOW** (i) fan speeds. Press anywhere on the screen other than these buttons to exit/cancel to previous screen without any fan speed changes.
- Press **MODE** (J) to select **COOL** (K), **HEAT** (L), **VENT** (M) or **AUTO** (N) unit operation modes. Press anywhere on the screen other than these buttons to exit/cancel to previous screen without any A/C mode changes.
- Press **ACTUAL** (O) to view current temperature reading.

ZS3 Control Opening / Closing Zones *If applicable

- If the zone open/close control is combined with A/C unit control, the **ZONES** button will appear (P). Press **ZONE** (P) to view/edit zone settings screen (Q).
- Press (R) **UP** or **DOWN** to scroll through available zones.
- Select the Zone which requires Air Conditioning by pressing the zone button (S). The status of the zone is indicated here.
- If additional VAV Zones are installed you will be able to set the zone to **OPEN / CLOSE / AUTO**. You will not be able to adjust its temperature from this panel (T).

- Press **BACK** (U) to go to previous screen

Change Zone Name *If applicable

- Press Control button (V)
- Press the **CHANGE ZONE NAME*** (W). This will only appear if zone open/close control is combined with A/C unit control.
- Press the zone that you would like to change name (X).
- Use the built in keyboard to make the changes (Y) and press **DONE** (Z) to enter or **CANCEL** (A1) to go to previous screen without any changes.

Audio On/Off

- Press the Control button (V)
- Select Audio On/ Off to enable or disable sound (A2).
- Press **BACK** to go to previous screen (A3)

Service Advanced

- System configuration and setup (A4). To be used by service technician only. No user configurable parameters.

Presets *If applicable

- To apply presets press **ZONES** (P). This will only appear if zone open/close control is combined with A/C unit control.
- From the zones screen press **PRESETS** (A5).
- This will give you a selection of 4 Presets (A6).
- Press any of the 4 Presets to apply the pre-configured zone settings. Applying a preset here will automatically return you to the previous screen.
- Press **BACK** to return to previous screen if no presets are selected (A7).
- To setup or change Presets press the Control button (V).
- Press **CONFIGURE PRESETS** button (A8).

CONTROLS ZONE STATION III USER MANUAL

AdvantageAir

'ZONE OPEN/CLOSE CONTROL + A/C UNIT CONTROL'

The figure shows three sequential screenshots of the AdvantageAir control interface.
 Screenshot 1: The 'PRESET 1' screen. It features buttons for 'PRESET 1', 'PRESET 2', 'PRESET 3', and 'PRESET 4', each with a 'SET' button. At the bottom are 'BACK' and 'CONFIGURE PRESETS' buttons.
 Screenshot 2: The 'PRESET 2' screen. It shows 'ZONE 1', 'ZONE 2', and 'ZONE 3' with 'CLOSE', 'OPEN', and 'NA' buttons respectively. At the bottom are 'CANCEL', 'DONE', and 'FIGURE' buttons.
 Screenshot 3: The 'PRESET 2' screen with a numeric keypad (1-9, 0, DEL) and an alphanumeric keypad (A-Z, ., -, DEL). At the bottom are 'CANCEL', 'DONE', and 'NAME' buttons.

- Press **SET** to set the required preset (**A9**) or press **BACK** (**B1**) to go to previous screen.
- Press **NAME** to change preset name selected (**B2**).
- Enter new preset name using the key pad (**B3**) and press **DONE** (**B4**) to enter or **CANCEL** (**B5**) to go to previous screen without any changes.
- To change zone settings for this preset, press the desired zone buttons to **OPEN**, **CLOSE**, **AUTO** or **NA** (**B6**). **AUTO** will appear for any VAV zones. **AUTO** will keep the VAV zone in climate control. **NA** (not applicable) does not change any of the zones settings when the preset is applied. Press **DONE** (**B7**) to enter preset changes or **CANCEL** (**B8**) to go to previous screen without any changes.

OPERATION

- The AC Unit control is accurate to within + 0.5 or -0.5 deg C
- When the mode is set to **AUTO**, the changeover from heating to cooling operation is triggered by a 2 deg C temperature differential, either side of set point
- During heating operation, the Indoor Fan will stop when the compressor stops. This is to prevent cold draft being blown into the room.
- During heating operation the indoor fan may start 30 seconds after the outdoor unit has started. This is done to pre-heat the air in the ductwork.
- When a return air sensor is installed, during heating operation, it is normal for the indoor fan to run for short period of time every 5 minutes. The system is sampling the air temperature to determine if further heating is required.
- Depending on the setup of the system, a minimum number of **OPEN** zones may need to be

maintained for safe operation of the A/C system.

- If the minimum number of **OPEN** zone(s) are not maintained, the system will automatically override the appropriate zone(s) and open them.
- If the system does not respond to a command due to a power surge, reinitialise the system by pressing the RESET switch at the bottom (underneath) the touch panel casing.

CONTROLS VARIABLE AIR VOLUME III

AdvantageAir



TOUCH PANEL & STYLUS



MASTER CONTROL



24V DAMPER
MOTOR

TYPICAL
CABLE

FEATURES

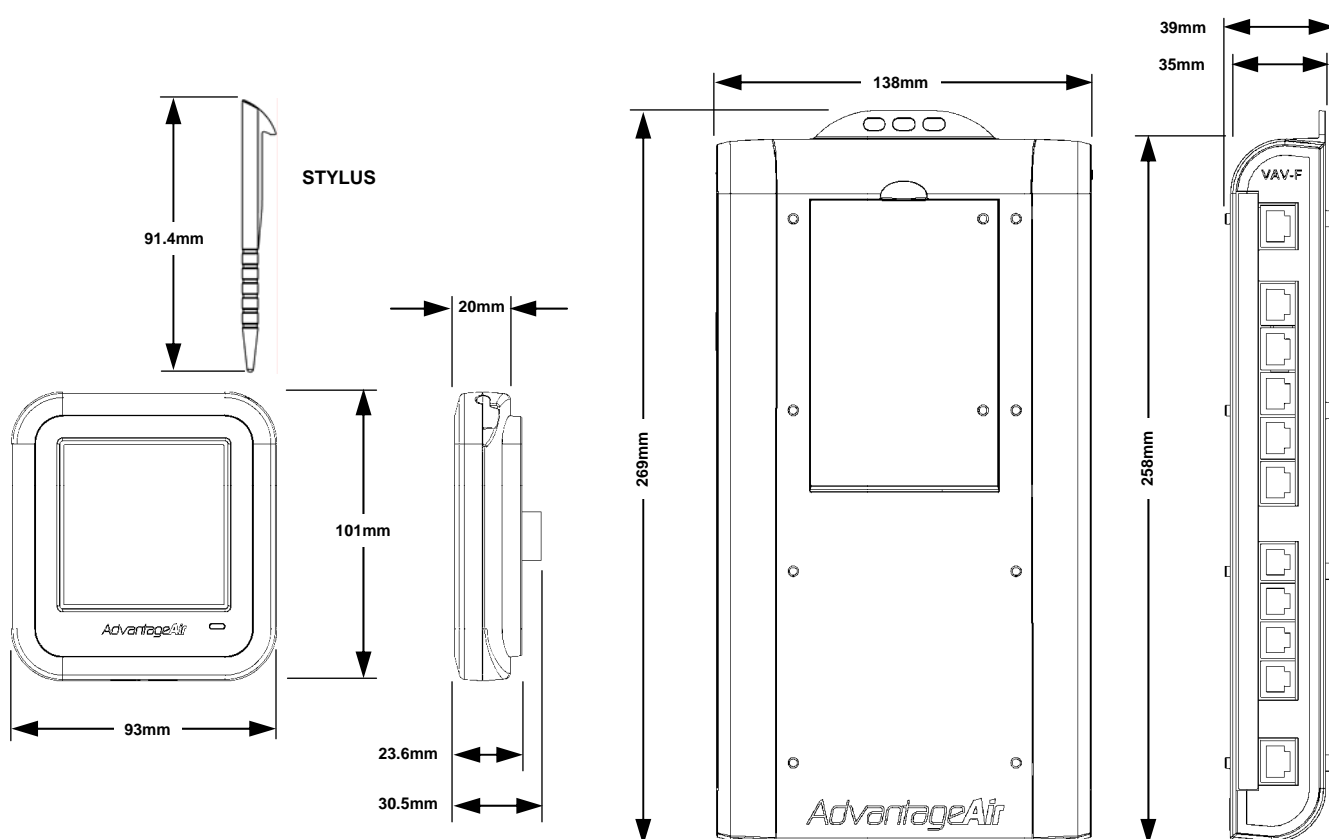
- Provides occupant with independent temperature control.
- Supply Air Sensor detects AC Unit's mode of operation.
- Up to 4 zones per module.
- Up to 2 modules can be connected together and integrated with Zone Station 3.
- Programmable Custom Zone Names (10 Characters)
- 1 Touch panel per zone.
- Adjustable Min—Max Temperature set point.
- Adjustable Min—Max Damper position
- Uses Advantage Air's grey 24V damper motors.
- All damper motors are pre-installed and tested on Advantage Air Exact Air fittings.
- Can be easily retrofitted to an existing system.

APPLICATIONS

- Suitable for small commercial or residential ducted reverse cycle air conditioning systems.
- Can be used on ducted gas heating systems

OPTIONS

- AC Unit on/off on VAV touch panel if integrated with Zone Station 3.



CONTROLS VARIABLE AIR VOLUME III INSTALLATION INSTRUCTIONS

AdvantageAir

MAIN MENU (USER ACCESSIBLE)

Accessed by pressing the **Control button**.



ITEM	DESCRIPTION	Value/Selection
{NAME}	Customising zone names	10 Characters
AUDIO ON/OFF	Enable / Disable Audio Beep	On/Off
SERVICE ADVANCED	System configuration and setup. To be used by service technician only. No user configurable parameters	See Below

SERVICE ADVANCED MENU (NON-END USER ACCESSIBLE)

Accessed by entering the **Control button**.



Then press the **Service Advanced** button 4 times + bottom right-hand side of the touch panel screen.

ITEM	DESCRIPTION	Value/Selection
NO. ZONES	No of zones connected to the module.	1—4
MAX. TEMP	Maximum adjustable set point temperature	Min Temp—30 deg C
MIN. TEMP	Minimum adjustable set point temperature	15 deg C—Max Temp
MAX DAMP	Maximum allowable damper opening	Min Damp—100%
MIN DAMP	Minimum allowable damper opening	0% - Max Damp
CTRL ZONE	Determines which zone this Touch panel is controlling	1—4

No liability

Make sure you read and understand all the installation instructions before you install this VAV3 system. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this VAV3 system.

CONTROLS VARIABLE AIR VOLUME III INSTALLATION INSTRUCTIONS 'VAV3 1 TO 4 ZONES'


AdvantageAir

1. Mount the Touch Panel at the desired locations. The temperature sensor is built into the touch panel. Adopt 'good temperature sensor installation practice', e.g. away from heat source, location which represents the zone.
2. Connect the system as per **DIAGRAM 4a or 4b**.
3. If applicable, See **DIAGRAM 5** if connecting **Zone open/close control to VAV3** or **DIAGRAM 6** if connecting **Zone open/close control + A/C UNIT CONTROL to VAV3**
4. Ensure the zone motors are connected correctly to its respective zones.
5. Ensure the Supply Air sensor is installed up-stream of any dampers.
6. Ensure the Master Control dipswitch settings are correct. See **DIAGRAM 4a or 4b**
7. Power up the AC power supply.
8. Power up the DC power supply.
9. You will now be required to assign all the touch panels with the VAV3 zone that it is controlling. Go to VAV#1 touch panel, if the system has NEVER been setup, you will be presented with **Service Advanced** menu, SET CTRL ZONE. Set it to 1. Press DONE. If applicable, repeat for VAV#2 to VAV#4.
10. Go to **Service Advanced** and configure the following parameters:
 - **NO OF ZONES**
 - **MAX TEMP***
 - **MIN TEMP***

- **MAX DAMP***
- **MIN DAMP***
- **CTRL ZONE**

Items marked (*) already have default values. See 'Features' for setting up if necessary.

If the system has previously been setup, from the Home Screen:

- 1 Press the **Control button** 
- 2 Press **Service Advanced** 4 times and press the bottom right hand part of the screen to enter **Service Advanced** menu.
11. Press **DONE** once the desired settings have been entered or **CANCEL** to exit screen.
12. Go to **CHANGE ZONE NAME** to customise zone names. See user manual.
13. Press **DONE** or **BACK** to go to the home screen when finished.
14. Turn on the A/C unit, High Fan Speed. On the Touch panel turn zones on and off and check to ensure the zones motors are connected to the correct rooms.

FEATURES:

Max Temp / Min Temp

You can limit the range of temperature set point that the end user can adjust by configuring the Max Temp and Min Temp values.

Max Damp / Min damp

You can set the maximum and minimum damper position to balance the air quantity to a zone.

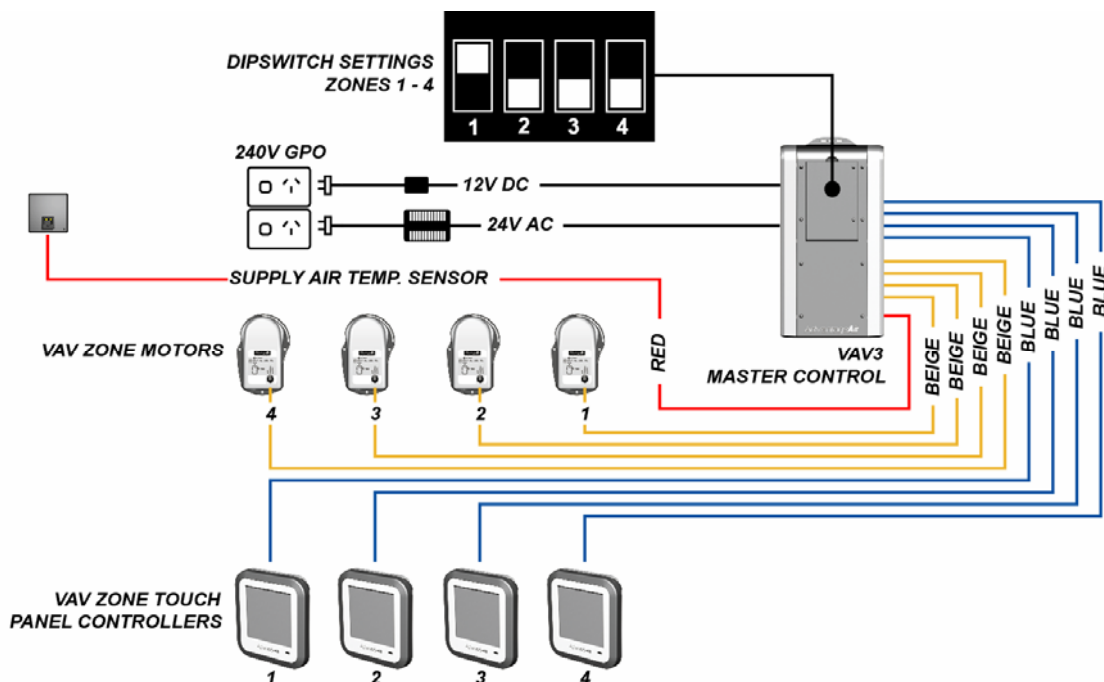


DIAGRAM 4a — VAV3 1 to 4 zones

No liability

Make sure you read and understand all the installation instructions before you install this VAV3 system. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this VAV3 system.

CONTROLS VARIABLE AIR VOLUME III INSTALLATION INSTRUCTIONS 'VAV3 1 TO 8 ZONES'

AdvantageAir

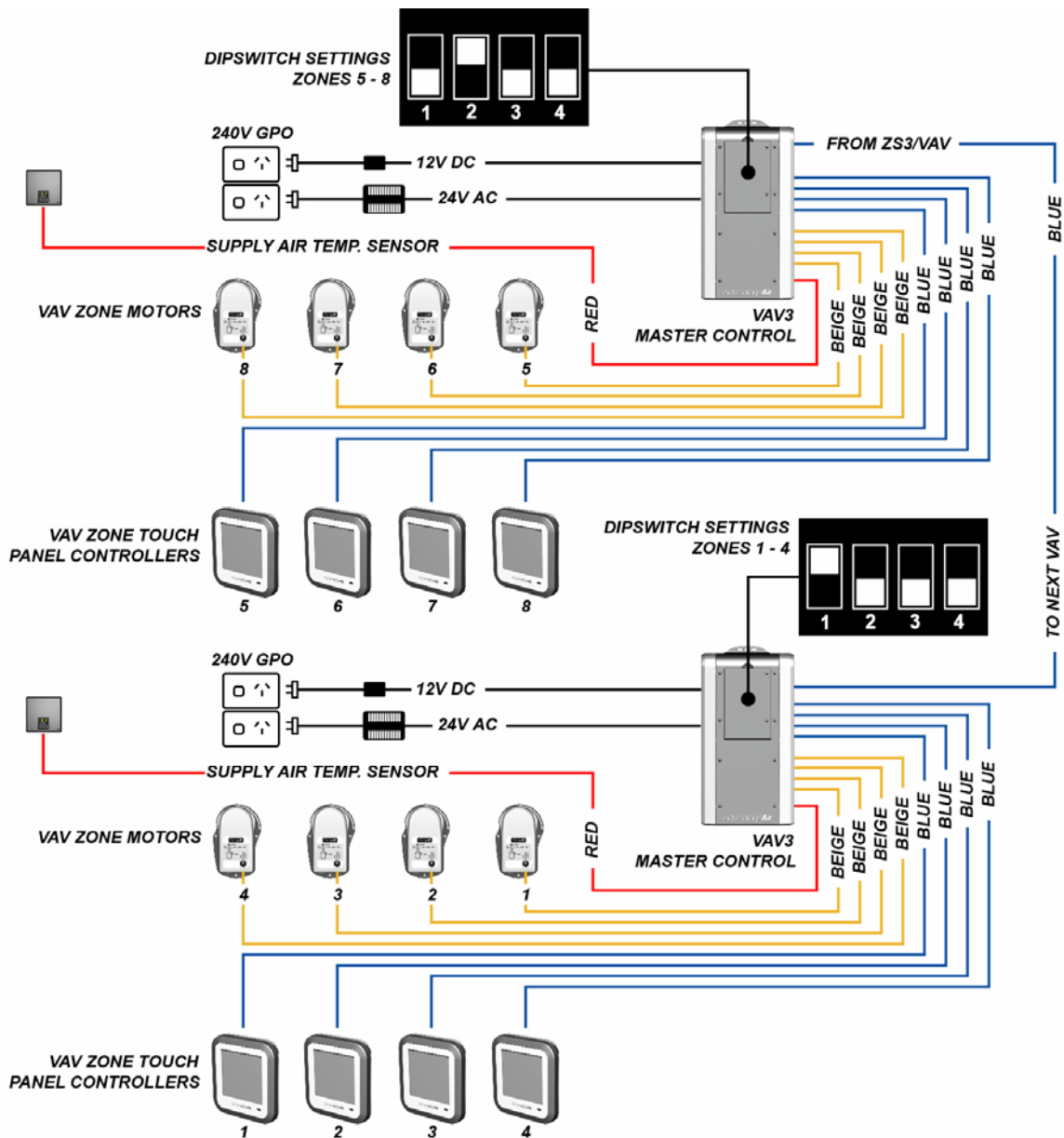


DIAGRAM 4b — VAV3 1 to 8 zones

No liability

Make sure you read and understand all the installation instructions before you install this VAV3 system. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this VAV3 system.

CONTROLS VARIABLE AIR VOLUME III INSTALLATION INSTRUCTIONS 'ZONE OPEN/CLOSE CONTROL & VAV3'

AdvantageAir

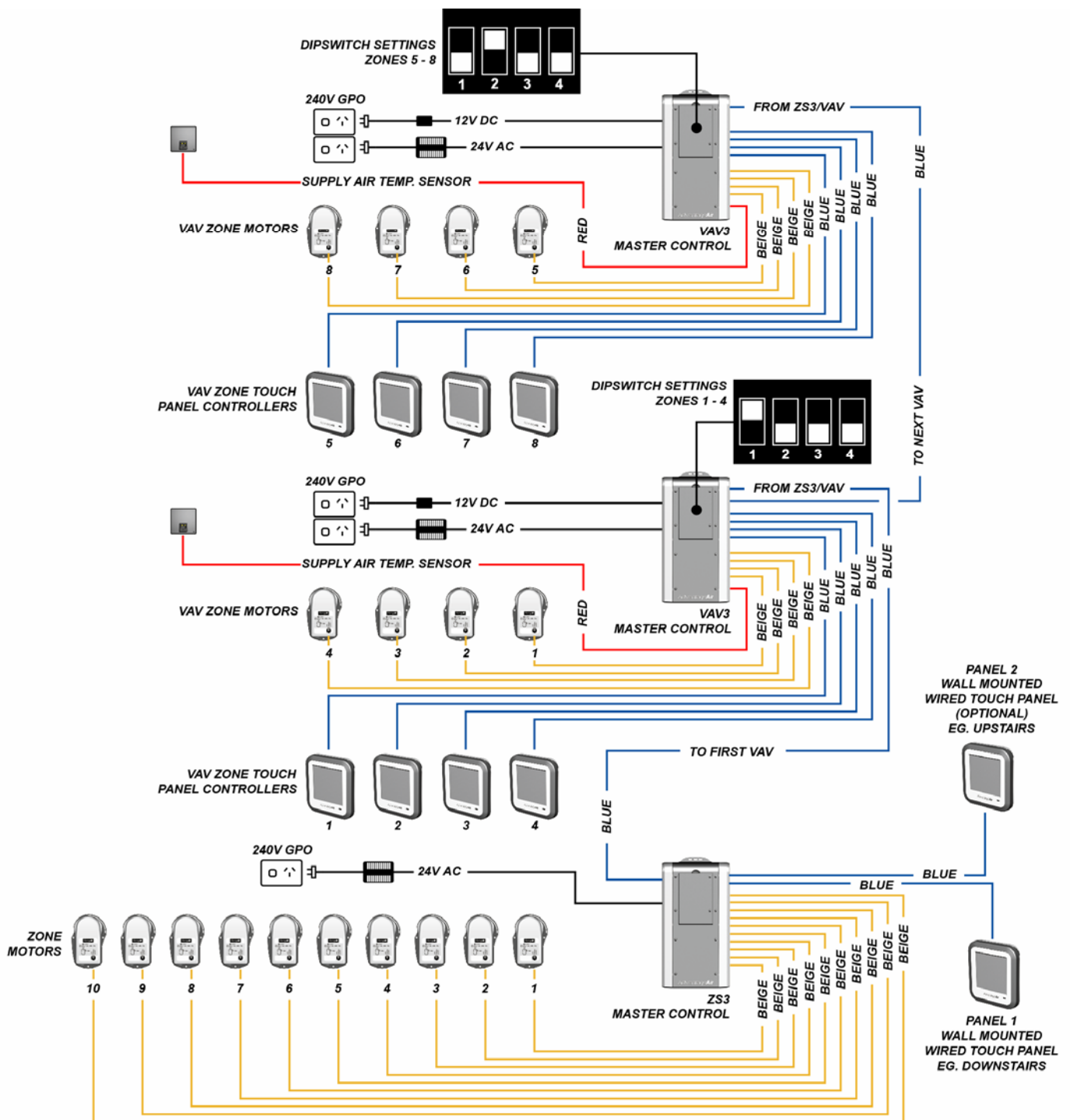


DIAGRAM 5 — Zone open/close control & VAV3

No liability

Make sure you read and understand all the installation instructions before you install this ZS3 & VAV3 system. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this ZS3 & VAV3 system.

CONTROLS VARIABLE AIR VOLUME III INSTALLATION INSTRUCTIONS

AdvantageAir

'ZONE OPEN/CLOSE CONTROL + A/C UNIT CONTROL & VAV3'

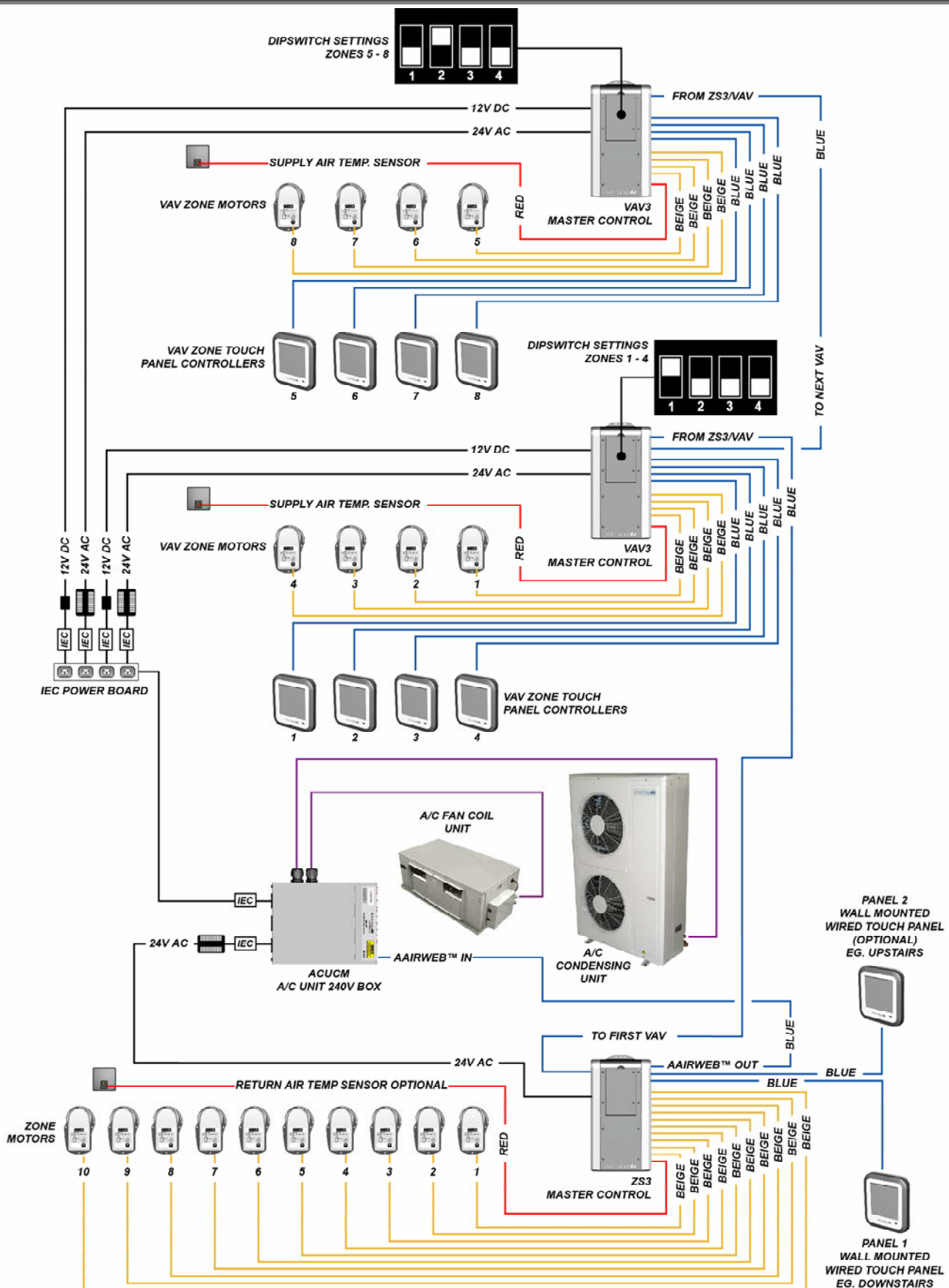


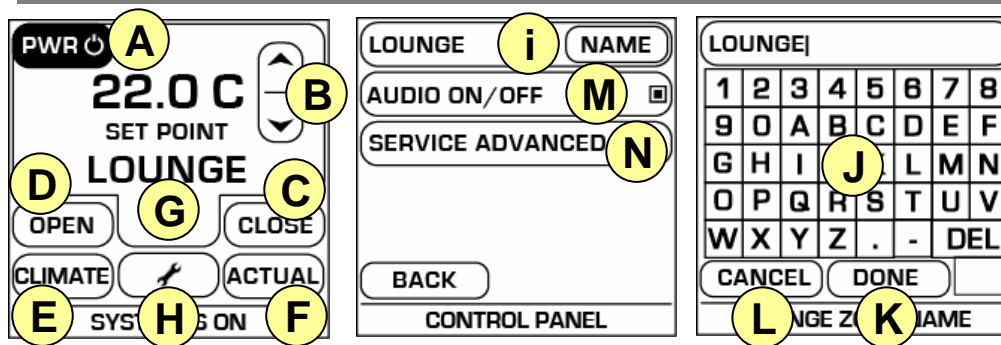
DIAGRAM 6 — Zone open/close control + A/C unit control & VAV3

No liability

Make sure you read and understand all the installation instructions before you install this ZS3 & VAV3 system. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this ZS3 & VAV3 system.

CONTROLS VARIABLE AIR VOLUME III USER MANUAL 'VAV3'

AdvantageAir



VAV Operation

- Press **PWR** to turn the a/c unit **ON** or **OFF** (A). Only applicable if connected to Zone open/close control + A/C unit control.
- Press the **UP** or **DOWN** button to adjust your desired temperature (B)
- Press (C) to **CLOSE** the zone.
- Press (D) to **OPEN** the zone.
- Press (E) to put the zone into **CLIMATE** control.
- Press the (F) button to display the **ACTUAL** space temperature.
- (G) displays the current zone name and set point/setting.

Change Zone Name

- Press the Control button (H).
- Press **NAME** (i).
- Use the built in keyboard to make the changes (J) and press **DONE** (K) to enter or **CANCEL** (L) to go to previous screen without any changes.

Audio On/Off

- Press the Control button (H)
- Select Audio On/ Off to enable or disable sound (M).

Service Advanced

- System configuration and setup (N). To be used by service technician only. No user configurable parameters.

OPERATION

- If this unit is connected to Zone open/close con-

trol, the zone will be listed in the Zone Station touch panel.

- If applicable, from the Zone open/close control touch panel, you will be able to put the VAV zone in **OPEN**, **CLOSE** or **AUTO**.
- The VAV control system detects the operation of the A/C unit by sensing the supply air temperature. If the zone requires cooling and there is cool air available, the zone will open. Vice-versa for heating.
- If the system does not respond to a command due to a power surge, reinitialise the system by pressing the RESET switch at the bottom (underneath) the touch panel casing.

CONTROLS

SONIC-DRIVE 240 VOLT DAMPER MOTORS

AdvantageAir



FEATURES

- 240 Volts.
- Drive return.
- Motor switches off when not driving saving energy and running costs.
- External indicator shows damper position.
- Low profile enables damper to fit in tight spaces
- Comes preinstalled and tested on Advantage Air Exact Air Regulators and Advantage Air barrel dampers.
- Fast 16 second open to closed drive time.
- Powerful 2.5Nm-torque motor will drive any Advantage Air damper
- Extra long 1.5 meter cord for easier electrical connection.
- Low cost
- Quiet operation
- Colour coded for easy identification (240V motor has black lid)
- Three point positive fixing system allows motor to be installed upside down
- Tough external casing
- Plastic shaft adaptor prevents “cold bridging”

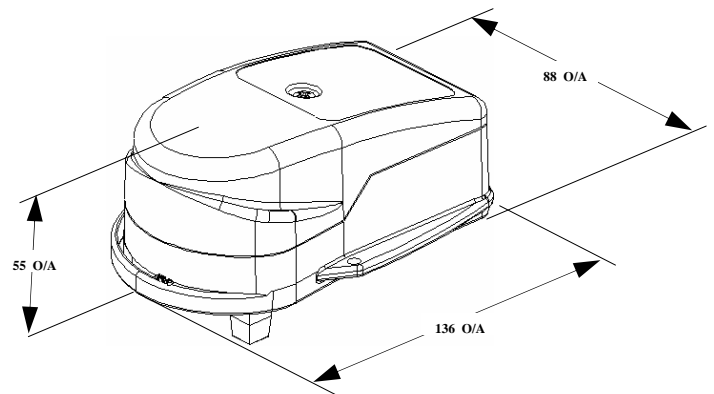
CONSTRUCTION

- Body and lid is injection moulded from a blended engineering plastic.

APPLICATIONS

- Suitable for all domestic and commercial two position (open, closed) applications under 2.5 Nm.
- Suitable for all Exact Air Regulators and Advantage Air barrel dampers 150 dia to 550.

DIMENSIONS



CONTROLS

SONIC-DRIVE 240 VOLT DAMPER MOTORS - INSTALLATION INSTRUCTIONS

AdvantageAir



APPLICATION

- The Sonic-Drive damper actuator is a 240V AC drive open drive close damper actuator.
- Used to control air flow in low pressure air conditioning ducts.
- This product is designed specifically to be used on Advantage Air's range of Exact Air Regulators and is pre-installed onto the Exact Air Regulator damper.

SPECIFICATION

- ELECTRICAL RATING: 240 VAC 50 Hz 0.03 A.
- TORQUE: 2.5Nm.
- ACTUATOR CYCLE TIME: 16s (from fully open to fully closed).

WIRING

All wiring must comply with local electrical codes and ordinances. See Figure. 1 for typical wiring connection to the damper actuator.

WARNING !

- **DO NOT CONNECT ANY OTHER MOTOR OR DEVICES ONTO THE SAME SWITCH!**
- **DO NOT ATTEMPT TO SIMULATE OPERATION OF THE DAMPER ACTUATOR BY ROTATING THE CONNECTION COUPLING AND/OR DAMPER BLADES.**

ABUSE OF THIS NATURE CAN RESULT IN PERMANENT DAMAGE TO THE DAMPER ACTUATOR.

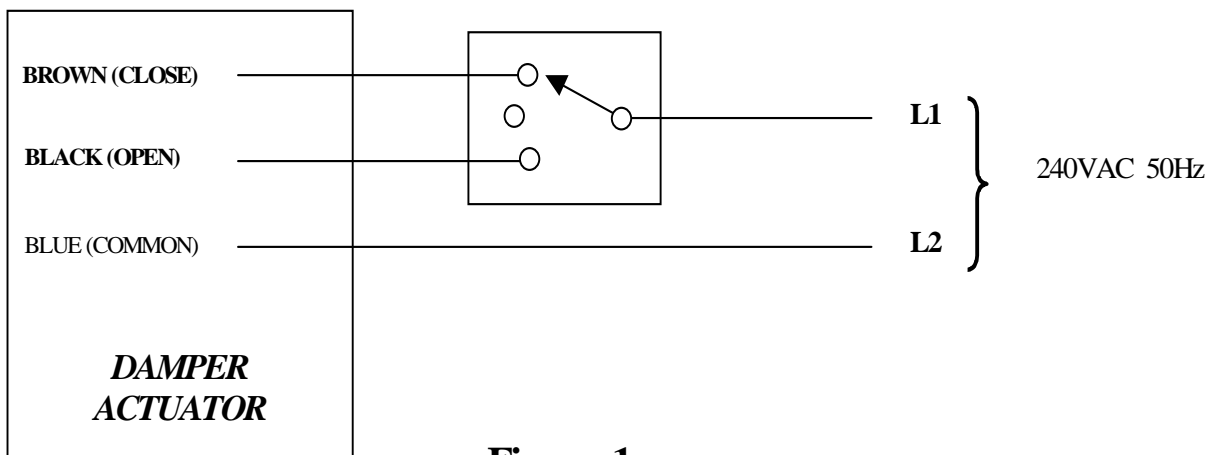


Figure. 1

CONTROLS

EXTRA LOW VOLTAGE- 24 VOLT DAMPER MOTORS

AdvantageAir



FEATURES

- 24 Volts AC.
- Drive return.
- Motor switches off when not driving saving energy and running costs.
- External indicator shows damper position.
- Low profile enables damper to fit in tight spaces
- Comes preinstalled and tested on Advantage Air Exact Air Regulators and Advantage Air barrel dampers.
- Fast 16 second open to closed drive time.
- Powerful 2.5Nm-torque motor will drive any Advantage Air damper
- Extra long 1.5 meter cord for easier electrical connection.
- Low cost
- Quiet operation
- Colour coded for easy identification (24V motor has yellow lid)
- Three point positive fixing system allows motor to be installed upside down
- Tough external casing
- Plastic shaft adaptor prevents “cold bridging”

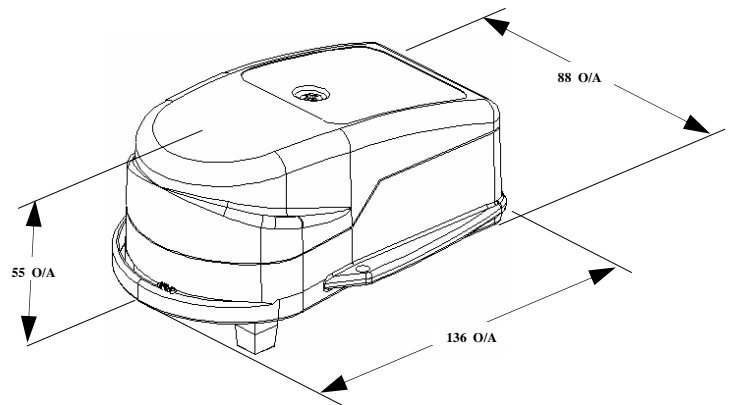
CONSTRUCTION

- Body and lid is injection moulded from a blended engineering plastic.

APPLICATIONS

- Suitable for all domestic and commercial two position (open, closed) applications under 2.5 Nm.
- Suitable for all Exact Air Regulators and Advantage Air barrel dampers 150 dia to 550.

DIMENSIONS



CONTROLS

EXTRA LOW VOLTAGE - 24 VOLT DAMPER MOTORS

INSTALLATION INSTRUCTIONS

AdvantageAir



APPLICATION

- The ELV24 damper actuator is a 24V AC drive open drive close damper actuator.
- Used to control air flow in low pressure air conditioning ducts.
- This product is designed specifically to be used on Advantage Air's range of Exact Air Regulators and is pre-installed onto the Exact Air Regulator damper.

SPECIFICATION

- ELECTRICAL RATING: 24 VAC 50 Hz 5VA.
- TORQUE: 2.5Nm.
- ACTUATOR CYCLE TIME: 16s (from fully open to fully closed).

WIRING

All wiring must comply with local electrical codes and ordinances. See Figure. 1 for typical wiring connection to the damper actuator.

WARNING !

- DO NOT CONNECT ANY OTHER MOTOR OR DEVICES ONTO THE SAME SWITCH!
- DO NOT ATTEMPT TO SIMULATE OPERATION OF THE DAMPER ACTUATOR BY ROTATING THE CONNECTION COUPLING AND/OR DAMPER BLADES.

ABUSE OF THIS NATURE CAN RESULT IN PERMANENT DAMAGE TO THE DAMPER ACTUATOR.

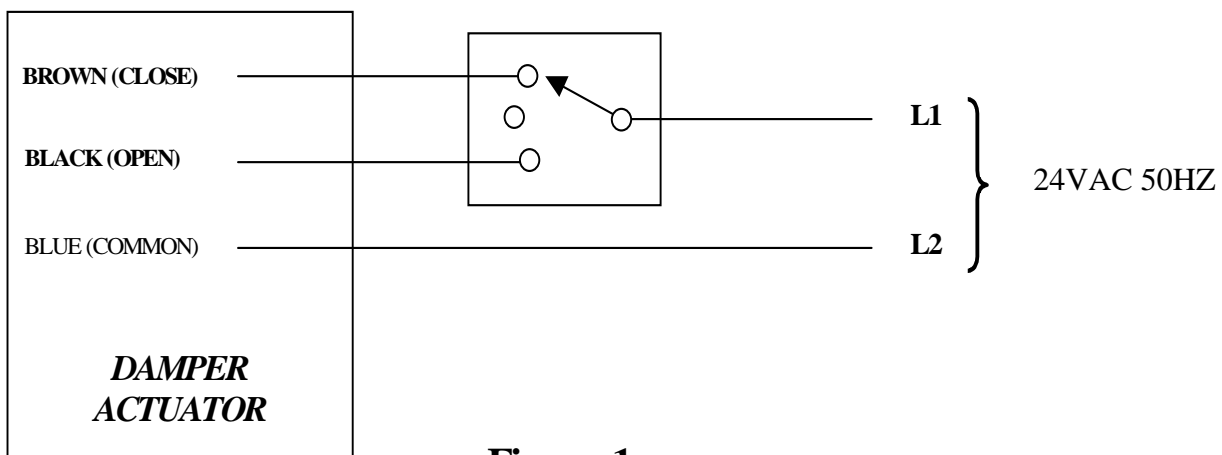


Figure. 1

A/C UNITS

DUCTED SPLIT SYSTEM AIR CONDITIONER SUMMARY OF RANGE

AdvantageAir

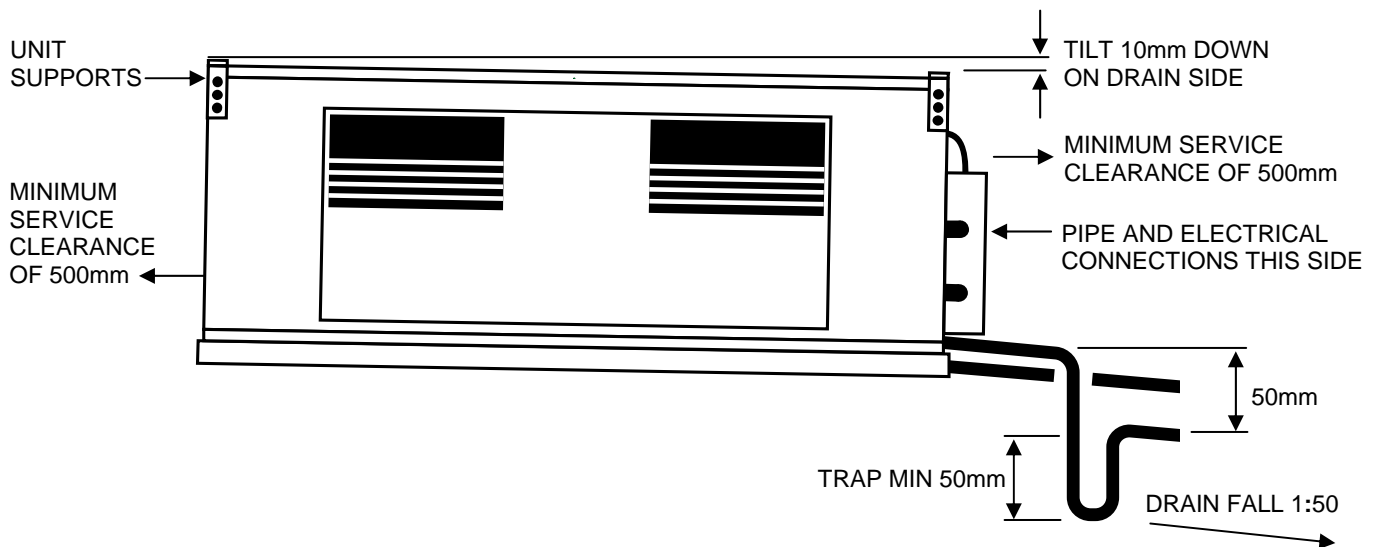
SYSTEM	AACV-147-FCU/CON1	AACV-164-FCU/CON3	AACV-200-FCU/CON3
Nominal cooling capacity (kW) ¹	14.8	16.5	21.3
Nominal heating capacity (kW) ¹	15.1	17.6	23.3
Nominal air flow (l/s) ²	850	850	1160
System power input (kW)	5.2	6.4	7.8
Running current (Amps)	23.7 (as per AS 3823.1.2)	12.5 (as per AS 3823.1.2)	14
Full load current (Amps)	32.6	15.6	20
System EER (W/W)	2.83 ⁽³⁾	2.57 ⁽³⁾	2.77
System COP (W/W)	3.00 ⁽³⁾	2.90 ⁽³⁾	3.00
Refrigerant	R407C	R407C	R407C
Refrigerant Circuit	1	1	2
Refrigeration Charge (PER CIRCUIT)	4.7 kg	4.7 kg	4.5 kg
Additional refrigerant charge	65 g/m over 7 meters		
System oil Charge (PER CIRCUIT)	1.68 kg	1.68 kg	1.36 kg
Refrigerant suction pipe size (dia)	19mm (3/4")	19mm (3/4")	19mm (3/4")
Refrigerant liquid pipe size (dia)	9.5mm (3/8")	9.5mm (3/8")	9.5mm (3/8")
System maximum pipe length	50 meters	50 meters	50 meters
System maximum elevation	30 meters	30 meters	30 meters
System maximum no. elbows or bends	10	10	10
FANCOIL UNIT			
Fan type	Twin forward curved centrifugal		
Standard airflow (Hi / Med / Lo) (l/s) ²	850 / 740 / 630	850 / 740 / 630	1160 / 1120 / 1080
Maximum coil face velocity	2.5m/s	2.5m/s	2.5m/s
Power supply	230V / 50 Hz / 1 phase	240V / 50 Hz / 1 phase	240V / 50 Hz / 1 phase
Motor output (kW)	0.58	0.58	-
Running Current:(Amps)	2.6	2.6	4.5
Cabinet construction	Galvanized steel		
Cabinet insulation type	Closed cell material with aluminum foil faced (8mm)		
Condensate drain tray construction	Stainless steel		
Safety tray construction	Galvanized steel		
Condensate drain pipe size (OD)	25.4 mm	25.4 mm	25.4 mm
Safety tray pipe size (OD)	25.4 mm	25.4 mm	25.4 mm
Size Width x Depth x Height (mm)	1145 x 600 x 410	1145 x 600 x 410	1495 x 680 x 460
Spigot dimensions (mm)	Supply 710 x 305 Return 940 x 325	Supply 710 x 305 Return 940 x 325	Supply 865 x 310 Return 1260 x 380
Noise level dB(A) ⁴	47	47	-
Indoor fan coil unit mass	75 kg	75 kg	98 kg
CONDENSING UNIT			
Compressor (PER OUTDOOR UNIT)	Single Copeland scroll	Single Copeland scroll	Single Copeland Scroll
Condenser fan type (PER OUTDOOR UNIT)	Twin variable speed propeller		Twin variable speed propeller
Power supply	230V / 50 Hz / 1 phase	415V / 50 Hz / 3 phase	415V / 50 Hz / 3 phase
Defrost Method	Reverse Cycle	Reverse Cycle	Reverse Cycle
Size Width x Depth x Height (mm) (PER OUTDOOR UNIT)	970 x 410 x 1465	970 x 410 x 1465	970 x 400 x 1255
Noise level dB(A) ⁵ High - low	54 - 49	57 - 52	58 - 52
Outdoor condensing unit mass (PER OUTDOOR UNIT)	150 kg	150 kg	110kg

1. Capacity based on 27°C EDB / 19°C EWB indoor and 35°C outdoor temperatures.
2. AS 3823 standard air flow conditions. 60Pa external static pressure.

3. AS 3823.2:2003 MEPS rating
4. Measured at 1.5 meters from unit
5. Measured at 1.0 meter from unit. Dependent on ambient temperature, mode of operation and number of units running. Preliminary measurements only.

INDOOR FAN COIL UNIT INSTALLATION & COMMISSIONING

AdvantageAir



FAN COIL UNIT INSTALLATION

- Unit must be installed in accordance with all national and local safety codes.
- Suitable anti vibration mountings must be used to minimize the transfer of vibration into the building structure.
- The minimum maintenance clearance should be maintained.
- The fan coil unit must be tilted 10mm lower on the drain side to ensure proper condensate drainage.
- The condensate drain must be trapped with a minimum vertical P trap height of 50mm. A separate drain must be installed from the safety tray. Both drains must be installed with a minimum fall of 1:50 to ensure free drainage. If inadequate space is available to ensure gravity drainage, an electrical condensate pump must be installed
- In high humidity areas the condensate drain should be insulated.

REFRIGERATION PIPEWORK

- Refrigeration pipe work must be installed by a qualified refrigeration technician and in accordance with the local, state and national regulations and all relevant Australian Standards.
- The unit is designed for use only with refrigerant R407C. The use of other refrigerants is not permitted and may cause operational problems and damage to the unit and will void the warranty.
- Refrigerants shall not be released to the atmosphere during the installation of the unit.
- All refrigeration pipe work must be insulated and all insulation joins glued, taped and sealed.
- Pipe work exposed to direct sunlight should be installed in suitable trunking.

ELECTRICAL WIRING

All electrical work must be carried out by a qualified electrician and be installed and tested in accordance with the local supply authority regulations, AS3000 and Advantage Air's wiring diagram

COMMISSIONING

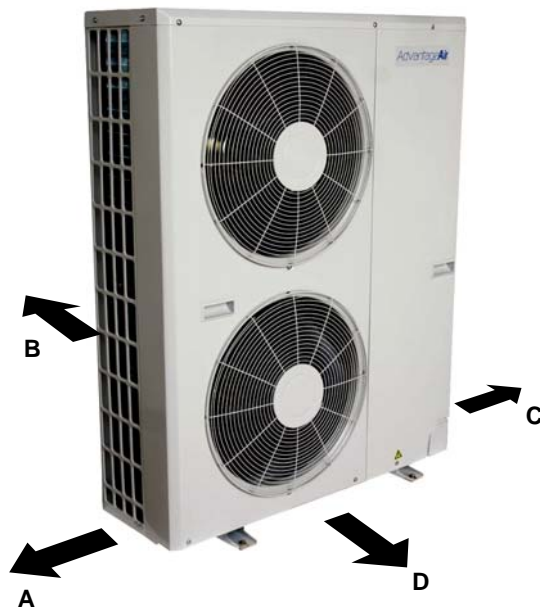
- Check that all electrical work is complete and in accordance with the wiring diagram.
- Check that all refrigerant and drain pipe work is complete and that the pipe insulation totally encloses the associated pipe.
- Check that air filter is installed and clean.
- Check that the fan runs freely without vibration and restriction.
- Check that the condensate drain allows a free flow of water and does not hold water at any point, apart from any 'P-trap' installed.
- Run the unit in Cooling, Vent and Heating modes.
- Train the customer in the use of the system.
- Refer to Advantage Air's relevant control system technical data for installation of controls.

No liability

Make sure you read and understand all the installation instructions before you install this Air Conditioner. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Air Conditioner.

OUTDOOR CONDENSING UNIT INSTALLATION & COMMISSIONING

AdvantageAir



Dimension mm	A	B	C	D
Minimum Clearance required (mm)	200	150	600	800

INSTALLATION

- Unit must be installed in accordance with all national and local safety codes.
- Suitable anti vibration mountings must be used to minimize the transfer of vibration into the building structure.
- The minimum maintenance and airflow clearance should be maintained.
- Locate the outdoor unit in a suitable position where the noise from the unit will not affect occupants or neighbors.
- Position the unit to prevent prevailing winds from causing short circuiting of condenser air.
- For multiple outdoor units installations, units should discharge away from each other.
- For floor mounting the condensing unit must be mounted on a solid level base clear of vegetation
- For high level wall mounting the condensing unit must be mounted on a suitable frame securely fixed to the wall.
- For roof mounting the condensing unit must be mounted on a suitable level structure.
- The condensing unit must be fastened down to the base to prevent movement in high winds.
- Install the unit with a positive fall to the rear to ensure condensate and/or rain water drains away. For a totally drip free installation, it is recommended that a drain tray is installed under the unit and piped to waste.
- AACV indoor and outdoor units must be mounted on suitable Anti-Vibration Mounts (AVM). Depending on the environment, different AVMs are required. SPRING isomounts, WP waffle pads, AVM GREEN KIT and AVM RED KIT can be ordered separately. Please see table below for correct selection of AVMs and Sundry section of the Technical Catalogue for product data.

	MOUNTING ENVIRONMENT			
	CEILING SPACE	FLOOR MOUNT	ROOF MOUNT	WALL MOUNT
ALL AACV FAN COIL UNIT	SPRING (ISOMOUNT)	N/A	N/A	N/A
AACV-147-CON1 (OUTDOOR UNIT)	N/A	WP (WAFFLE PAD)	AVM GREEN	AVM GREEN
AACV-164-CON3 (OUTDOOR UNIT)	N/A	WP (WAFFLE PAD)	AVM GREEN	AVM GREEN
AACV-200-CON3 (OUTDOOR UNIT)	N/A	WP (WAFFLE PAD)	AVM RED	AVM RED

ELECTRICAL WIRING

All electrical work must be carried out by a qualified electrician and be installed and tested in accordance with the local supply authority regulations, AS3000 and Advantage Air's wiring diagram.

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OUTDOOR CONDENSING UNIT INSTALLATION & COMMISSIONING

AdvantageAir

REFRIGERATION PIPEWORK

- Refrigeration pipe work must be installed by a qualified refrigeration technician and in accordance with the local, state and national regulations and all relevant Australian Standards.
- The unit is designed for use only with refrigerant R407C. The use of other refrigerants is not permitted and may cause operational problems and damage to the unit and will void the warranty.
- Refrigerants shall not be released to the atmosphere during the installation of the unit.
- Refer to outdoor unit specifications for refrigerant charge, pipe sizes, pipe lengths.
- If the outdoor unit is installed above the indoor unit, correctly engineered traps and dual risers must be installed to ensure oil return to the compressor.
- All refrigeration pipe work must be insulated and all insulation joins glued, taped and sealed.
- Pipe work exposed to direct sunlight should be installed in suitable trunking.
- The unit is factory charged with sufficient refrigerant for a 7 meter pipe run (one way). Additional refrigerant must be added at a rate of 65grams per meter (as per the table below)

Pipe Length (m)	Additional refrigerant charge (g)
8	65
9	130
10	195
15	520
20	845
25	1170
30	1495

COMMISSIONING & START UP PROCEDURE

- Check fan motors are free running, and air inlet and outlet are not obstructed.
- Switch on the unit, check the voltages and current drawn on the compressor motors and fan motors against the specified values.
- Fit gauges and measure and record the suction pressures.
- Test the operation in cooling and heating modes.
- Complete the Advantage Air test report
- Train the customer in the use of their system.

No liability

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MAINTENANCE DUCTED SPLIT SYSTEM AIR CONDITIONER

AdvantageAir

INDOOR FAN COIL UNIT

- Clean filter and return air grille.
- Check heat exchanger coil, vacuum and brush as necessary.
- Check that the fan runs freely without vibration and restriction.
- Tighten all electrical connections.
- Check to ensure all drain trays are clean and free from moisture.

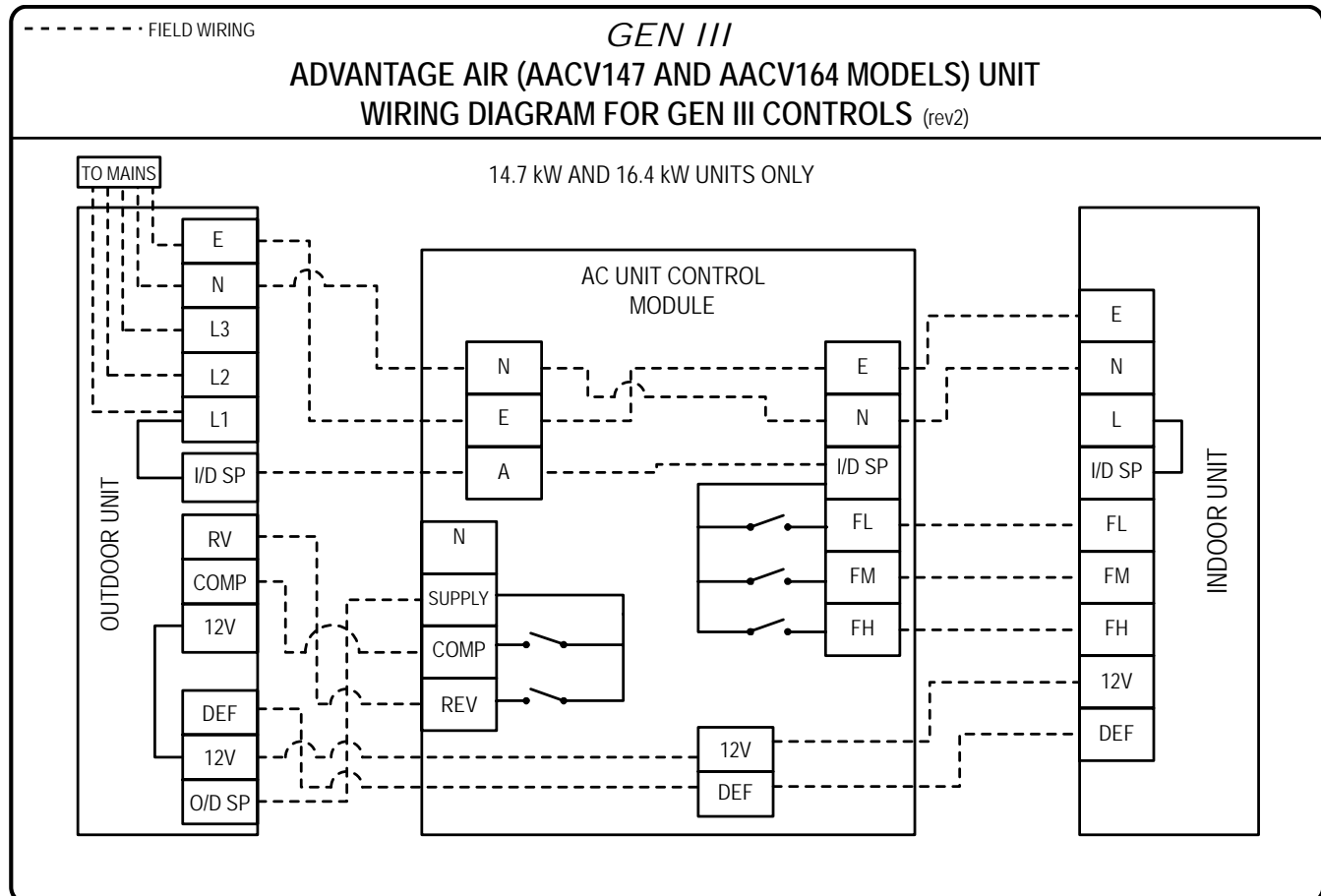
SYSTEM

- Test the system operation in cooling and heating modes.
- Measure and record temperature differences across indoor and outdoor coil.
- If there are any reason for concern measure and record suction pressure in cooling.
- Check with customer for any concerns or problems being experienced.

OUTDOOR CONDENSING UNIT

- Check compressor compartment for oil stains indicating refrigerant leaks.
- Tighten all electrical connections.
- Check that the fan runs freely without vibration or restriction.
- Tighten all electrical connections and mountings.
- Check for excessive noise and vibration and rectify as necessary.
- Check LED fault indication.
- Check and clean drain holes at the base of the unit.

AACV 147 / 164 AIR CONDITIONER WIRING DIAGRAM

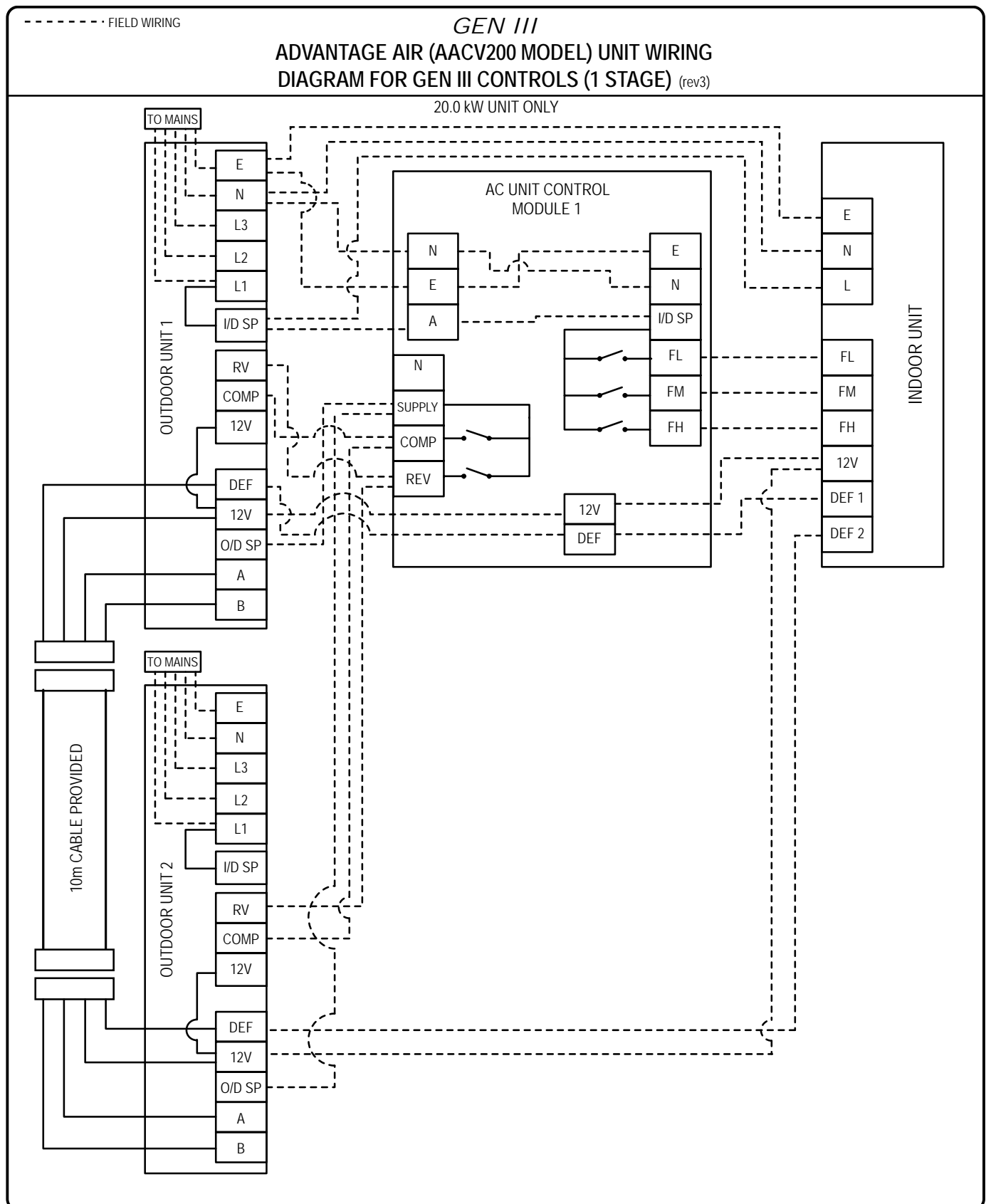


No liability

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AACV 200 AIR CONDITIONER WIRING DIAGRAM 1 STAGE

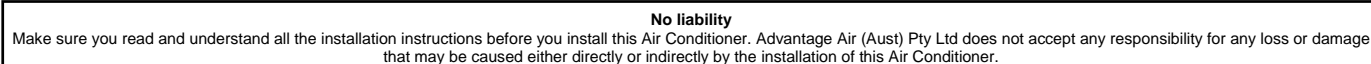
AdvantageAir



No liability

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*Advantage***Air**



AACV OUTDOOR CONDENSING UNIT RUNNING STATUS & FAULT INDICATION



1. Ensure dipswitch SW3-1 and 2 are in the OFF position.
2. Press SW2 to switch between RUNNING STATUS and FAULT indication.
3. Press SW 1 to clear all faults. All faults will be cleared once power supply to the system is isolated.
4. When the system detects a fault it will automatically reset after 3 minutes . However, if the same fault occurs again within the next 30 minutes, the system will shut down and will require manual reset by switching the condensing unit isolator off and back on.

RUNNING STATUS

LED No.	COMMAND / EQUIPMENT STATUS	LED DISPLAY		
		UNIT OFF	COOLING	HEATING
LED 8	Compressor Crankcase Heater On	ON		
LED 7	Bypass Valve On	ON for 30 sec when comp switches off		May be ON when HP Switch (LED3) is ON
LED 6	Reverse valve On			ON
LED 5	Outdoor Fan On		ON	ON
LED 4	Compressor On		ON	ON
LED 3	High Pressure Switch On			INTERMITENT
LED 2	Heating Command			ON
LED 1	Start Compressor Command		ON	ON

FAULT INDICATION

LED No.	EQUIPMENT STATUS	LED DISPLAY	POSSIBLE CAUSE	POSSIBLE SOLUTIONS
LED 8	Faulty control board	FLASHING	Faulty control PCB	Replace outdoor control PCB
LED 7	Overheat Protection (Outdoor coil is above 70 °C)	FLASHING	Outdoor fan faulty	Check fan
			Refrigerant over charged	Weigh in new charge
			Dirty condenser coil	Clean condenser coil
			Short cycling of hot condenser air	Relocate obstruction or unit
			Faulty sensor connection	Check connection
			Faulty sensor	Replace sensor
LED 6	Not used			
LED 5	High Temperature Protection (refrigerant discharge above 130 °C)	FLASHING	Outdoor fan faulty	Check fan
			Refrigerant over charged	Weigh in new charge
			Dirty condenser coil	Clean condenser coil
			Short cycling of hot condenser air	Relocate obstruction or unit
			Faulty sensor connection	Check connection
			Faulty sensor	Replace sensor
LED 4	Low Refrigerant Pressure Protection	FLASHING	Refrigerant leak.	Leak test system
			Low Refrigerant charge	Weigh in new charge
			Low indoor air flow	Check indoor fan, filter and coil
			Faulty sensor connection	Check connection
			Faulty LP sensor	Replace sensor
LED 3	Faulty Outdoor Coil sensor	FLASHING	Faulty wiring connection or sensor	Check connection / replace sensor
LED 2	Missing Phase (3 Phase units only)	FLASHING	Power failure on one or more phases	Check power supply
LED 1	Anti-Phase (3 Phase units only)	FLASHING	Incorrect mains cable termination	Check cable termination

No liability

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AACV AIR CONDITIONER COMMISSIONING SHEET

AdvantageAir

Model No.: _____

Condensing Unit Serial No.: _____

Company: _____

Fan Coil Unit Serial No.: _____

Installer: _____

Date of Installation: _____

Date of Commissioning: _____

REFRIGERATION

Refrigerant type	
Pipe Sizes: Suction/ Liquid (mm)	
Line Lengths: Horizontal/ Vertical/ Total (Meters)	
What pressure was the system evacuated to?	
Refrigerant added/ Total refrigerant in system (kg)	
Amount of oil added to system (g)	
Suction pressure on Cooling (kPa)	
Refrigerant leak test	

ELECTRICAL

Supply Voltage (V)	
Compressor Running current (A)/ designed current (A)	
Outdoor unit fan running current (A)	
Indoor Fan running current (A)	
Total Unit running current (A)	

TEMPERATURE

Outdoor ambient temperature (°C)	
Indoor Unit air on/off coil temperature (°C)	
Outdoor Unit air on/off coil temperature (°C)	

GENERAL

Air filter installed?	
Condensate drain and safety drain tested?	
Indoor fan coil unit vibration checked	
Outdoor condensing unit vibration checked	

REMARKS:

This form must be completed and returned to Advantage Air to validate unit warranty

DUCTED SPLIT SYSTEM AIR CONDITIONER

AACV-147-FCU/CON1

AdvantageAir



Outdoor unit AACV-147-CON1



Indoor unit AACV-147-FCU

FEATURES

- Nominal cooling capacity 14.8 kW
- Nominal heating capacity 15.1 kW
- Nominal airflow 850 l/s
- Refrigerant R407C, with zero ozone depleting potential (ODP).
- Single Phase with factory fitted soft starter
- Reliable Copeland scroll compressor
- 3 speed fan on indoor unit
- Variable speed outdoor fans for lower noise levels at part load conditions
- Fully compatible with Control Air Platinum control system with easy interface terminals
- Self diagnostic LED's to indicate running and fault status.
- Electronic HP/LP protection with auto reset
- Anti cycle timer
- Internal compressor overload protection
- Control system circuit breaker
- Time and temperature controlled electronic de-ice to prevent outdoor coil ice-up during heating

CONSTRUCTION

- Indoor units are constructed from high grade galvanized steel.
- Indoor unit come with a factory fitted stainless steel condensate drain tray and an external galvanized steel safety tray.

APPLICATIONS

- Suitable for reverse cycle ducted system for residential commercial and industrial applications.

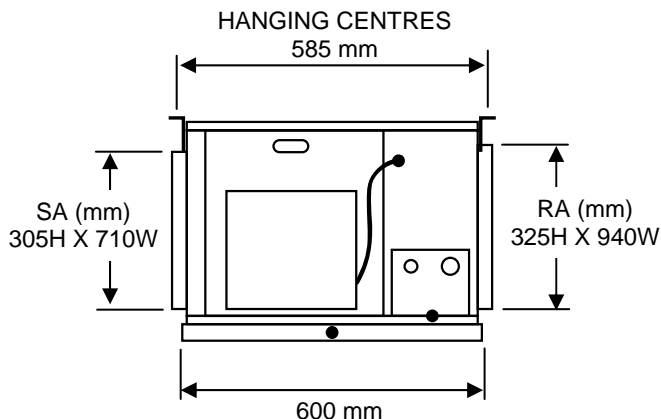
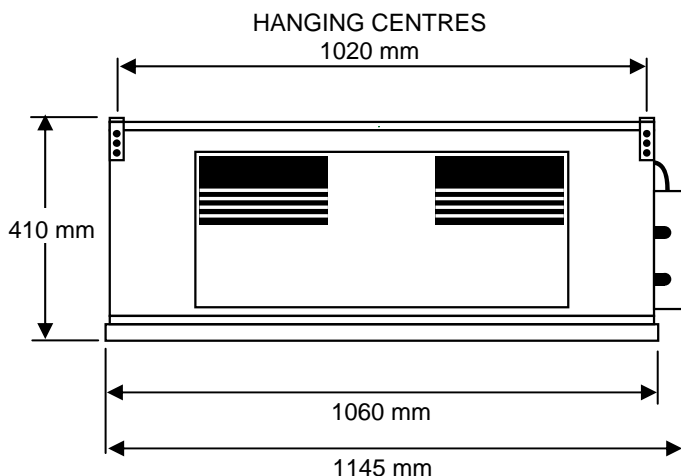
CONTROL SYSTEM OPTIONS

- This air conditioning unit has been specifically designed to interface directly with the following Advantage Air control systems:
 - Platinum system
 - The full range of Generation III control systems

INDOOR FAN COIL UNIT AACV-147-FCU

AdvantageAir

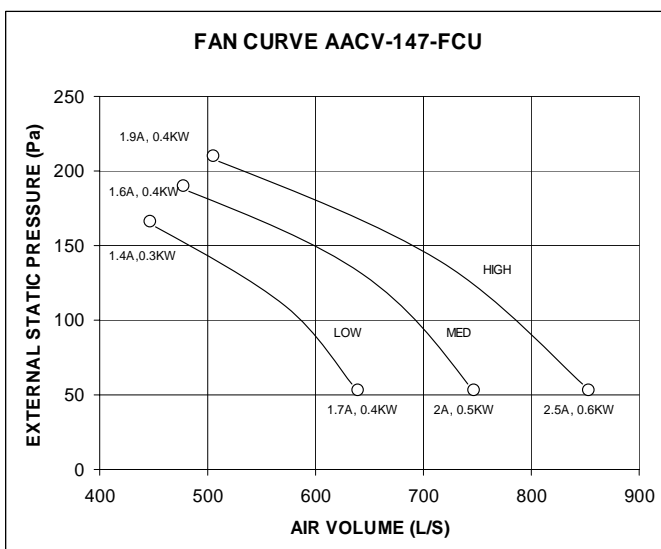
DIMENSIONS



TECHNICAL SPECIFICATIONS

Fan type	Twin forward curved centrifugal
Standard airflow (Hi / Med / Lo) (l/s)	850 / 740 / 630 @ 60 Pa external static pressure
Maximum coil face velocity in high humidity applications	2.5m/s
Power supply	230V / 50 Hz / 1 phase
Motor output: (kW)	0.58
Running Current:(Amps)	2.6
Cabinet construction	Galvanized steel
Cabinet insulation type	Closed cell material with aluminum foil faced (8mm)
Condensate drain tray construction	Stainless steel
Safety tray construction	Galvanized steel
Refrigerant	R407C
Refrigeration Charge	4.7 kg (up to 7 meters pipe length)
Defrost Method	Reverse Cycle
Refrigerant suction pipe size (DIA)	19 mm (3/4")
Refrigerant liquid pipe size (DIA)	9.5 mm (3/8")
Condensate drain pipe size (OD)	25.4 mm
Safety tray pipe size (OD)	25.4 mm
Indoor fan coil unit mass	75 kg

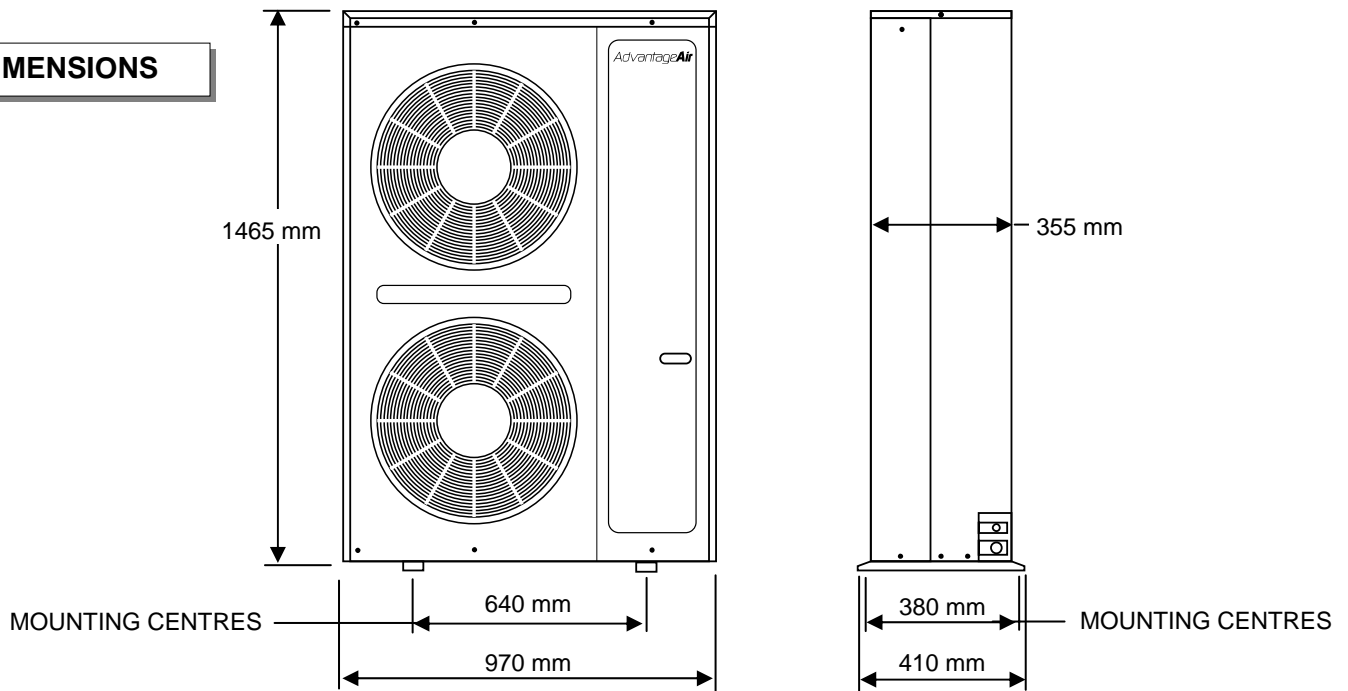
FAN PERFORMANCE CURVE



OUTDOOR CONDENSING UNIT AACV-147-CON1

AdvantageAir

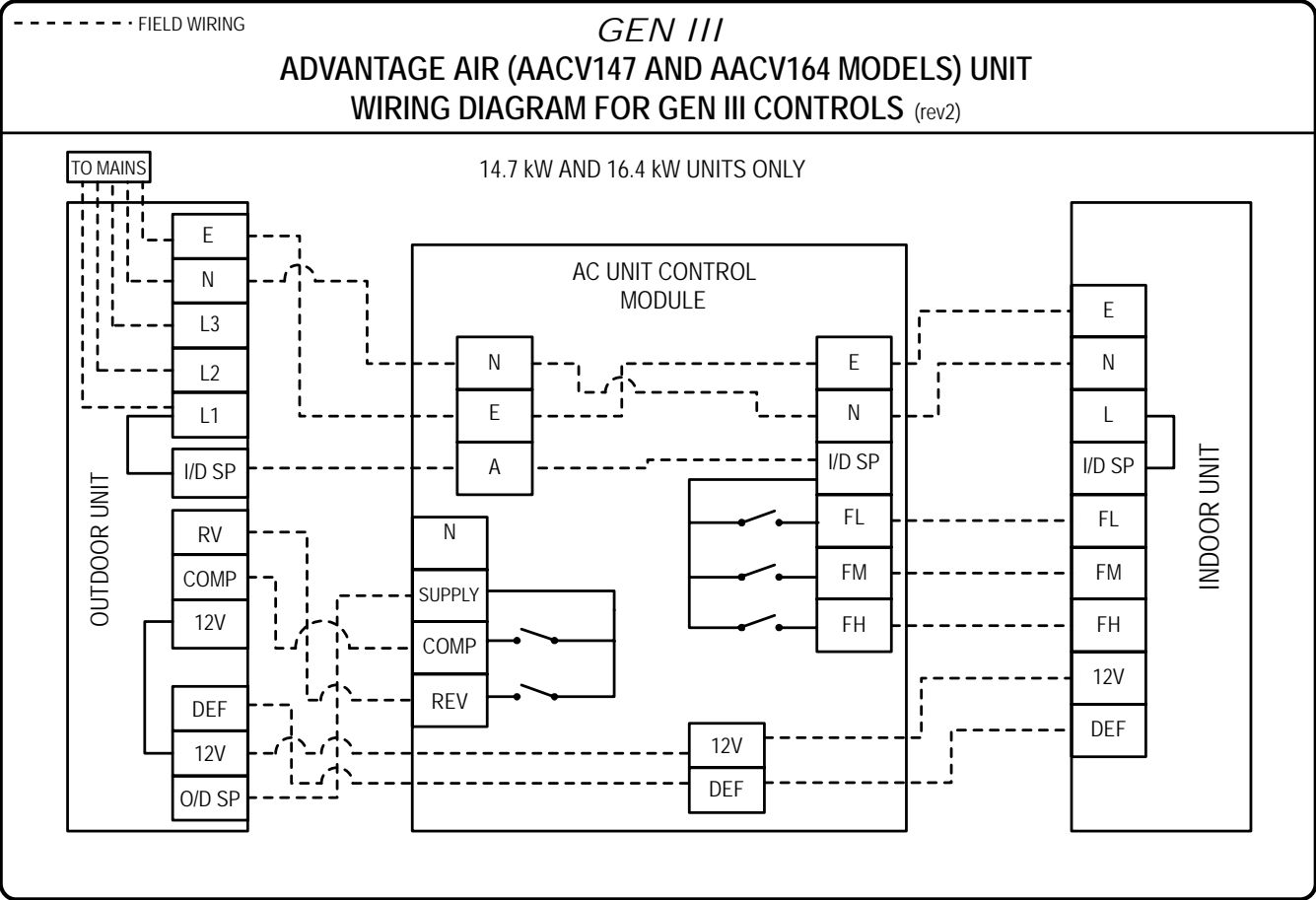
DIMENSIONS



TECHNICAL SPECIFICATIONS

Compressor	Single Copeland scroll
Condenser fan type	Twin variable speed propeller
Power supply	230V / 50 Hz / 1 phase
System power input (kW)	5.2
System running current (Amps)	32.6
System EER (W/W)	2.83
Refrigerant	R407C
System refrigeration charge	4.7 kg (up to 7 meters pipe length)
Additional refrigerant charge	65 grams per meter pipe length over 7 meters
System oil Charge	1.68 kg
Defrost Method	Reverse Cycle
Refrigerant suction pipe size (dia)	19mm (3/4")
Refrigerant liquid pipe size (dia)	9.5mm (3/8")
System maximum pipe length (one way)	50 meters
System maximum elevation (indoor to outdoor)	30 meters
System maximum no. elbows or bends	10
Outdoor condensing unit mass	150 kg

AACV AIR CONDITIONER
AACV-147-FCU/CON1 WIRING DIAGRAM



No liability

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PERFORMANCE DATA
AACV-147-FCU/CON1

AdvantageAir

COOLING PERFORMANCE DATA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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850	16	10.7	9.6	11.1	10.0	11.4	10.3	11.8	10.6	12.1	10.9	12.5	11.3	12.8	10.2	13.2	11.2	13.5	11.5	13.9	11.8	14.3	12.5	14.3	12.5	14.7	13.2	15.1	14.3	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	

AS 3823.2:2003 MINIMUM ENERGY PERFORMANCE TEST	
(Conditions shown highlighted)	
Refrigerant	R407C
Pipe length (m)	7.5
Air quantity (l/s)	848 @ 60Pa esp
Cooling Capacity T1 Test	
Total cooling capacity (kW)	14.76
Sensible cooling capacity (kW)	12.89
Energy consumption (kWh)	5.22
Energy efficiency Ratio (EER)	2.83
Heating Capacity H1 Test	
Total heating capacity (kW)	15.08
Energy consumption (kWh)	5.03
Coefficient of performance (COP)	3.00

OUTDOOR CONDENSING UNIT AACV-147-FCU/CON1

AdvantageAir

PERFORMANCE CORRECTION FACTORS

INDOOR AIR FLOW CORRECTION	
Percent of Rated Flow	Capacity Correction Factor
110%	1.02
100%	1.00
90%	0.98
80%	0.96
70%	0.94

REFRIGERANT PIPE CORRECTION	
Equivalent Pipe length in meters (one way)	Capacity Correction Factor
10	0.98
20	0.96
30	0.94
40	0.92
50	0.89

NOISE DATA

FAN COIL UNIT NOISE DATA HIGH SPEED							
IN DUCT SOUND POWER LEVELS (L _w)	125	250	500	1K	2K	4K	8K
Return air inlet (dB)	64.9	62.7	57.3	57.4	57	56.6	45.1
Supply air outlet (dB)	57.7	57.1	59.5	62.2	58.8	58	56.4
Casing radiation (dB)	54	51.2	47.6	40.8	36.9	33.3	26.7
Free blow - total (dB)	68.4	64.3	63.3	64.7	62	60	56.6
SOUND PRESSURE LEVELS (L _p)* Free blow - total dB(A)	47						

CONDENSING UNIT NOISE DATA	dB(A)
SOUND PRESSURE LEVELS (L _p)**	54 - 49

* Measured at 1.5 meters from unit with a reverberation time of 0.23 seconds.

** Measured at 1.0 meter from unit. Dependent on ambient temperature, mode of operation and number of units running.

DUCTED SPLIT SYSTEM AIR CONDITIONER

AACV-164-FCU/CON3

AdvantageAir



Outdoor unit AACV-164-CON3



Indoor unit AACV-164-FCU

FEATURES

- Nominal cooling capacity 16.5 kW
- Nominal heating capacity 17.6 kW
- Nominal airflow 850 l/s
- Refrigerant R407C, with zero ozone depleting potential (ODP).
- Three phase electrical supply
- Reliable Copeland scroll compressor
- 3 speed fan on indoor unit
- Variable speed outdoor fans for lower noise levels at part load conditions
- Fully compatible with Control Air Platinum control system with easy interface terminals
- Self diagnostic LED's to indicate running and fault status.
- Electronic HP/LP protection with auto reset
- Anti cycle timer
- Internal compressor overload protection
- Control system circuit breaker
- Time and temperature controlled electronic de-ice to prevent outdoor coil ice-up during heating

CONSTRUCTION

- Indoor units are constructed from high grade galvanized steel.
- Indoor unit come with a factory fitted stainless steel condensate drain tray and an external galvanized steel safety tray.

APPLICATIONS

- Suitable for reverse cycle ducted system for residential commercial and industrial applications.

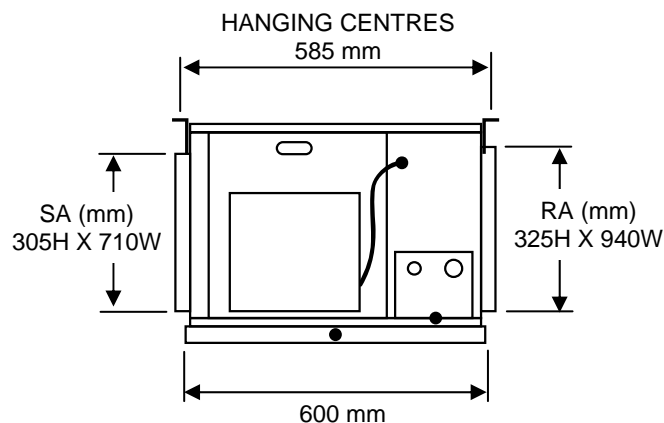
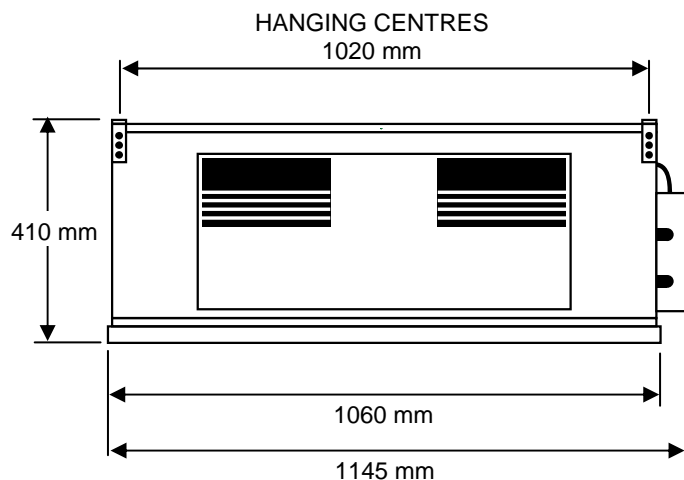
CONTROL SYSTEM OPTIONS

- This air conditioning unit has been specifically designed to interface directly with the following Advantage Air control systems:
 - Platinum system
 - The full range of Generation III control systems

INDOOR FAN COIL UNIT AACV-164-FCU

AdvantageAir

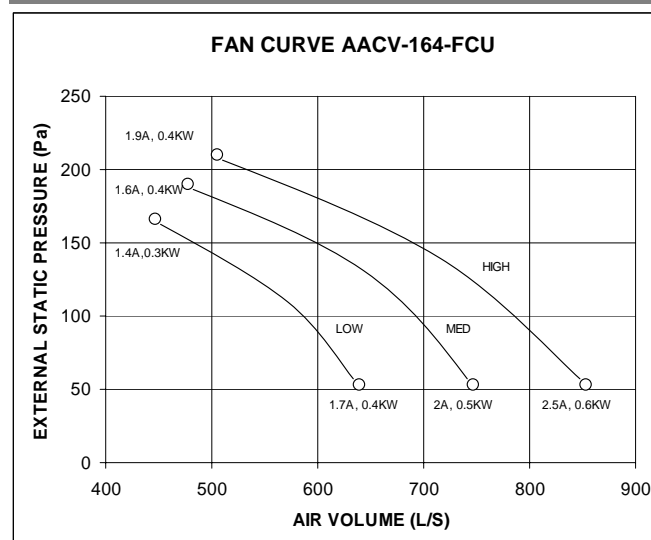
DIMENSIONS



TECHNICAL SPECIFICATIONS

Fan type	Twin forward curved centrifugal
Standard airflow (Hi / Med / Lo) (l/s)	850 / 740 / 630 @ 60 Pa external static pressure
Power supply	240V / 50 Hz / 1 phase
Maximum coil face velocity in high humidity applications	2.5m/s
Motor output: (kW)	0.58
Running Current:(Amps)	2.6
Cabinet construction	Galvanized steel
Cabinet insulation type	Closed cell material with aluminum foil faced (8mm)
Condensate drain tray construction	Stainless steel
Safety tray construction	Galvanized steel
Refrigerant	R407C
Refrigeration Charge	4.7 kg (up to 7 meters pipe length)
Defrost Method	Reverse Cycle
Refrigerant suction pipe size (dia)	19 mm (3/4")
Refrigerant liquid pipe size (dia)	9.5 mm (3/8")
Condensate drain pipe size (OD)	25.4 mm
Safety tray pipe size (OD)	25.4 mm
Indoor fan coil unit mass	75 kg

FAN PERFORMANCE CURVE

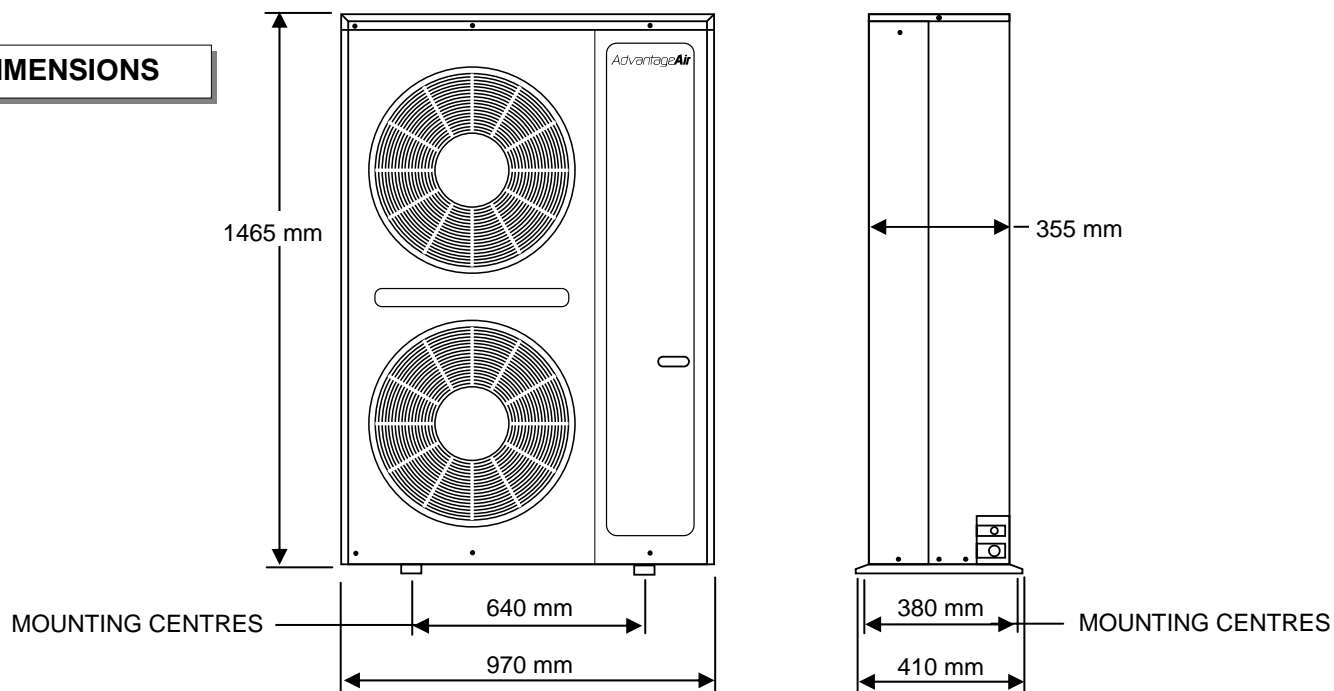


OUTDOOR CONDENSING UNIT

AACV-164-CON3

AdvantageAir

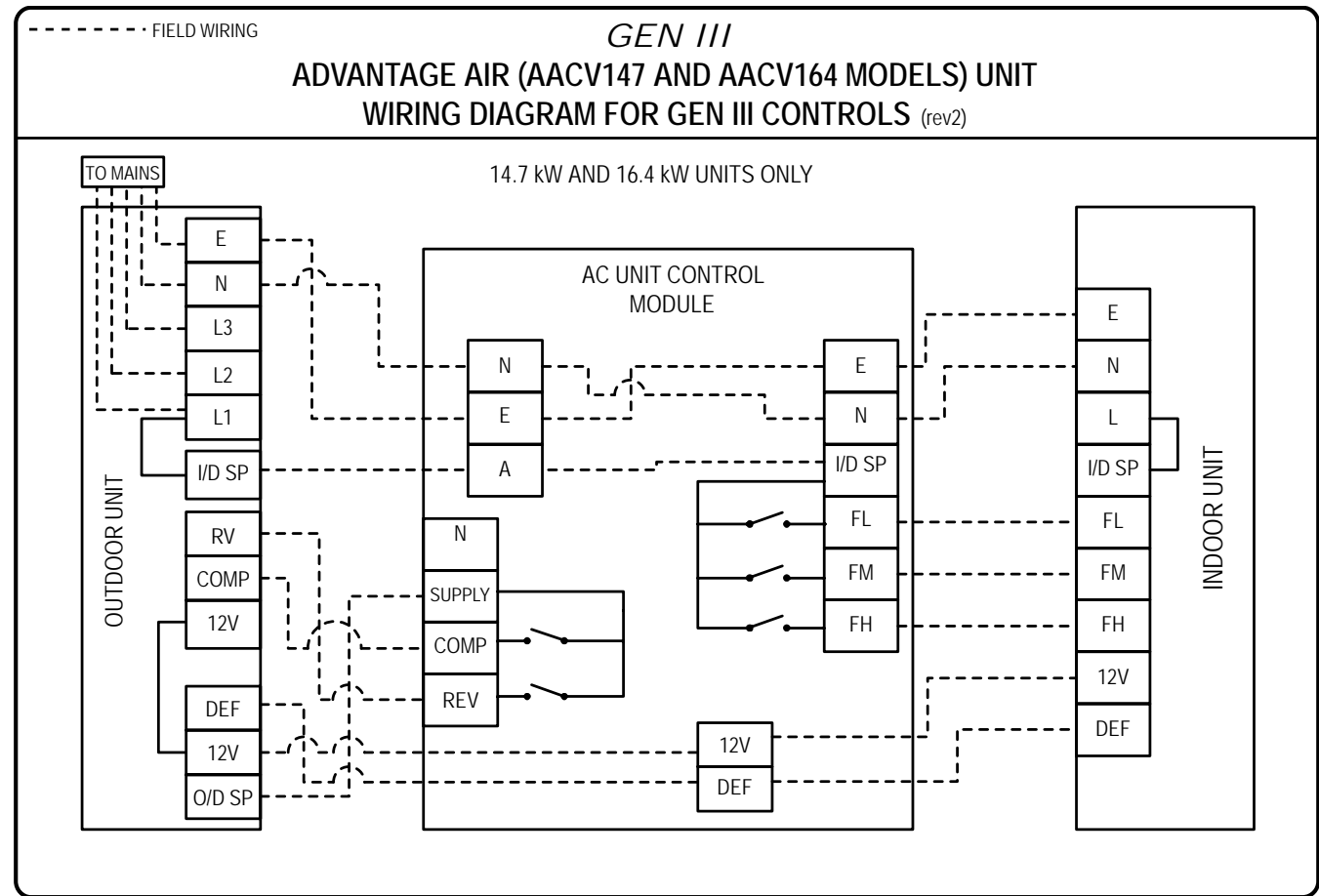
DIMENSIONS



TECHNICAL SPECIFICATIONS

Compressor	Single Copeland scroll
Condenser fan type	Twin variable speed propeller
Power supply	415V / 50 Hz / 3 phase
System power input (kW)	6.4
System running current (Amps)	15.6
System EER (W/W)	2.57
Refrigerant	R407C
System refrigeration charge	4.7 kg (up to 7 meters pipe length)
Additional refrigerant charge	65 grams per meter pipe length over 7 meters
System oil Charge	1.68 kg
Defrost Method	Reverse Cycle
Refrigerant suction pipe size (dia)	19mm (3/4")
Refrigerant liquid pipe size (dia)	9.5mm (3/8")
System maximum pipe length (one way)	50 meters
System maximum elevation (indoor to outdoor)	30 meters
System maximum no. elbows or bends	10
Outdoor condensing unit mass	150 kg

AACV AIR CONDITIONER
AACV-164-FCU/CON3 WIRING DIAGRAM



No liability

Make sure you read and understand all the installation instructions before you install this Air Conditioner. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Air Conditioner.

AdvantageAir

OUTDOOR TEMP DB °C

INDOOR			OUTDOOR TEMP DB ° C																																	
Air qty	DB	WB	27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43	
I/s	° C	° C	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
850	22	16	16.4	14.6	16.3	14.5	16.1	14.4	16	14.3	15.8	14.1	15.7	14.0	15.5	13.8	15.4	13.7	15.2	13.6	15	13.4	14.9	13.3	14.7	13.1	14.5	12.9	14.4	12.8	14.2	12.7	14	12.5	13.8	12.3
850	23	17	16.9	13.7	16.7	13.5	16.6	13.5	16.4	13.3	16.3	13.2	16.1	13.1	16	13.0	15.8	12.8	15.6	12.7	15.5	12.6	15.3	12.4	15.1	12.2	14.9	12.1	14.8	12.0	14.6	11.8	14.4	11.7	14.2	11.5
850	24	17	16.9	14.9	16.7	14.7	16.6	14.7	16.4	14.5	16.3	14.4	16.1	14.2	15.9	14.0	15.8	14.0	15.6	13.8	15.4	13.6	15.3	13.5	15.1	13.3	14.9	13.2	14.8	13.1	14.6	12.9	14.4	12.7	14.2	12.5
850	25	18	17.3	14.0	17.2	13.9	17	13.8	16.9	13.7	16.7	13.5	16.5	13.3	16.4	13.3	16.2	13.1	16	12.9	15.9	12.9	15.7	12.7	15.5	12.5	15.3	12.4	15.2	12.3	15.0	12.1	14.8	12.0	14.6	11.8
850	26	18	17.3	15.1	17.2	15.0	17	14.8	16.9	14.7	16.7	14.6	16.5	14.4	16.4	14.3	16.2	14.1	16	14.0	15.9	13.9	15.7	13.7	15.5	13.5	15.3	13.3	15.1	13.2	15.0	13.1	14.8	12.9	14.6	12.7
850	27	19	17.8	14.7	17.6	14.5	17.5	14.4	17.3	14.3	17.1	14.1	17.0	14.0	16.8	13.9	16.6	13.7	16.5	13.6	16.3	13.4	16.1	13.3	15.9	13.1	15.7	12.9	15.6	12.9	15.4	12.7	15.2	12.5	15.0	12.4
850	28	19	17.8	15.3	17.6	15.1	17.5	15.0	17.3	14.8	17.1	14.7	17.0	14.6	16.8	14.4	16.6	14.2	16.4	14.1	16.3	14.0	16.1	13.8	15.9	13.6	15.7	13.5	15.5	13.3	15.4	13.2	15.2	13.0	15.0	12.9
850	29	20	18.3	14.5	18.1	14.4	17.9	14.2	17.8	14.1	17.6	14.0	17.4	13.8	17.2	13.7	17.1	13.6	16.9	13.4	16.7	13.3	16.5	13.1	16.3	12.9	16.2	12.9	16	12.7	15.8	12.5	15.6	12.4	15.4	12.2
850	30	21	18.8	13.9	18.6	13.7	18.4	13.6	18.2	13.4	18.1	13.4	17.9	13.2	17.7	13.1	17.5	12.9	17.3	12.8	17.1	12.6	17.0	12.6	16.8	12.4	16.6	12.3	16.4	12.1	16.2	12.0	16.0	11.8	15.8	11.7

HEATING PERFORMANCE DATA

HEATING PERFORMANCE DATA			OUTDOOR TEMP DB ° C																																
INDOOR			-5		-4		-3		-2		-1		0		1		2		3		4		5		6		7		8		9		10		
Air qty	DB		Gross	Nett	Gross	Nett	Gross	Nett	Gross	Nett	Gross	Nett	Gross	Nett	Gross	Nett	Gross	Nett	Gross	Nett	Gross	Nett	Gross	Nett	Gross	Nett	Gross	Nett	Gross	Nett	Gross	Nett	Gross	Nett	
	° C																																		
850	16		12.3	11.1	12.6	11.3	13	11.7	13.4	12.1	13.8	12.4	14.2	12.8	14.7	11.8	15.1	12.8	15.5	13.2	15.9	13.5	16.3	14.3	16.8	15.1	17.8	16.9	17.8	18.2	18.2	18.7	18.7		
850	19		12.2	11.0	12.6	11.3	13	11.7	13.3	12.0	13.7	12.3	14.2	12.8	14.6	11.7	15	12.8	15.4	13.1	15.8	13.4	16.2	14.2	16.6	14.9	17.6	16.7	17.6	18	18	18.5	18.5		
850	20		12.2	11.0	12.6	11.3	12.9	11.6	13.3	12.0	13.7	12.3	14.1	12.7	14.5	11.6	14.9	12.7	15.3	13.0	15.7	13.3	16.1	14.1	16.6	14.9	17.6	16.7	17.6	18	18	18.4	18.4		
850	22		12.1	10.9	12.5	11.3	12.9	11.6	13.3	12.0	13.7	12.3	14.1	12.7	14.5	11.6	14.9	12.7	15.3	13.0	15.7	13.3	16.1	14.1	16.5	14.9	17.5	16.6	17.5	17.5	17.9	18.3	18.3		
850	25		12.1	10.9	12.5	11.3	12.8	11.5	13.2	11.9	13.6	12.2	14	12.6	14.4	11.5	14.7	12.5	15.1	12.8	15.5	13.2	15.9	13.9	16.3	14.7	17.3	16.4	17.3	17.7	18.1	18.1			

AS 3823.2:2003 MINIMUM ENERGY PERFORMANCE TEST		
(Conditions shown highlighted)		
Refrigerant		R407C
Pipe length (m)		7
Air quantity (l/s)		861 @ 60Pa esp
Cooling Capacity T1 Test		
Total cooling capacity (kW)		16.51
Sensible cooling capacity (kW)		13.626
Energy consumption (kWh)		6.41
Energy efficiency Ratio (EER)		2.576
Heating Capacity H1 Test		
Total heating capacity (kW)		17.62
Energy consumption (kWh)		6.09
Coefficient of performance (COP)		2.90

OUTDOOR CONDENSING UNIT AACV-164-FCU/CON3

AdvantageAir

PERFORMANCE CORRECTION FACTORS

INDOOR AIR FLOW CORRECTION	
Percent of Rated Flow	Capacity Correction Factor
110%	1.01
100%	1.00
90%	0.98
80%	0.96
70%	0.93

REFRIGERANT PIPE CORRECTION	
Equivalent Pipe length in meters (one way)	Capacity Correction Factor
10	0.98
20	0.96
30	0.94
40	0.92
50	0.89

NOISE DATA

FAN COIL UNIT NOISE DATA HIGH SPEED							
IN DUCT SOUND POWER LEVELS (L _w)	125	250	500	1K	2K	4K	8K
Return air inlet (dB)	64.9	62.7	57.3	57.4	57	56.6	45.1
Supply air outlet (dB)	57.7	57.1	59.5	62.2	58.8	58	56.4
Casing radiation (dB)	54	51.2	47.6	40.8	36.9	33.3	26.7
Free blow - total (dB)	68.4	64.3	63.3	64.7	62	60	56.6
SOUND PRESSURE LEVELS (L _p)* Free blow - total dB(A)	47						

CONDENSING UNIT NOISE DATA	dB(A)
SOUND PRESSURE LEVELS (L _p)**	57 - 52

* Measured at 1.5 meters from unit with a reverberation time of 0.23 seconds.

** Measured at 1.0 meter from unit. Dependent on ambient temperature, mode of operation and number of units running.

DUCTED SPLIT SYSTEM AIR CONDITIONER AACV-200-FCU/CON3

AdvantageAir



2 x Outdoor unit AACV-200-CON3



1 x Indoor unit AACV-200-FCU

FEATURES

- Nominal cooling capacity 21.3 kW
- Nominal heating capacity 23.3 kW
- Nominal airflow 1160 l/s
- Refrigerant R407C, with zero ozone depleting potential (ODP).
- Three phase electrical supply
- Reliable Copeland scroll compressor
- 3 speed fan on indoor unit
- Variable speed outdoor fans for lower noise levels at part load conditions
- Fully compatible with Control Air Platinum control system with easy interface terminals
- Self diagnostic LED's to indicate running and fault status.
- Electronic HP/LP protection with auto reset
- Anti cycle timer
- Internal compressor overload protection
- Control system circuit breaker
- Time and temperature controlled electronic de-ice to prevent outdoor coil ice-up during heating

CONSTRUCTION

- Indoor units are constructed from high grade galvanized steel.
- Indoor unit come with a factory fitted stainless steel condensate drain tray and an external galvanized steel safety tray.

APPLICATIONS

- Suitable for reverse cycle ducted system for residential commercial and industrial applications.

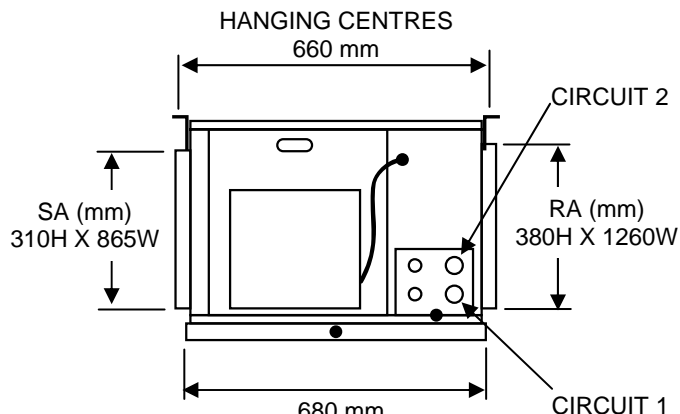
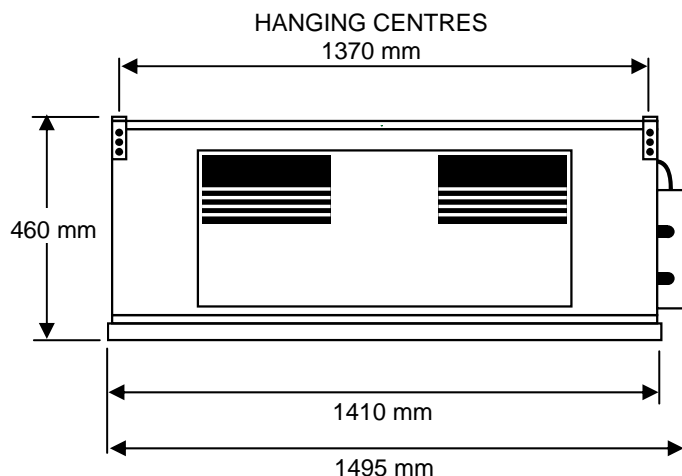
CONTROL SYSTEM OPTIONS

- This air conditioning unit has been specifically designed to interface directly with the following Advantage Air control systems:
 - Platinum system
 - The full range of Generation III control systems

INDOOR FAN COIL UNIT AACV-200-FCU

AdvantageAir

DIMENSIONS

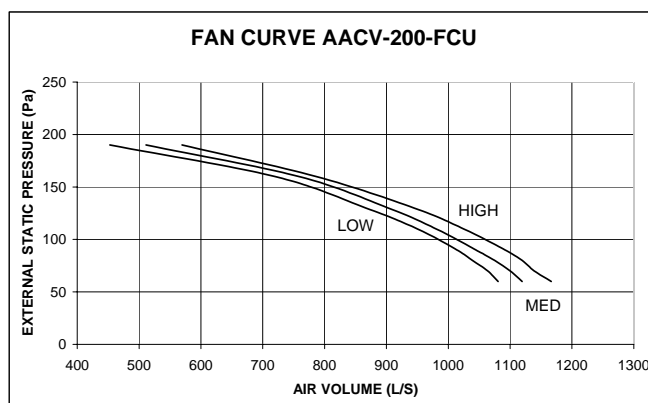


NOTE: 2 CIRCUITS INTERLACED
FAN COIL UNIT

TECHNICAL SPECIFICATIONS

Fan type	Twin forward curved centrifugal
Standard airflow (Hi / Med / Lo) (l/s)	1160 / 1120 / 1080 @ 60 Pa external static pressure
Maximum coil face velocity in high humidity applications	2.5m/s
Power supply	240V / 50 Hz / 1 phase
Motor output: (kW)	
Running Current:(Amps)	4.5
Cabinet construction	Galvanized steel
Cabinet insulation type	Closed cell material with aluminum foil faced (8mm)
Condensate drain tray construction	Stainless steel
Safety tray construction	Galvanized steel
Refrigerant	R407C
Refrigeration Charge	4.5 kg (up to 7 meters pipe length)
Defrost Method	Reverse Cycle
Refrigerant suction pipe size (DIA)	19 mm (3/4")
Refrigerant liquid pipe size (DIA)	9.5 mm (3/8")
Condensate drain pipe size (OD)	25.4 mm
Safety tray pipe size (OD)	25.4 mm
Indoor fan coil unit mass	98 kg

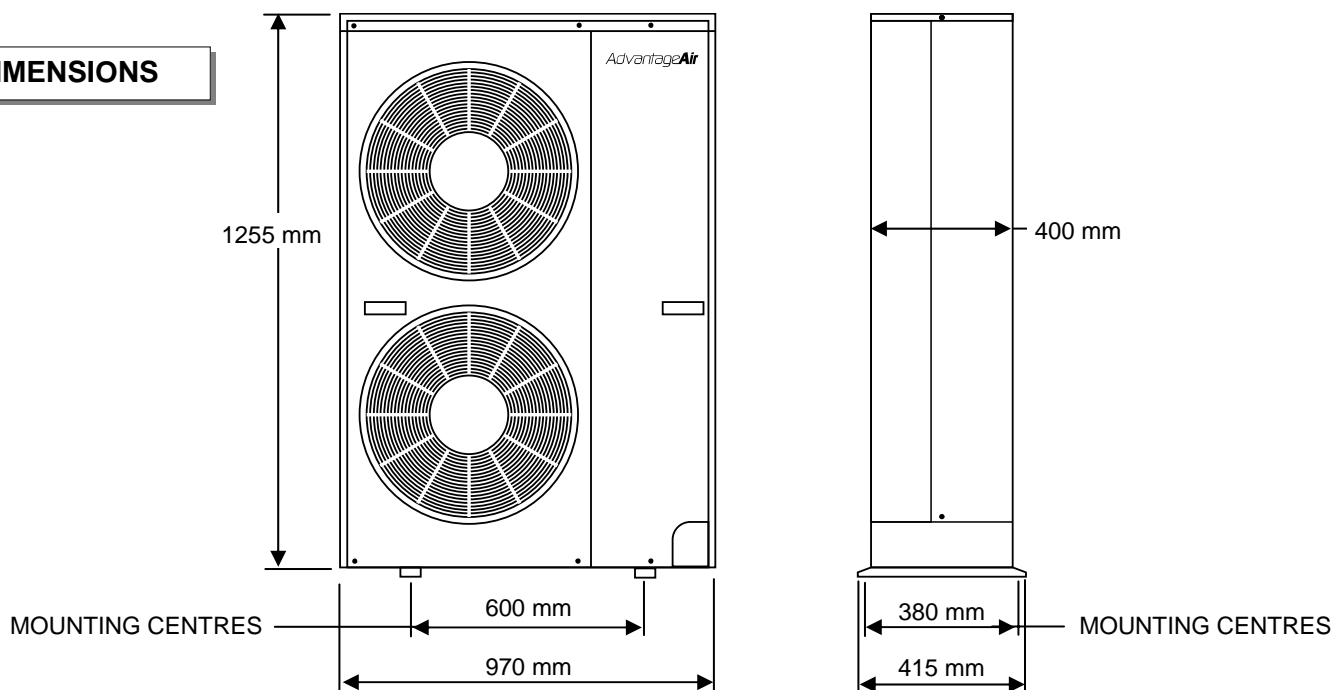
FAN PERFORMANCE CURVE



OUTDOOR CONDENSING UNIT AACV-200-CON3

AdvantageAir

DIMENSIONS

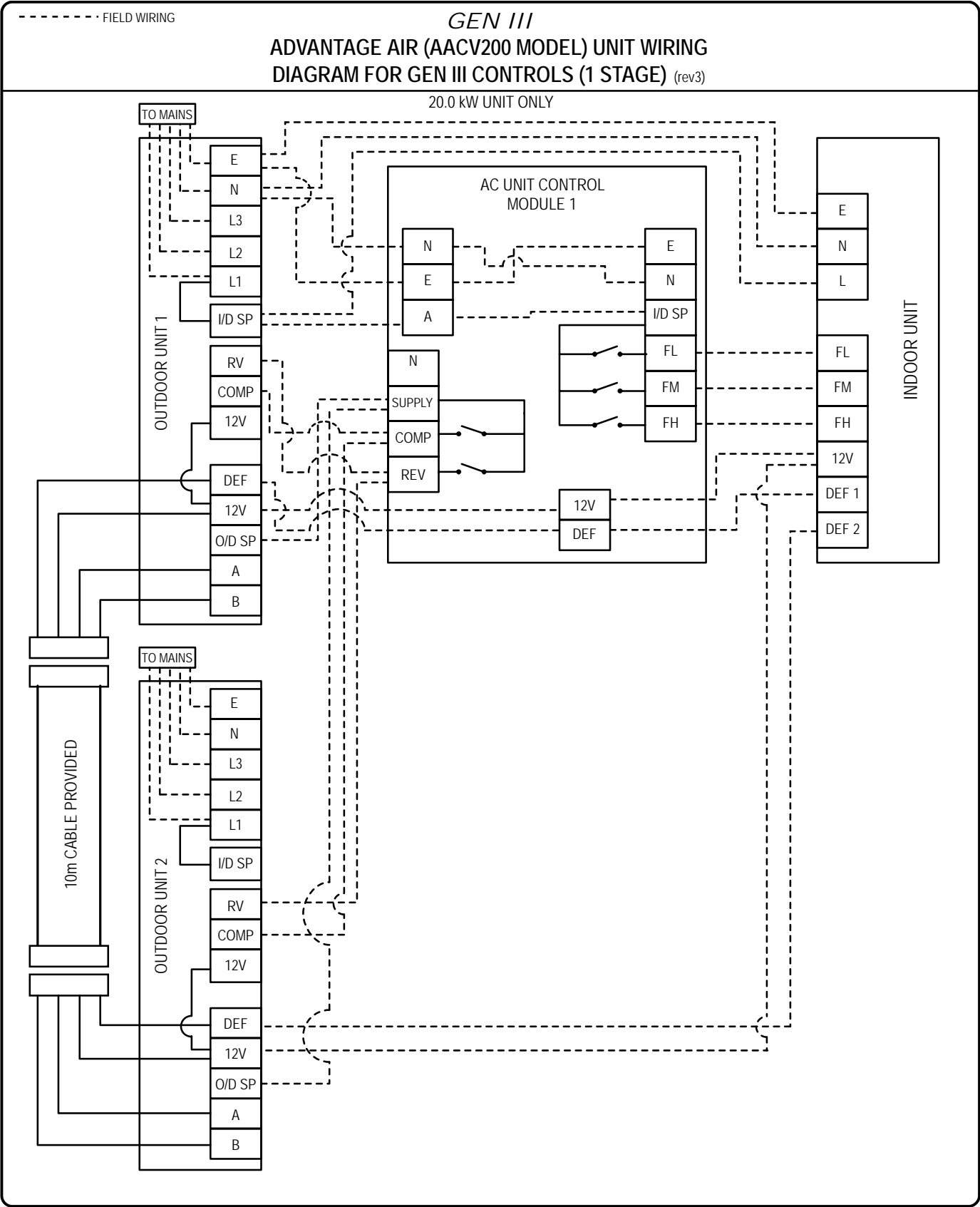


TECHNICAL SPECIFICATIONS

Compressor	Single Copeland scroll
Condenser fan type	Twin variable speed propeller
Power supply	415V / 50 Hz / 3 phase
System power input (kW)	7.8
System running current (Amps)	14
System EER (W/W)	2.77
Refrigerant	R407C
System refrigeration charge	4.5 kg (up to 7 meters pipe length)
Additional refrigerant charge	65 grams per meter pipe length over 7 meters
System oil Charge	1.36 kg
Defrost Method	Reverse Cycle
Refrigerant suction pipe size (dia)	19mm (3/4")
Refrigerant liquid pipe size (dia)	9.5mm (3/8")
System maximum pipe length (one way)	50 meters
System maximum elevation (indoor to outdoor)	30 meters
System maximum no. elbows or bends	10
Outdoor condensing unit mass	110 kg

NOTE: 2 X AACV200CON3 ARE REQUIRED FOR 20.0 kW SYSTEM

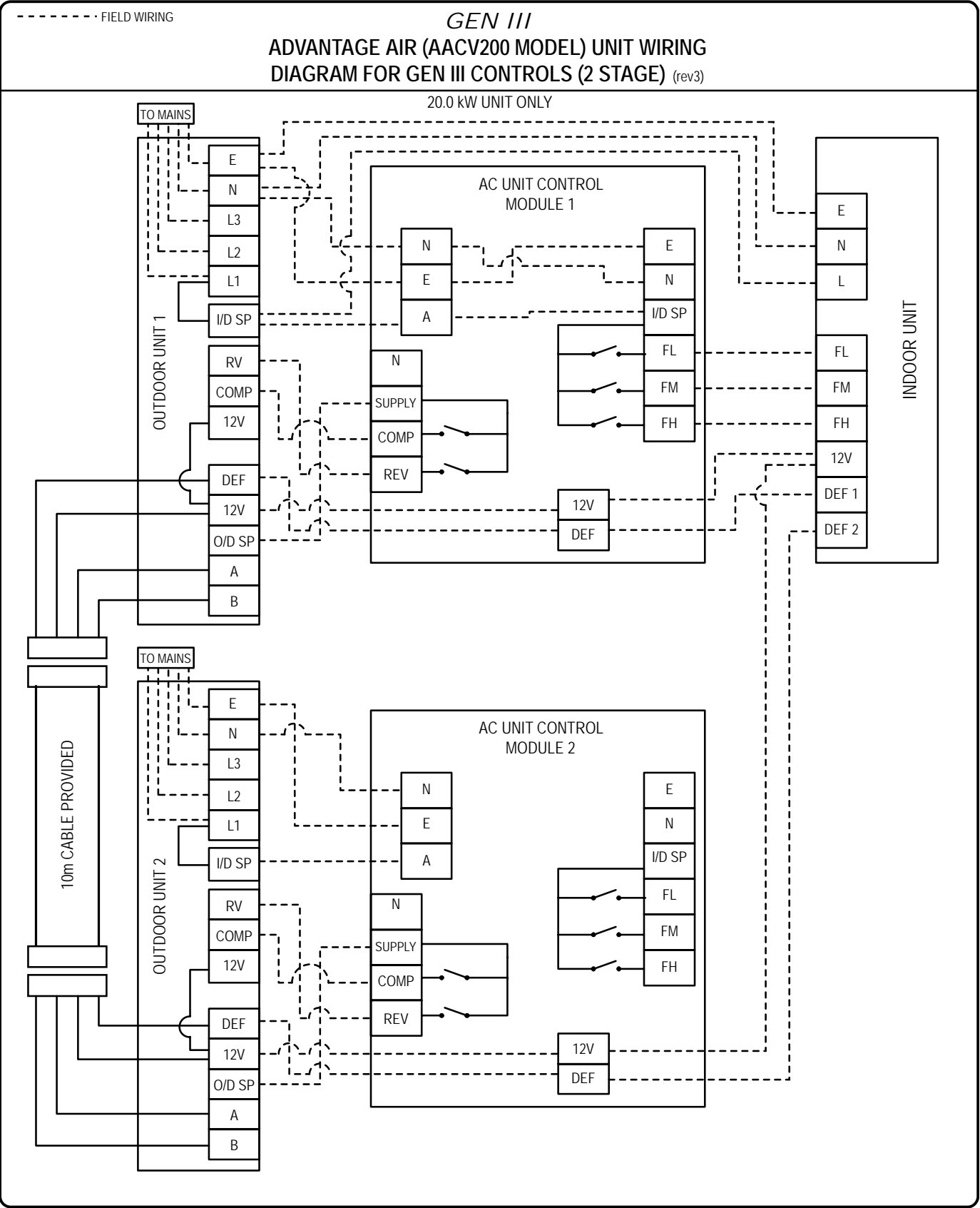
AACV 200 AIR CONDITIONER
WIRING DIAGRAM 1 STAGE



No liability

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AACV 200 AIR CONDITIONER
WIRING DIAGRAM 2 STAGE



No liability
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PERFORMANCE DATA
AACV-200-FCU/CON3

AdvantageAir

COOLING PERFORMANCE DATA										OUTDOOR TEMP DB ° C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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HEATING PERFORMANCE DATA																			OUTDOOR TEMP DB ° C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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AS 3823.2:2003 MINIMUM ENERGY PERFORMANCE TEST	
(Conditions shown highlighted)	
Refrigerant	R407C
Pipe length (m)	7
Air quantity (l/s)	1160 @ 60Pa esp
Cooling Capacity T1 Test	
Total cooling capacity (kW)	21.31
Sensible cooling capacity (kW)	16.8
Energy consumption (kWh)	7.69
Energy efficiency Ratio (EER)	2.771
Heating Capacity H1 Test	
Total heating capacity (kW)	23.26
Energy consumption (kWh)	7.76
Coefficient of performance (COP)	3

OUTDOOR CONDENSING UNIT AACV-200-FCU/CON3

*Advantage***Air**

PERFORMANCE CORRECTION FACTORS

INDOOR AIR FLOW CORRECTION	
Percent of Rated Flow	Capacity Correction Factor
110%	1.01
100%	1.00
90%	0.98
80%	0.96
70%	0.93

REFRIGERANT PIPE CORRECTION	
Equivalent Pipe length in meters (one way)	Capacity Correction Factor
10	0.98
20	0.96
30	0.94
40	0.92
50	0.89

NOISE DATA

CONDENSING UNIT NOISE DATA		dB(A)
SOUND PRESSURE LEVELS (Lp)**		58 - 52

* Measured at 1.5 meters from unit with a reverberation time of 0.23 seconds.

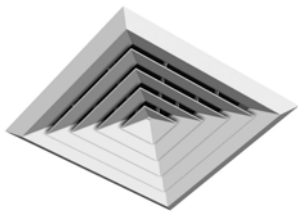
** Measured at 1.0 meter from unit. Dependent on ambient temperature, mode of operation and number of units running.

AIR DIFFUSION

PLASTIC DIFFUSERS AND GRILLES

SILHOUETTE DIFFUSERS

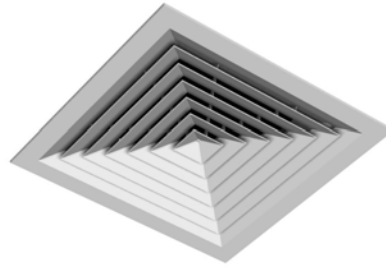
AdvantageAir



ST-30 4 WAY CORE



ST-30 3 WAY CORE



ST-60 METRIC TEEBAR



SILHOUETTE DIFFUSER WITH CUSHION HEAD ADAPTOR

FEATURES

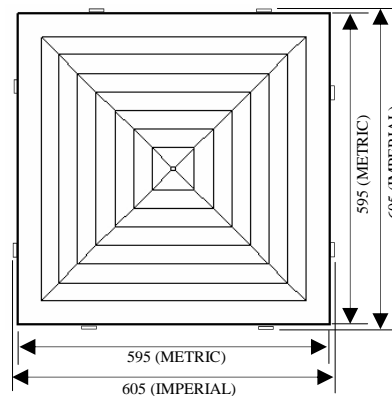
- Available in 2 sizes:
 - 280x280
 - 360x360 (Tee Bar)
- Easy to clean removable cores
- Alternative cores are available to suit the following blow configuration:
 - 280x280: 4 and 3 way blow
 - 360x360 (Tee Bar): 4 way blow
- Aesthetically pleasing louvre design
- Lightweight rigid construction
- 280x280 diffusers comes with spring loaded clips for quick and easy installation
- 360x360 Tee Bars are designed to drop in a standard commercial "T bar" ceiling grid. It can also be flush mounted in gyprock ceilings.
- 360x360 Tee Bar accepts all standard Advantage Air 360x360 neck adaptors and plastic cushion head adaptors.
- 280x280 silhouette diffuser accepts all standard Advantage Air 280x280 neck adaptors and plastic cushion head adaptors.



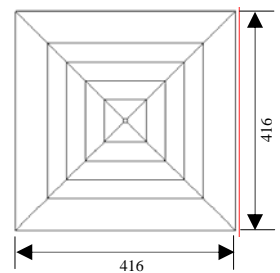
SPRING CLIPS SUPPLIED SEPARATELY
IN PACKS OF 4

DIMENSIONS

(ST-60) TEEBAR



(ST-30)



CONSTRUCTION

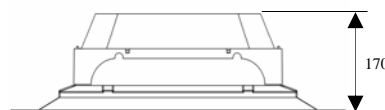
- Constructed from blended engineering plastics

APPLICATIONS

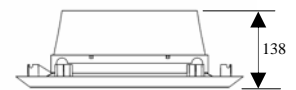
- Ideal for residential and commercial reverse cycle air conditioning, heating and ventilation applications.

OPTIONAL EXTRAS

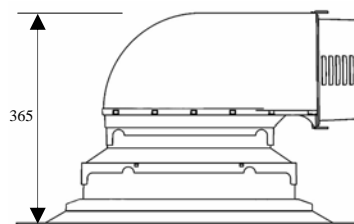
- Plastic neck adaptors
- Plastic cushion head adaptors
- Sheet metal cushion head adaptors
- Steel clips for Tee Bar diffusers
- Sheet metal OBD dampers
- Tabs on Tee Bar diffusers for installations to imperial ceiling grids.



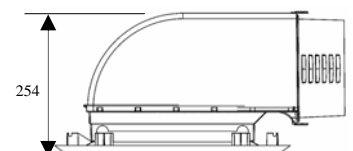
ST-60 with standard Advantage air neck adaptor



ST-30 with standard Advantage air neck adaptor



ST-60 with Advantage air plastic cushion head adaptor



ST-30 with Advantage air plastic cushion head adaptor

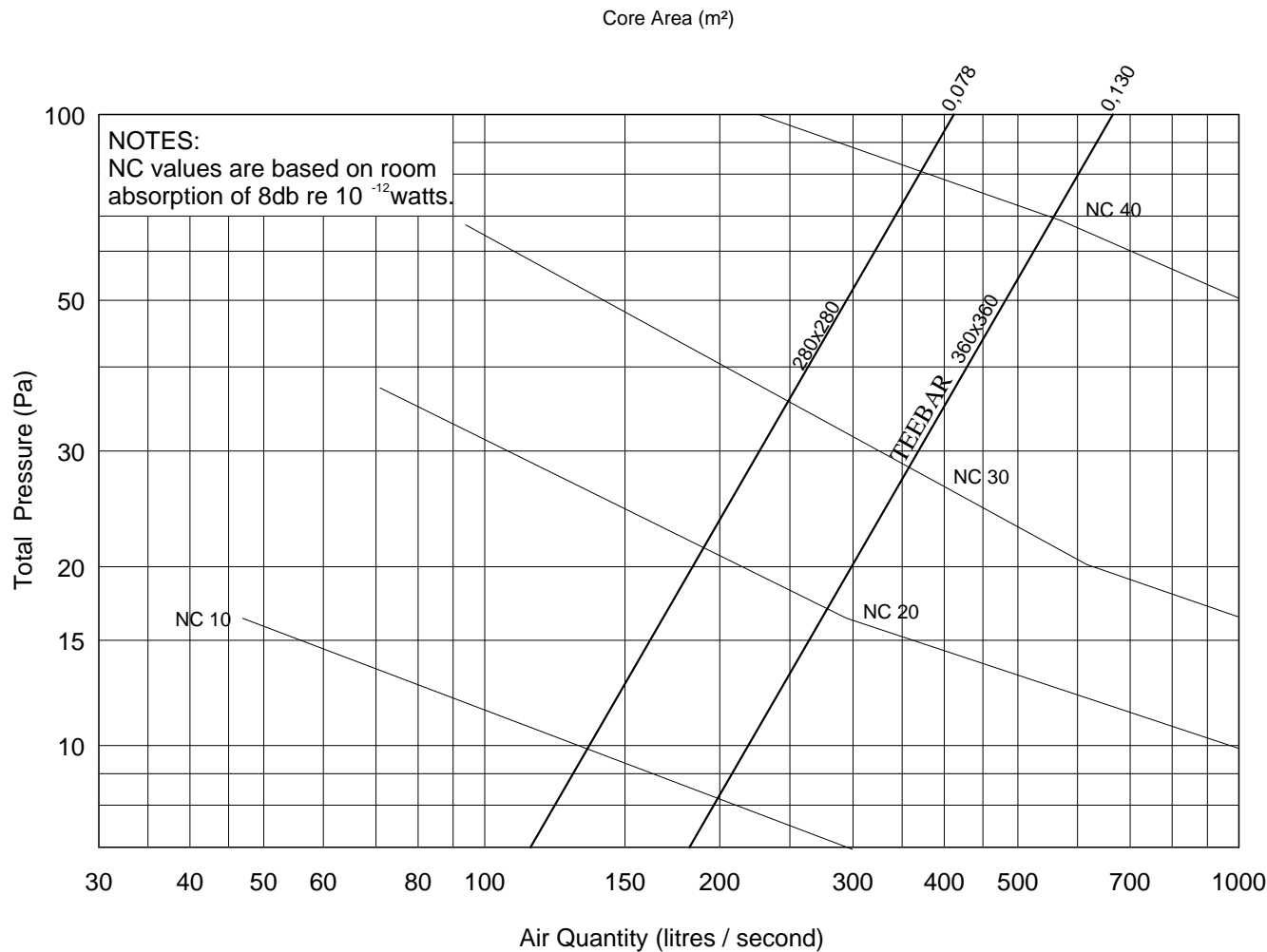
PLASTIC DIFFUSERS AND GRILLES

SILHOUTTE DIFFUSERS - PERFORMANCE CHART



SILHOUTTE DIFFUSERS

TEEBAR (360X360) & (280X280) DIFFUSER



SQUARE CEILING DIFFUSERS

PLASTIC DIFFUSERS AND GRILLES

280X280 SILHOUETTE DIFFUSER (ST-30)

CEILING INSTALLATION INSTRUCTIONS

AdvantageAir

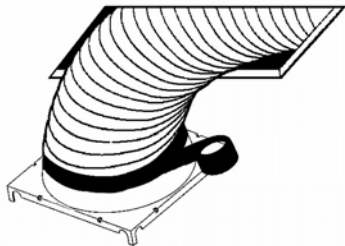
1. Select the required position for the grille. Ensure there are no obstructions above the ceiling in the selected location. Mark the opening for the grille as follows:

Cutout Size: 380 mm X 380 mm

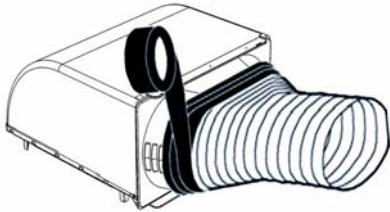
2. Carefully cut opening in ceiling.



- 3a. Pull the duct through the opening in the ceiling and attach the neck adaptor to the duct using duct tape.

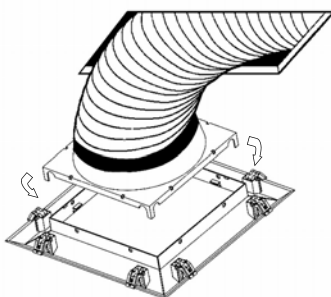


- 3b. When using a Cushion Head Adaptor, pull the duct through the opening in the ceiling and attach the Cushion Head Adaptor to the duct using duct tape.

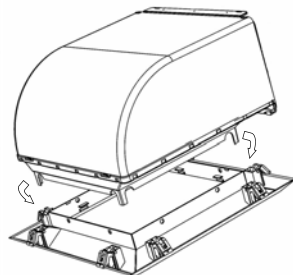


4. Clip on the neck adaptor or cushion head adaptor to the diffuser.

Ensure that all clips are properly engaged to prevent any leakage between the grille frame and the neck adaptor/cushion head adaptor.

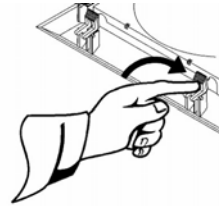


Neck adaptor to diffuser

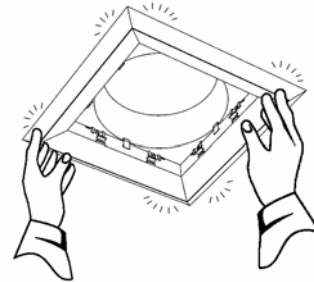


Cushion head adaptor to diffuser

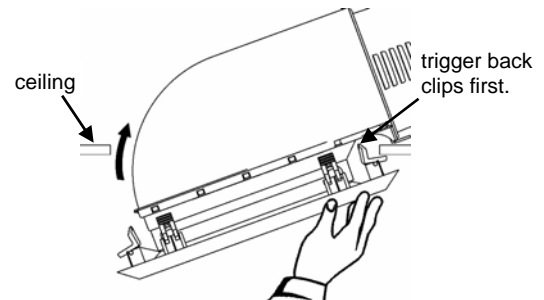
5. Load all 8 striker clips in the upright position. TAKE CARE you do not accidentally trigger a clip and catch your finger.



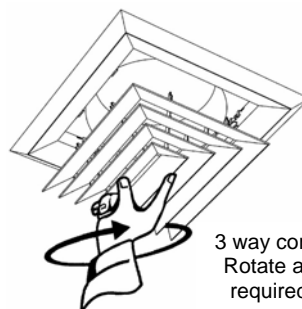
- 6a. Carefully pass the grille frame up into the opening ensuring all 8 clips are triggered down.



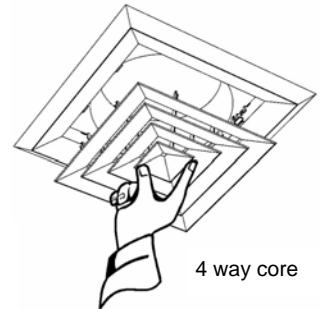
- 6b. Carefully slide the cushion head through the opening in the ceiling and ensure the back clips are engaged first followed by the other clips.



7. Clip in the core to give the required throw direction.



3 way core.
Rotate as required



4 way core

8. To clean grille, wipe down with warm soapy water. To ease cleaning, the grille core can be removed and washed separately.

9. Please recycle all packaging.



No liability

Make sure you read and understand all the installation instructions before you install this Silhouette diffuser. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Silhouette diffuser.

PLASTIC DIFFUSERS AND GRILLES

360x360 SILHOUETTE DIFFUSER (ST-60)

CEILING INSTALLATION INSTRUCTIONS

AdvantageAir

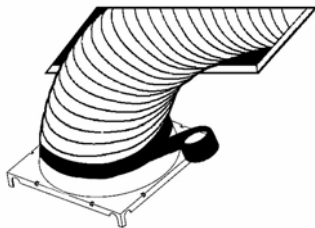
1. Select the required position for the grille. Ensure there are no obstructions above the ceiling in the selected location. Mark the opening for the grille as follows:

Cutout Size: 514 mm X 514 mm

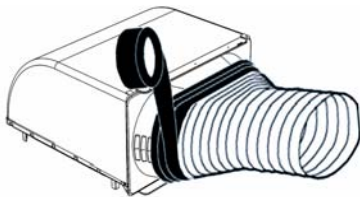
2. Carefully cut opening in ceiling.



- 3a. Pull the duct through the opening in the ceiling and attach the neck adaptor to the duct using duct tape.



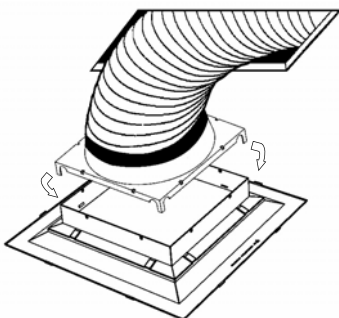
- 3b. When using a Cushion Head Adaptor, pull the duct through the opening in the ceiling and attach the Cushion Head Adaptor to the duct using duct tape.



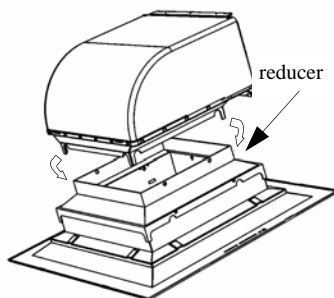
4. Clip on the neck adaptor or cushion head adaptor to the diffuser.

Ensure that all clips are properly engaged to prevent any leakage between the grille frame and the neck adaptor/cushion head adaptor.

When using a cushion head adaptor, a 360x360 to 280x280 reducer is required.

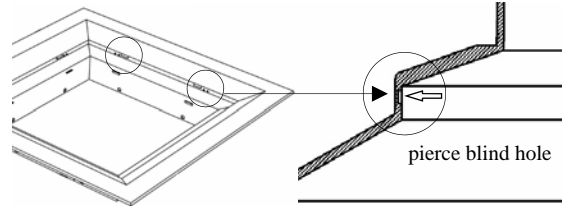


Neck adaptor to diffuser

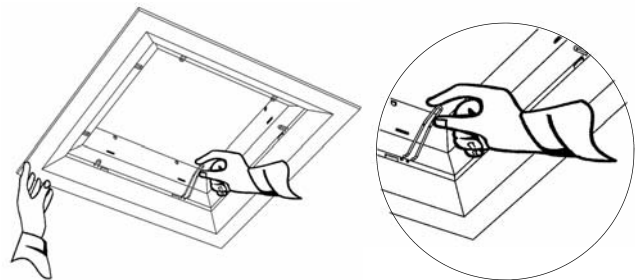


Cushion head adaptor to diffuser

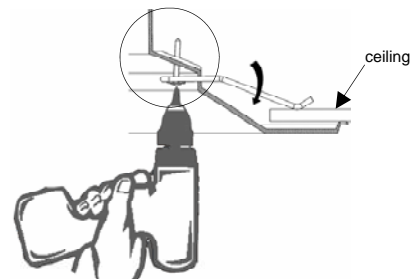
5. With a sharp object, pierce all blind holes in the diffuser frame to create a hole for the spring clip.



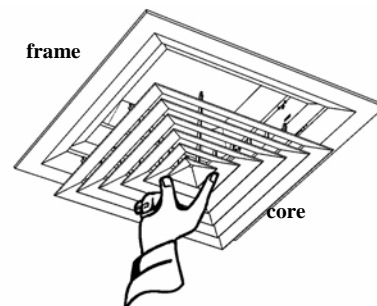
6. Lift the diffuser flush against the ceiling and insert all 4 spring clips into the hole in the orientation shown below. Ensure the clips are pushed-in all the way. If required, up to 8 spring clips can be used.



7. Secure the clips into the diffuser using the screws provided. Position the screw in the middle of the spring clip and screw into the thick portion of the frame. Tighten the screws until all the edges of the frame sits flush against the ceiling. Take care not to over tighten the clips.



8. Clip in the grille core. If core does not clip in correctly, adjust the screw fixing tension.



9. To clean grille, wipe down with warm soapy water. To ease cleaning, the grille core can be removed and washed separately.

10. Please recycle all packaging.



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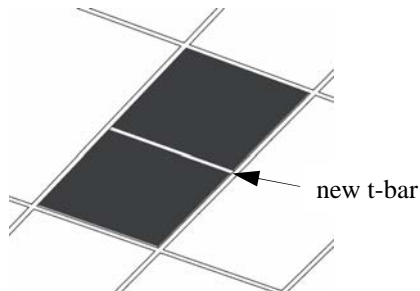
PLASTIC DIFFUSERS AND GRILLES

360x360 SILHOUETTE DIFFUSER (ST-60)

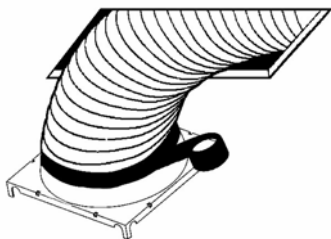
METRIC / IMPERIAL T-BAR INSTALLATION INSTRUCTIONS

AdvantageAir

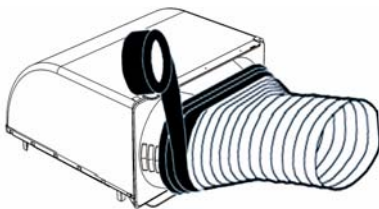
1. Remove existing ceiling panel and introduce new t-bar in the center of the grid. (new t-bar not provided)



- 2a. Pull the duct through the opening in the ceiling and attach the neck adaptor to the duct using duct tape.



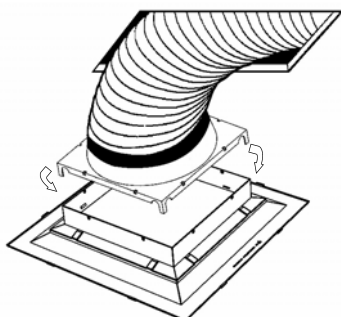
- 2b. When using a Cushion Head Adaptor, pull the duct through the opening in the ceiling and attach the Cushion Head Adaptor to the duct using duct tape.



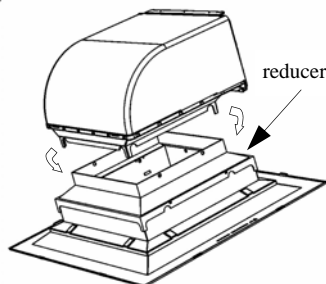
3. Clip on the neck adaptor or cushion head adaptor to the diffuser.

Ensure that all clips are properly engaged to prevent any leakage between the grille frame and the neck adaptor/cushion head adaptor.

When using a cushion head adaptor, a 360x360 to 280x280 reducer is required.



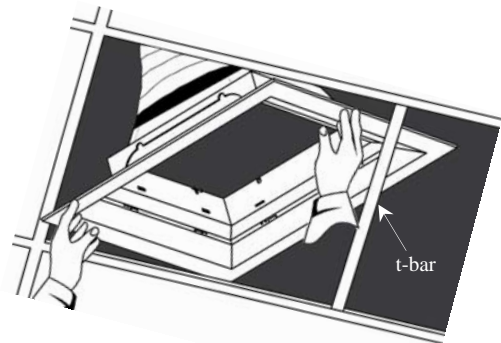
Neck adaptor to diffuser



Cushion head adaptor to diffuser

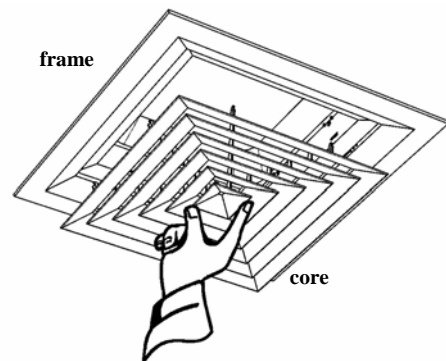
4. Lift the diffuser through the ceiling. Tilt it diagonally with respect to the opening, so that it fits through.

Gently, drop the frame into the t-bar, ensuring the diffusers sits square with respect to the grid.

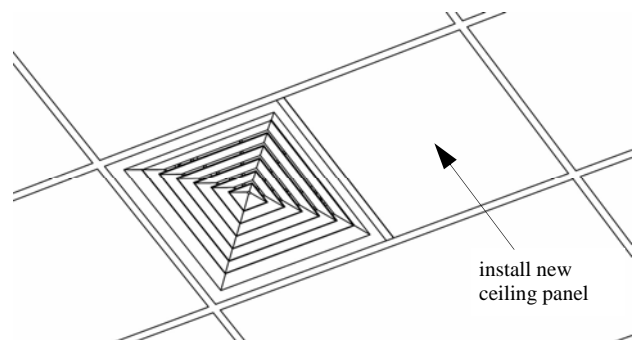


- 5.

Clip in the grille core.



6. Replace the ceiling panels.



7. To clean grille, wipe down with warm soapy water. To ease cleaning, the grille core can be removed and washed separately.

8. Please recycle all packaging.



No liability

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PLASTIC DIFFUSERS AND GRILLES

PLASTIC CUSHION HEAD

AdvantageAir



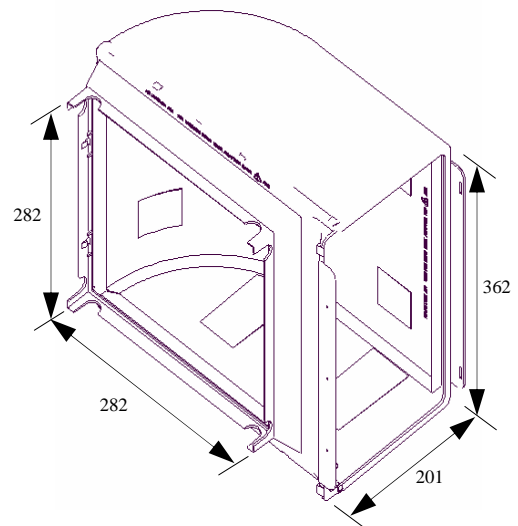
FEATURES

- Low cost
- Lightweight rigid construction
- Provides even airflow across entire diffuser face
- Suitable for restricted ceiling voids
- Curved design allows easy ceiling installation
- Internal insulation reduces risk of condensation and provides excellent acoustic properties
- Integral hanging points

OPTIONAL EXTRAS

- Can be internally insulated with a 'closed cell' polyethylene adhesive material or a 25mm (black scrim or perforated foil) fibreglass
- Manual or Motorised inlet damper

DIMENSIONS

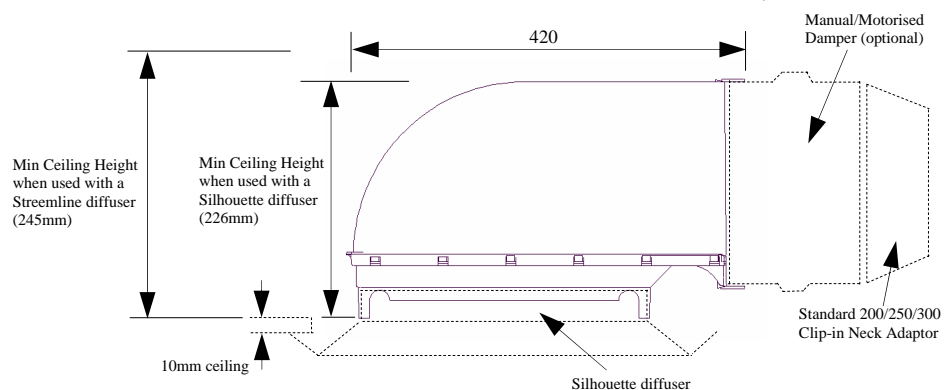


CONSTRUCTION

- Constructed from ABS blended engineering plastics

APPLICATIONS

- Suitable for use on:
 - streamline diffusers
 - silhouette diffusers
 - Spigot sizes available 200/250/300 diameter



PLASTIC DIFFUSERS AND GRILLES

LINEAR ELITE DIFFUSER

AdvantageAir



Clips supplied separately. Please specify.

FEATURES

- Two 25mm slots provides high flow rates with low noise levels.
- One piece construction of the diffuser eliminates unsightly joins.
- Attractive moulded diffuser is scratch resistant and will not corrode or deteriorate with age.
- Fast, easy installation.
- Two deflectors per slot enables 180 degree throw pattern.
- Significantly lower cost than aluminum diffusers.
- Will fit both metric and imperial commercial ceiling grids.

CONSTRUCTION

- The diffuser is constructed from white H.I.P.S plastic.
- The boot, adaptor and deflectors are all constructed from black plastic.
- The internal insulation for the boot is moulded polystyrene.
- The boot can be supplied with a central hole for the propriety spigot or can be supplied with no holes for the installer to cut in a collar(s) on site.

APPLICATIONS

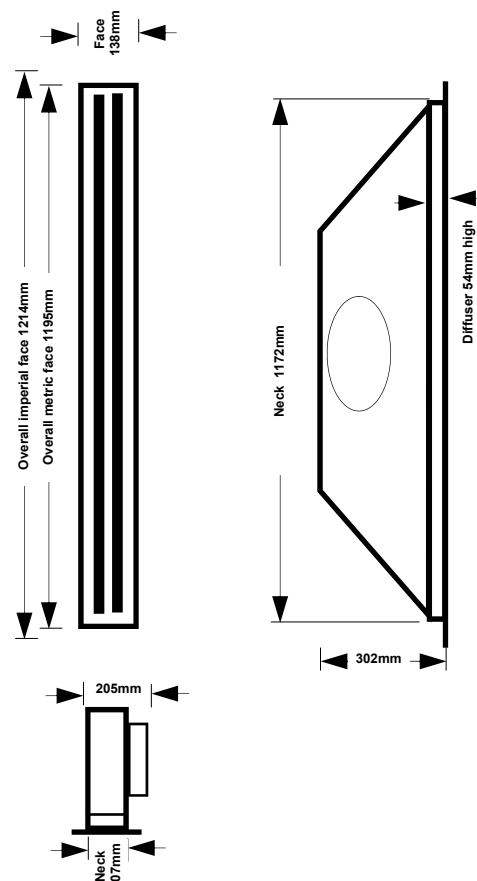
- Reverse cycle residential air conditioning.
- Commercial air conditioning.
- Heating.
- Suggested cut out 118mm x 1175mm.

OPTIONAL EXTRAS

The following components are optional extras and are priced separately and must be specified at the time of ordering.

- Metric or imperial ceiling grid system in which the diffuser will be installed.
- Internal insulation for the boot.
- Additional external insulation on the boot for applications in humid climates.
- Standard adaptors.
- Special collars.
- Clips.

DIMENSIONS



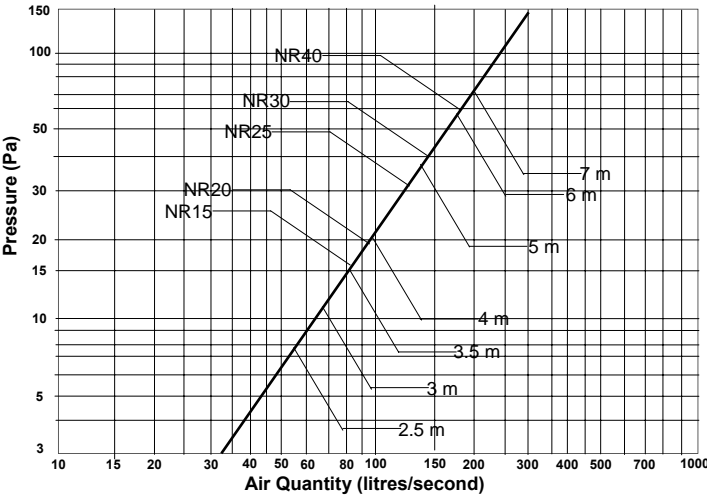
PLASTIC DIFFUSERS AND GRILLES

LINEAR ELITE DIFFUSER- PERFORMANCE CHARACTERISTICS



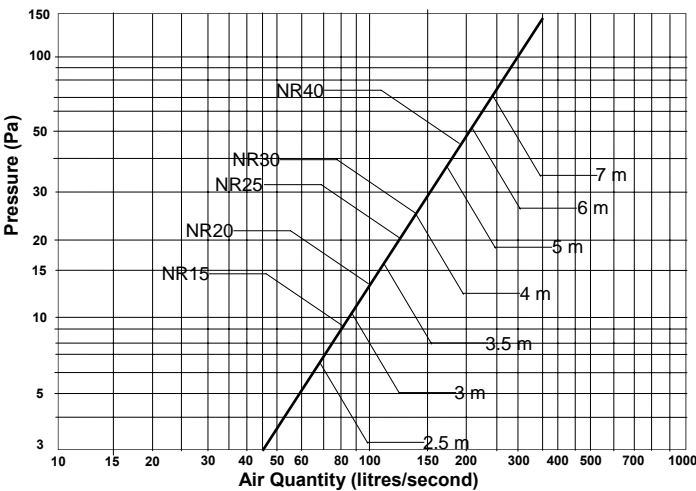
LINEAR

(1200x100 Linear Elite Diffuser - Horizontal discharge)

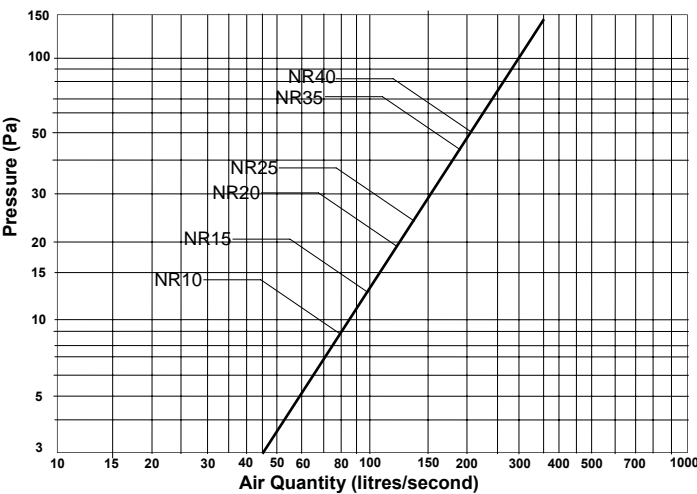


LINEAR

(1200x100 Linear Elite Diffuser - Vertical discharge)



LINEAR (1200x100 Linear Elite Diffuser - Return air)



LEGEND

NR - Noise Rating

PLASTIC DIFFUSERS AND GRILLES

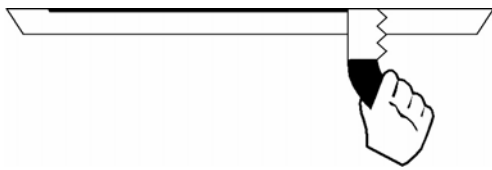
LINEAR ELITE - ACCESSIBLE CEILING INSTALLATION

AdvantageAir

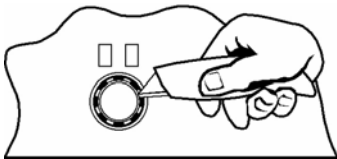
- 1 Check the proposed location for the linear in the ceiling void. You should ensure the installation of the linear does not require the cutting of any structural timbers. If ceiling joists are required to be cut they should be braced with additional supports prior to cutting. You will require a minimum height of 300mm in the ceiling void to facilitate the installation of the boot.

- 2 Mark out the hole on the ceiling as follows:
118mm wide x 1175mm long

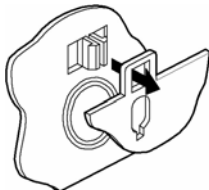
- 3 It is important to cut out hole in ceiling very accurately.



- 4 Cut out the boot holes to receive the clips. The number of holes you cut out depends on how many clips you want to install.



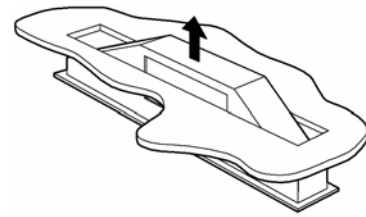
- 5 Clip the boot onto the linear. Ensure that all the boot / linear clips are securely engaged.



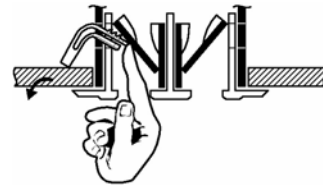
- 6 Using a small screw driver, in the notch on the ends of each deflector blade, close the outermost deflectors to reveal the clip holes.



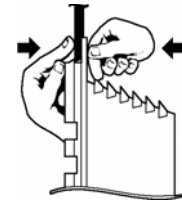
- 7 Pass the assembled boot / linear up through the hole in the ceiling



- 8 Insert the plastic clips into the clip holes in the linear. Ensure the clips are pushed through as far as possible. Adjust the deflector blades down to ensure the blades and clips do not interfere. Adjust the position of the clips and/or deflector blades as necessary.



- 9 Take the connecting spigot up into the ceiling and clip the spigot into the boot. Ensure the spigot is secured on all sides and corners by placing one hand inside the boot and applying pressure to the outside flange of the spigot.

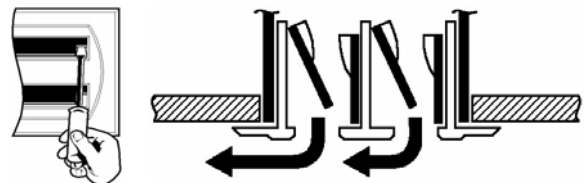


- 10 Fit the flexible duct over the spigot and tape into position.

- 11 Adjust the air quantities to the linear via an up stream balancing device.



- 12 Using a screw driver adjust the position of the deflector blades to provide the required throw pattern.(see overleaf for blade positions)



- 13 To clean diffuser use warm soapy water.

- 14 Please recycle all packaging.



No liability

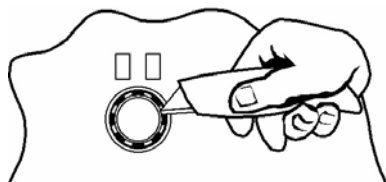
Make sure you read and understand all the installation instructions before you install this Linear Elite diffuser. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Linear Elite diffuser.

PLASTIC DIFFUSERS AND GRILLES

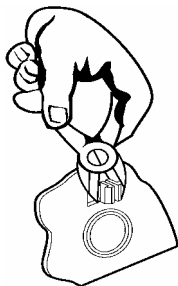
LINEAR ELITE - INSTALLATION FOR INACCESSIBLE CEILINGS

AdvantageAir

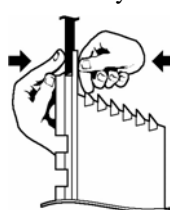
- 1 Ensure the boots and diffusers are ordered separately.
- 2 Cut out the boot holes to receive the clips. The number of holes you cut out depends on how many clips you want to install.



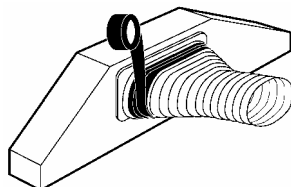
- 3 Using side cutters trim off the the clips on the inside of the boot (long sides only).



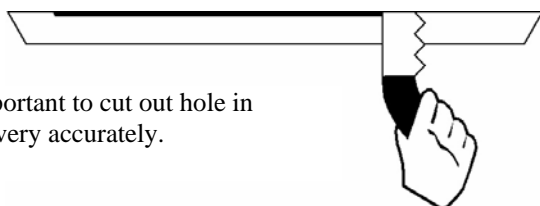
- 4 Assemble the boot, spigot, flexible duct and hang assembly above the final location for the diffuser.



Ensure you will be able to reach and cut the hanging strap through the the installation hole.

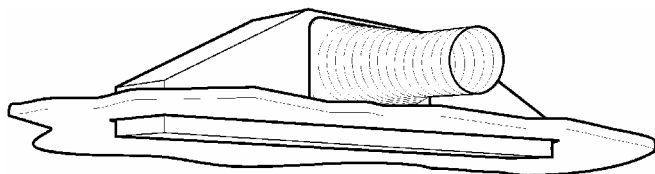


- 5 After the ceiling has been installed mark out the hole on the ceiling as follows: **L2S12 118mm x 1175mm**

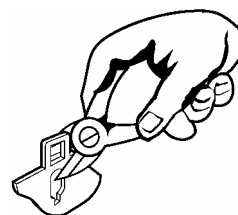


It is important to cut out hole in ceiling very accurately.

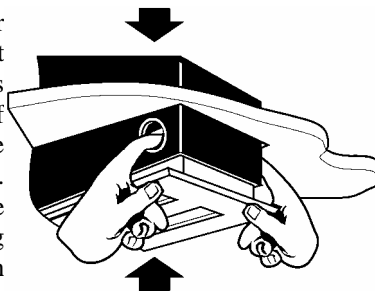
- 6 Reach up into the ceiling and release the boot from the hanging strap. Carefully pull the boot down through the hole.



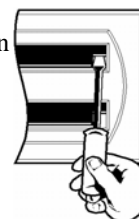
- 7 Remove the diffuser from its bag and using side cutters trim off the clip receivers. (small squares which protrude above the neck of the diffuser.)



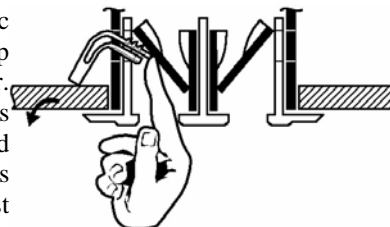
- 8 Insert the diffuser into the boot ensuring the clips on the two ends of the diffuser are securely engaged. This can be achieved by pulling the boot down with your fingers while applying an upward force with your thumbs or hitting the diffuser up with your hand.



- 9 Using a small screw driver, in the notch on the ends of each deflector blade, close the outermost deflectors to reveal the clip holes.



- 10 Insert the plastic clips into the clip holes in the linear. Ensure the clips are pushed through as far as possible. Adjust the deflector blades down to ensure the blades and clips do not interfere. Adjust the position of the clips and/or deflector blades as necessary.



- 11 Using a screw driver adjust the position of the deflector blades to provide the required throw pattern.(see overleaf for blade positions)
- 12 To clean diffuser use warm soapy water.
- 13 Please recycle all packaging



No liability

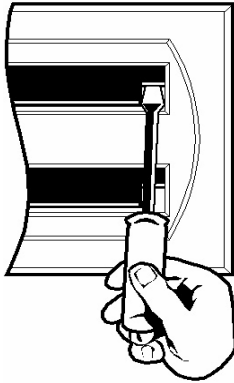
Make sure you read and understand all the installation instructions before you install this Linear Elite diffuser. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Linear Elite diffuser.

PLASTIC DIFFUSERS AND GRILLES

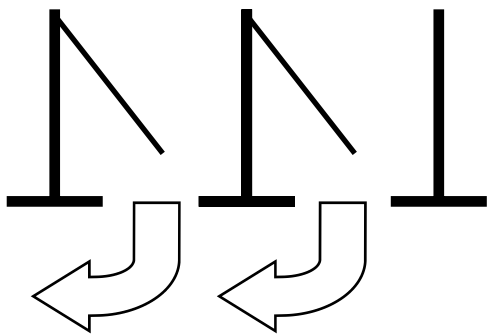
LINEAR ELITE DIFFUSER- AIR FLOW DIRECTION ADJUSTMENT

AdvantageAir

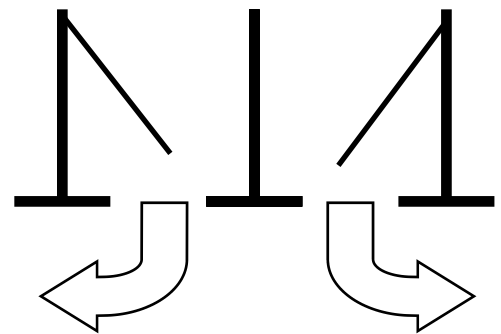
By using a screw driver adjust the position of the deflector blades to provide the required throw pattern.



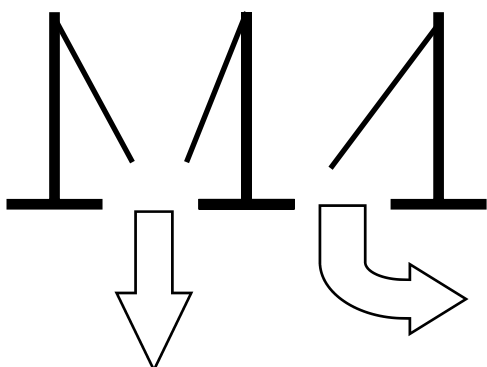
ONE WAY HORIZONTAL BLOW



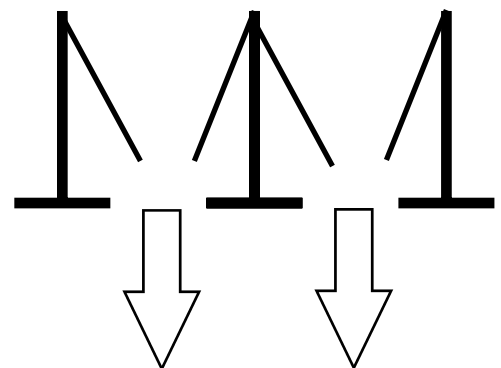
TWO WAY HORIZONTAL BLOW



ONE WAY VERTICAL BLOW, ONE WAY HORIZONTAL BLOW



TWO WAY VERTICAL BLOW



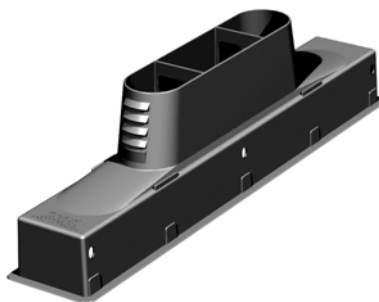
PLASTIC DIFFUSERS & GRILLES

BABY LINEAR GRILLE

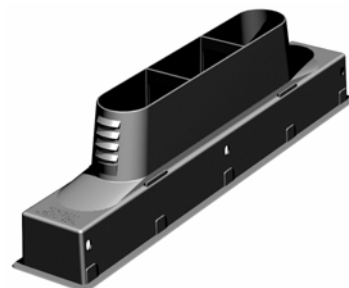
AdvantageAir



GRILLE FRAME



200 DIA BOOT



250 DIA BOOT

FEATURES

- One piece construction of the diffuser eliminates unsightly joins.
- Attractive moulded diffuser is scratch resistant and will not corrode or deteriorate with age.
- Fast, easy installation.
- Significantly lower cost than aluminum diffusers.
- Will fit commercial ceiling grids.
- Easy to clean removable grille frame.
- Light weight ridged construction.
- Standard ceiling white.
- Paintable.
- Boots available in 200 DIA and 250 DIA connections.

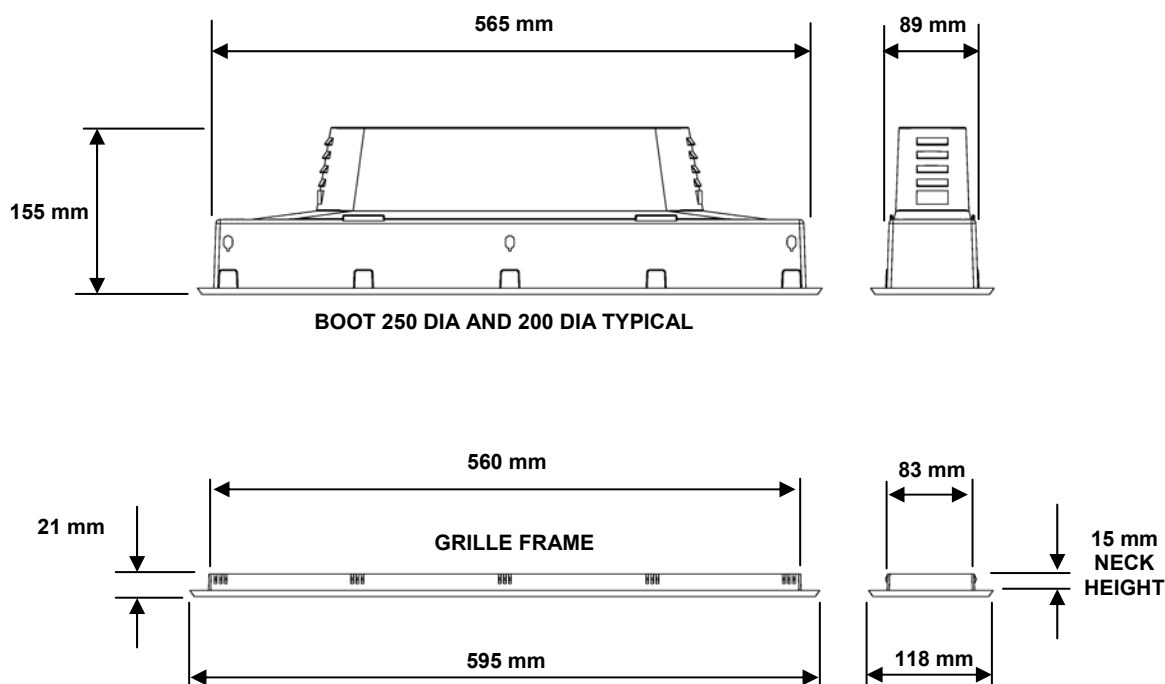
CONSTRUCTION

- The diffuser is moulded from white ABS plastic.
- The boot/adaptor black ABS plastic.
- The frame can be supplied separately for bulkhead, wall and door installations.
- The boot clips are constructed from Acetal plastic.

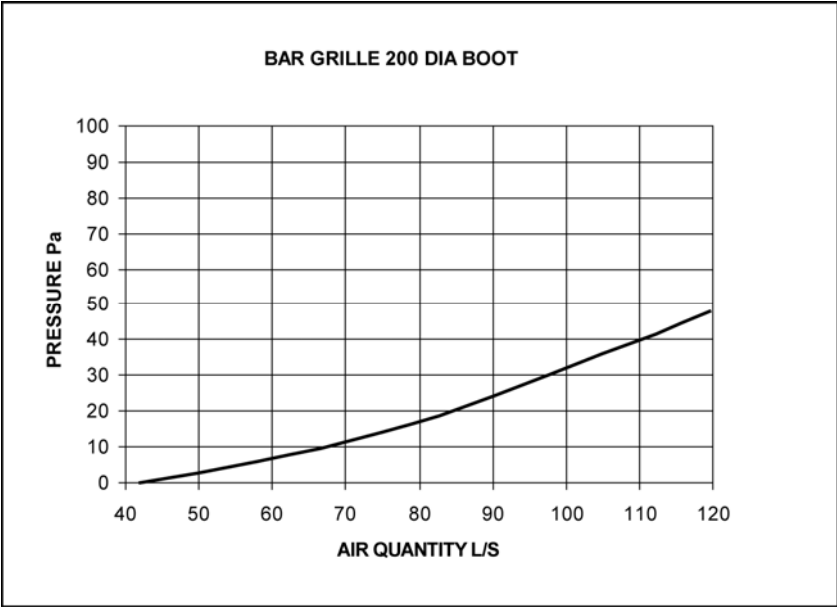
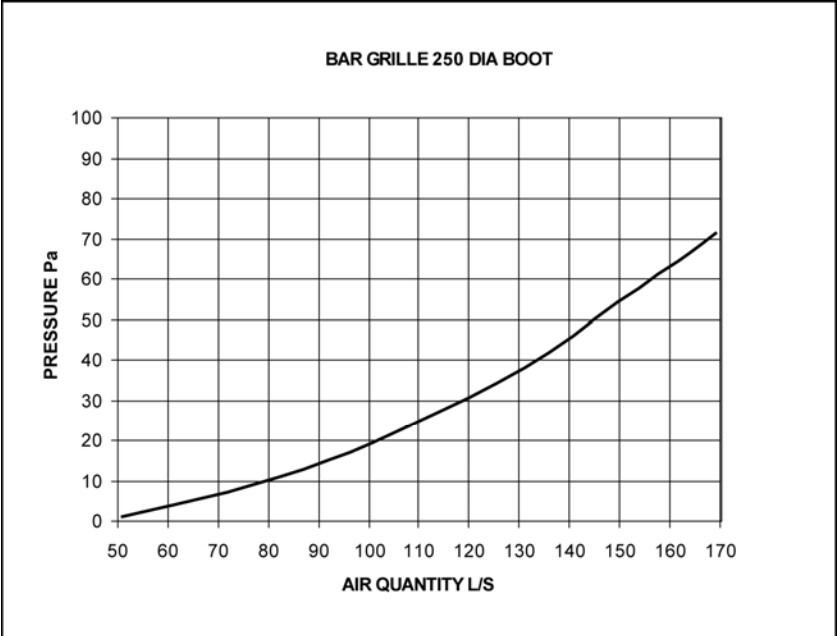
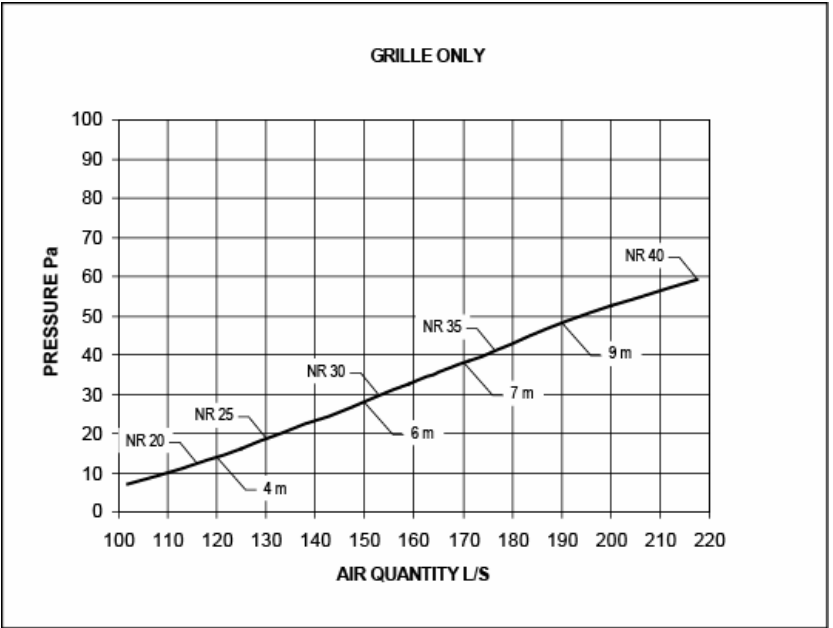
APPLICATIONS

- Ideal for domestic and light commercial reverse cycle air conditioning systems.
- Suitable for ceiling, commercial T-Bar, bulkhead, wall and standard door installations. Not suitable for door thickness less than 32mm.
(Note: For door grille installations the Baby Linear grille DOES NOT provide full privacy).
- Suggested cut out 90mm x 570mm for boots. Grille only installations will require a smaller cut-out hole for grille neck.

DIMENSIONS



PLASTIC DIFFUSERS & GRILLES BABY LINEAR GRILLE PERFORMANCE



PLASTIC DIFFUSERS & GRILLES

BABY LINEAR GRILLE INSTALLATION

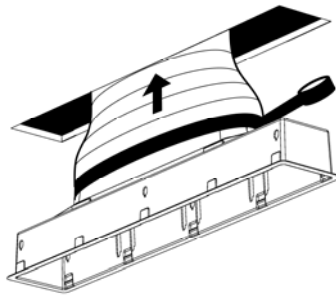
AdvantageAir

FOR CEILINGS

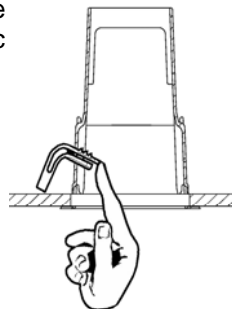
1. Check the proposed location for the Baby Linear Grille in the ceiling void. You should ensure the installation of the diffuser does not require the cutting of any structural timbers. If ceiling joists are required to be cut they should be braced with additional supports prior to cutting. You will require a minimum height of 400mm in the ceiling void to facilitate the installation of the boot and duct.
2. Mark out the hole on the ceiling as follows: **90mm wide x 570mm long**. It is important to cut out hole in ceiling very accurately.



3. Pull the duct through the opening in the ceiling and attach the boot to the duct using duct tape. Or for accessible ceiling spaces duct can be attached whilst in the ceiling space once the boot is secured in place.

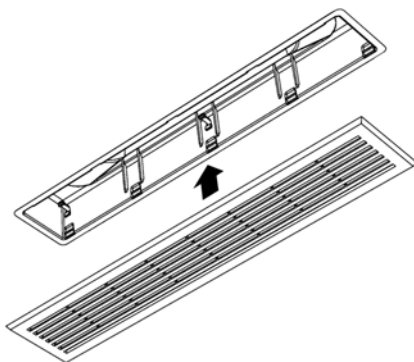


4. Pass the boot up through the hole in the ceiling and insert the plastic clips into the clip holes. Ensure the clips are pushed through as far as possible and that the boot width is not distorted.



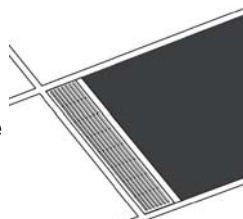
6. Pass the grille/frame up and clip into the boot.

To clean grille, wipe down with warm soapy water. To ease cleaning, the grille core can be removed and washed separately.

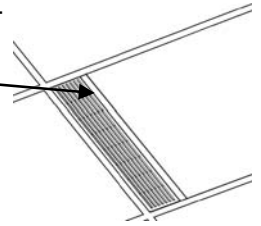


FOR COMMERCIAL T-BAR

1. Remove existing ceiling panel, pull the duct through the opening in the ceiling and attach to the boot. Then clip the frame into the boot and rest/secure onto t-bar frame 3 sides.

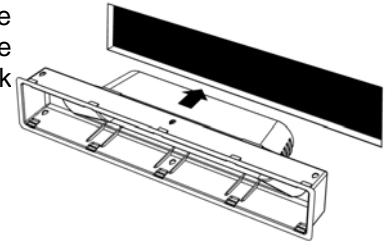


2. Introduce new t-bar frame to surround the grille frame and replace ceiling panel.



FOR BULKHEADS AND WALL

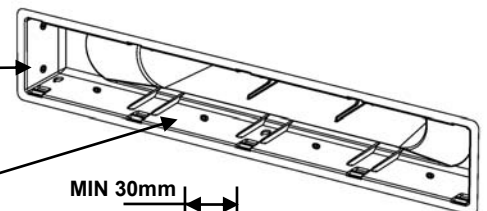
1. Check the proposed location for the Linear Bar Grille in the bulkhead or wall. Before cutting wall ensure there are no electrical cabling.
2. Suggested cut out 90mm x 570mm for boots. Grille only installations will require a smaller cut-out hole for grille neck. Note: The boot and grille is one standard brick height.



3. Secure the boot using standard ceiling clips as shown in ceiling applications for bulkheads, or screws on the ends/sides for brick wall installations. Ensure screws are a minimum 30mm back from the front flange.
4. Building grade adhesive can be used to secure the grille for wall, door or bulkhead mounted grilles. See alternative door grille installation on page 4 using cable-ties. This can be used in combination with building grade adhesive.

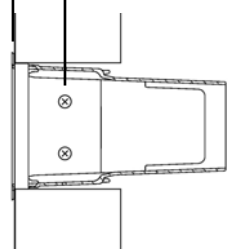
BRICK WALL FIXING SCREWS.

Ensure boot width is not distorted..

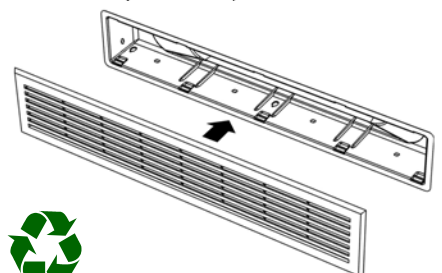


MIN 30mm

5. Clip the grille frame into the boot.



6. To clean grille, wipe down with warm soapy water.



7. Please recycle all packaging.



No liability

Make sure you read and understand all the installation instructions before you install this Baby Linear Grille. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Baby Linear Grille.

PLASTIC DIFFUSERS & GRILLES

BABY LINEAR GRILLE INSTALLATION

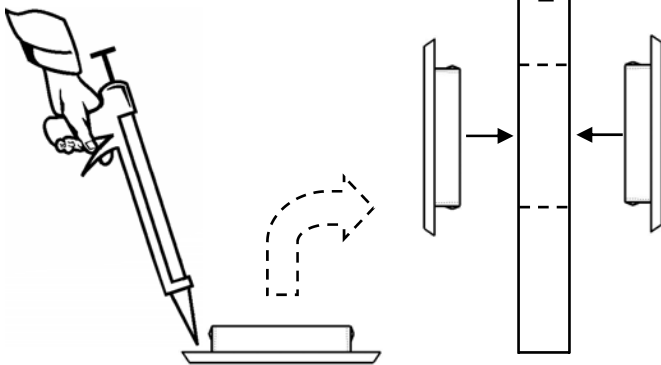
AdvantageAir

ALTERNATIVE DOOR GRILLE INSTALLATION

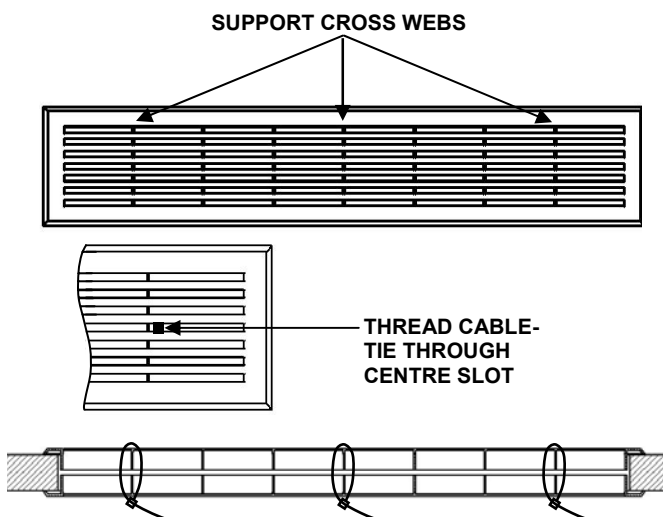
1. Please note: For door grille installations the Baby Linear grille **DOES NOT** provide full privacy.
2. As you are using the grille only, mark out the hole on the door as follows: **83mm wide x 562mm long**.



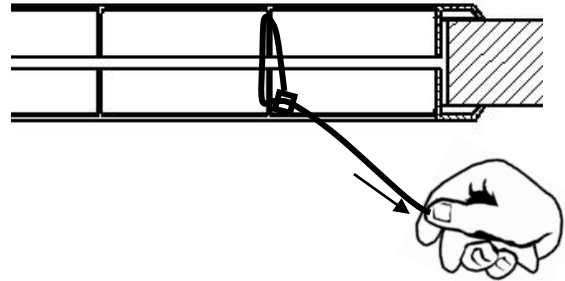
3. Fit the grille on either side of the door. At this point, building grade adhesive can be used on the inside of the flange of both grilles for a more permanent fixing. Apply around the entire perimeter.



4. Use standard **WHITE/CLEAR** cable ties no shorter than 150mm and no larger than 3.6mm wide. The head of the cable tie should not exceed 5mm in width.
5. Using the support cross webs, at three points on the grille pass the cable tie in through the centre slot in one end and loop around the opposite grille and then pass back to cable-tie the two grilles together. This will require two people. Use a minimum of three cable-ties

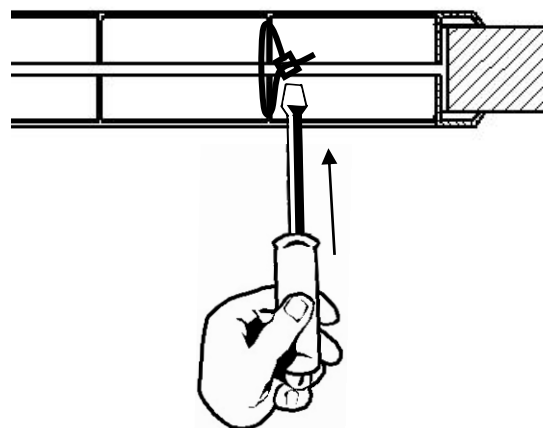


6. With a flat-head screw driver, push the head of the cable-tie through the gap, whilst pulling on the tail end to tighten grilles together, or use long nose pliers to pull and tighten the cable through the centre slot.



7. Trim the excess cable-tie end.

8. Using a flat-head screw driver, push the head of the cable-tie toward the centre of the two grilles to hide.



9. To clean grille, wipe down with warm soapy water.

10. Please recycle all packaging.



No liability

Make sure you read and understand all the installation instructions before you install this Baby Linear Grille. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Baby Linear Grille.

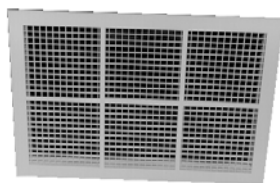
PLASTIC DIFFUSERS AND GRILLES STREEMLINE RANGE

AdvantageAir

360x540 - Tee bar Streamline adjustable and fixed blade diffuser



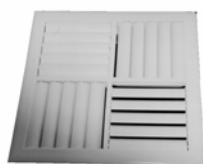
360x540 - Tee bar Eggcrate grille



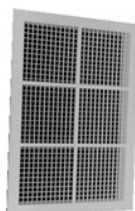
360x540 - neck adaptor



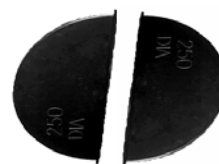
360x360 Streamline adjustable and fixed blade diffuser



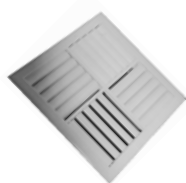
360x540 - Security relief grille



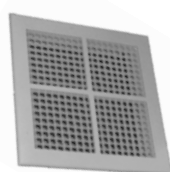
280x280 - butterfly damper neck adaptor



280x280 Streamline adjustable and fixed blade diffuser



360x360 Eggcrate grille



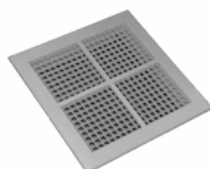
360x360 - neck adaptor



280x140 and 360x180 Streamline diffuser /wall register and adaptor. Adjustable and fixed blade



280x280 Eggcrate grille



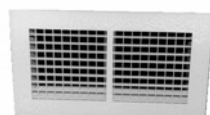
280x280 - neck adaptor



Typical diffuser and grille clips



280x140 and 360x180 Eggcrate grille



280x280 - neck adaptor



280x280 - cushion head adaptor



PLASTIC DIFFUSERS AND GRILLES STREEMLINE - INSTALLATION, ADJUSTMENT AND CARE

AdvantageAir

INSTALLATION

1. Mark out the hole in the ceiling as follows:

SL2WS	295mm x 155mm
SL30	295mm x 295mm
SL2WL	375mm x 195mm
SL40	375mm x 375mm
SL54	375mm x 555mm
SSRV	375mm x 555mm

2. Cut out hole in ceiling

3. Remove the four biscuits from the grille frame and place to one side. Ensure the holes in the grille frame and neck adaptor line up and clip neck adaptor onto grille frame.

4. Hold grille/neck adaptor assembly in position in the hole in the ceiling and push plastic clips through holes on the side of the grille frame (see fig A).

5. Apply maximum pressure to the top of each clip to ensure the frame is pulled tightly up to the ceiling.

A screwdriver can be used to push the clip to its final position.

6. After the grille/neck adaptor frame is securely and satisfactorily positioned carefully install the four biscuits.

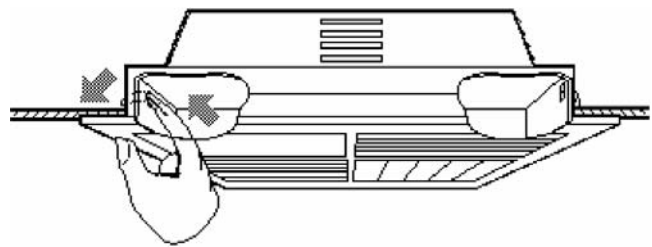


FIG. A

ADJUSTMENT AND CARE

7. Rotate biscuits to suit required direction of throw as indicated in fig B.

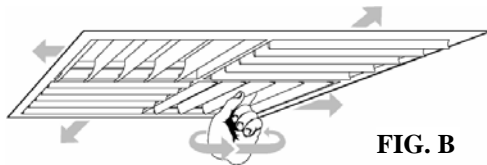


FIG. B

8. Ensure each biscuit is firmly clipped into grille frame by applying pressure on top or the biscuit frame as indicated in fig C.

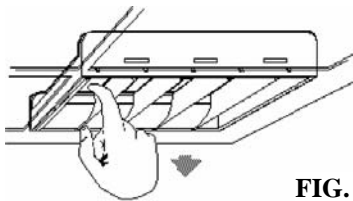


FIG. C

9. Click blades into required position as indicated in fig D.

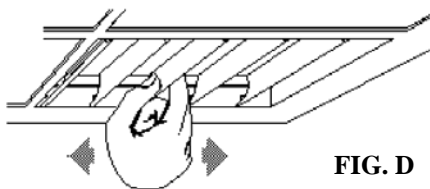


FIG. D

10. For total shut off (if required) use a bent paper clip on the last blade in each biscuit to pull the blades into their fully close position as indicated in fig E. Pull the paper clip out through the gap between the last blade and the biscuit frame.



FIG. E

11. To open a shut off diffuser after winter place a broad blade knife between the diffuser blades as indicated in fig F. Set to the required position as indicated under item 9.

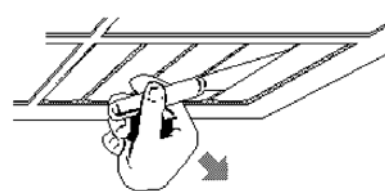


FIG. F

12. To clean grilles remove cores and wash in warm soapy water. Wipe down frame. Do **NOT** place cores in dishwasher.

13. Please recycle all packaging



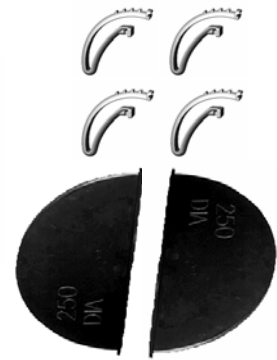
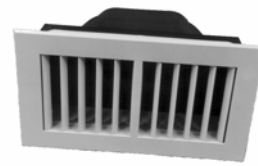
No liability

Make sure you read and understand all the installation instructions before you install this Linear Elite diffuser. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Linear Elite diffuser.

PLASTIC DIFFUSERS AND GRILLES

STREEMLINE - ADJUSTABLE BLADE DIFFUSER KITS

AdvantageAir



FEATURES

- Louvred biscuits can be adjusted to seven optimum set points using the patented locking system.
- Diffusers are quick and easy to install.
- Louvre blades remain flush with the ceiling at all times with no ugly protrusions below the ceiling.
- Aerofoil blade profile reduces air noise at the grille and improves air diffusion.
- Each biscuit can be located to blow in any one of four directions.
- The louvre biscuits can be removed and washed.
- The SL54 are designed to fit in a standard commercial "T bar" ceiling grid.
- When the blades are closed they provide a good seal against winter drafts.

CONSTRUCTION

- The diffuser is manufactured from white H.I.P.S plastic.
- Plastic neck adaptors are manufactured from black plastic.
- The diffuser clips are constructed from Acetal plastic.

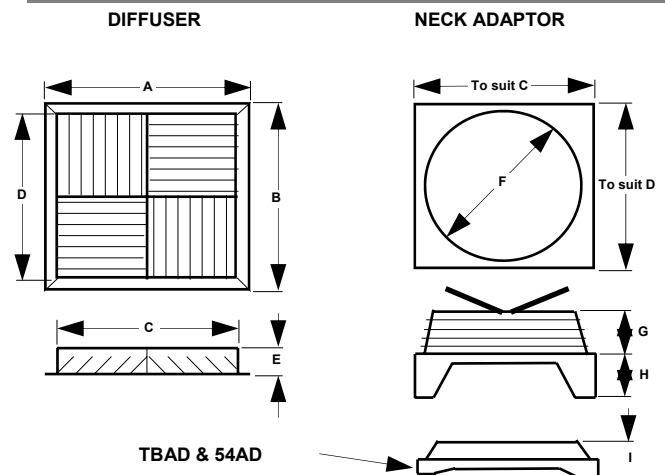
APPLICATIONS

- Ideal for residential and commercial evaporative cooling, refrigerated air conditioning, heating and ventilation applications.

OPTIONAL EXTRAS

- Butterfly dampers are priced separately and must be specified at the time of ordering. Butterfly dampers can only be supplied on model numbers indicated with an asterisk (*).
- Cushion head adaptors can be fitted to SL 30 and SL 40 Streamline diffusers

DIMENSIONS



KIT MODEL NO.	A O/all mm	B O/all mm	C Neck mm	D Neck mm	E mm	F Dia mm	G mm	H mm	I mm
SL2WS15*	334	195	280	141	75	150	160	32	na
SL2WS20*	334	195	280	141	75	200	80	32	na
SL3020*	334	334	280	280	60	200	80	32	na
SL3025*	334	334	280	280	60	250	80	32	na
SL3030*	334	334	280	280	60	300	80	32	na
SL2WL20	416	237	365	185	60	200	83	118	na
SL2WL25	416	237	365	185	60	250	83	118	na
SL2WL30	416	237	365	185	60	300	83	118	na

KIT MODEL NO.	A O/all mm	B O/all mm	C Neck mm	D Neck mm	E mm	F Dia mm	G mm	H mm	I mm
SL4020*	416	416	360	360	60	200	80	32	97
SL4025*	416	416	360	360	60	250	80	32	97
SL4030*	416	416	360	360	60	300	80	32	97
SL4030	416	416	360	360	60	300	60	60	na
SL4035	416	416	360	360	60	350	60	60	na
SL4040	416	416	360	360	60	400	60	60	na
SL5440	596	416	540	360	60	400	100	16	75
SL5445	596	416	540	360	60	450	100	16	na
SL5450	596	416	540	360	60	500	100	16	na

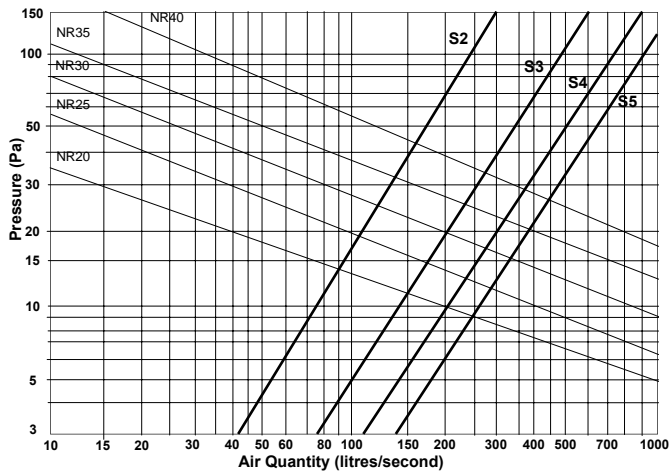
PLASTIC DIFFUSERS AND GRILLES

STREEMLINE - ADJUSTABLE BLADE DIFFUSER

PERFORMANCE CHARACTERISTICS

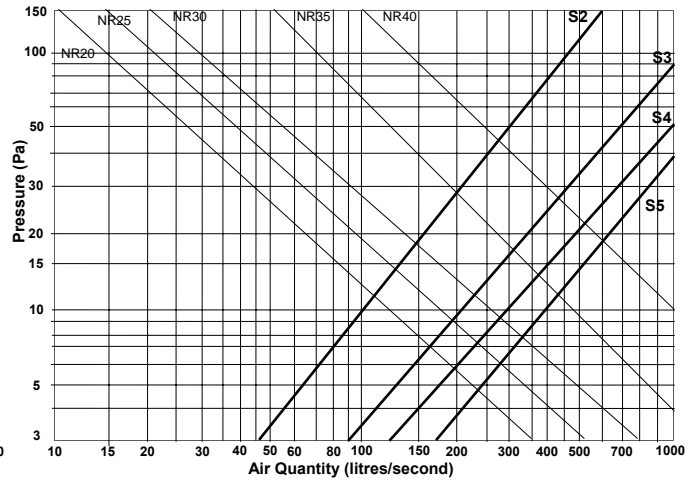
AdvantageAir

SL-40 (360x360 Streamline diffuser - 4 way blow)



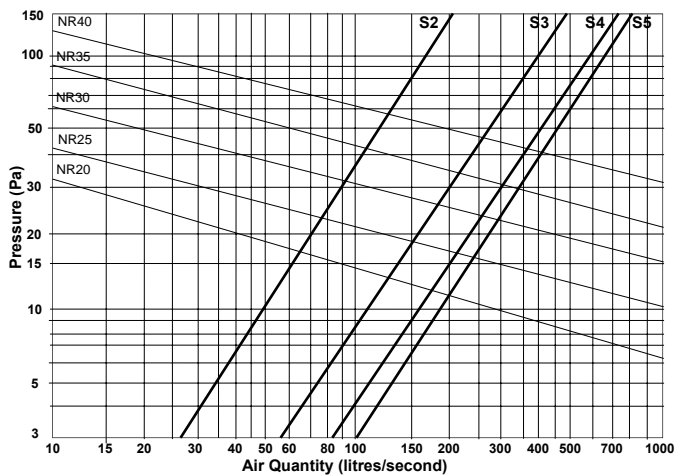
Throws vary between 1 to 5 meters up to 120 l/s and +5 meters for all air quantities above 120 l/s.

SL-54 (360x540 Streamline diffuser - 4 way blow)



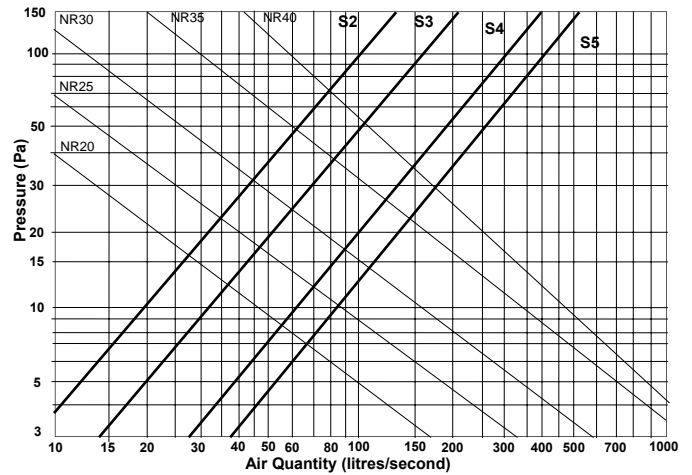
Throws vary between 1 to 5 meters up to 330 l/s and +5 meters for all air quantities above 330 l/s.

SL-30 (280x280 Streamline diffuser - 4 way blow)



Throws vary between 1 to 5 meters up to 200 l/s and +5 meters for all air quantities above 200 l/s.

SL-2WS (280x140 Streamline diffuser - 2 way blow)



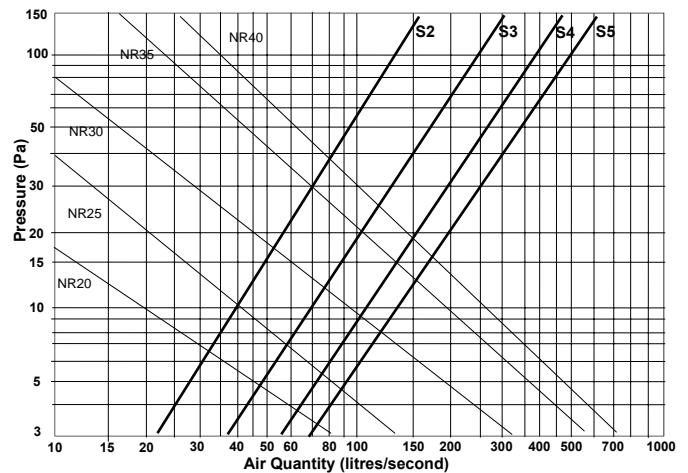
Throws vary between 1 to 5 meters up to 95 l/s and +5 meters for all air quantities above 95 l/s.

LEGEND

S5 - Blade setting 5
S4 - Blade setting 4
S3 - Blade setting 3
S2 - Blade setting 2
S1 - Blade fully closed

NR - Noise Rating

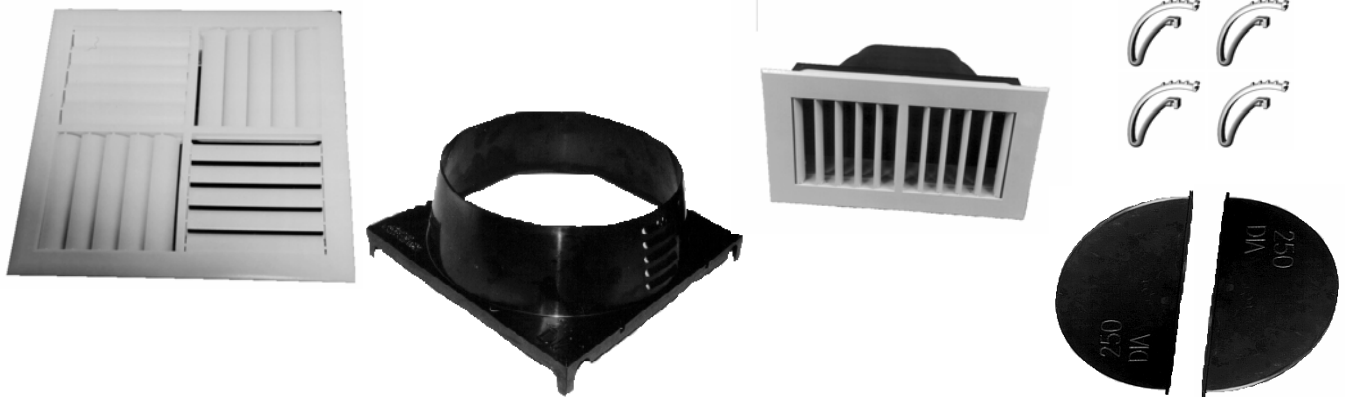
SL-2WL (360x180 Streamline diffuser - 2 way blow)



PLASTIC DIFFUSERS AND GRILLES

STREEMLINE - FIXED BLADE DIFFUSER KITS

AdvantageAir



FEATURES

- Louvred biscuits are moulded in one piece and the pitch of the blades is fixed.
- Diffusers are quick and easy to install.
- Louvre blades remain flush with the ceiling at all times with no ugly protrusions below the ceiling.
- Aerofoil blade profile reduces air noise at the grille and improves air diffusion.
- Each biscuit can be located to blow in any one of four directions.
- The louvre biscuits can be removed and washed.
- The SL54 are designed to fit in a standard commercial "T bar" ceiling grid.
- Fixed blade Streamline diffusers are less expensive than adjustable blade diffusers.

CONSTRUCTION

- The diffuser is manufactured from white H.I.P.S plastic.
- Plastic neck adaptors are manufactured from black plastic.
- The diffuser clips are constructed from Acetal plastic.

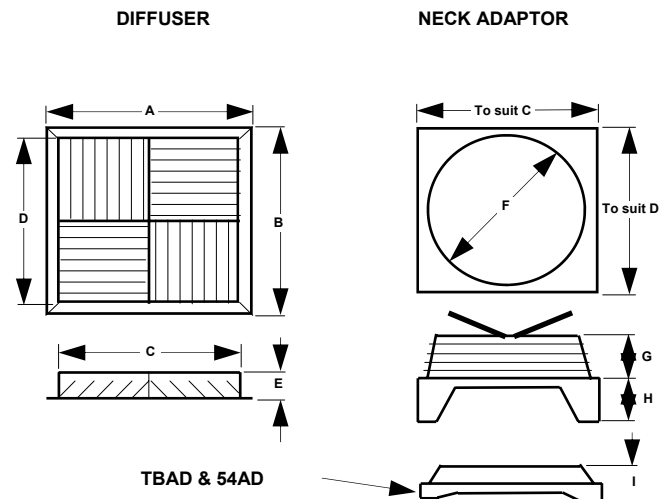
APPLICATIONS

- Ideal for residential and commercial refrigerated air conditioning and ventilation applications.

OPTIONAL EXTRAS

- Butterfly dampers are priced separately and must be specified at the time of ordering. Butterfly dampers can only be supplied on model numbers indicated with an asterisk (*).
- Cushion head adaptors can be fitted to SL 30 and SL 40 Streamline diffusers

DIMENSIONS



KIT MODEL NO.	A O/all mm	B O/all mm	C Neck mm	D Neck mm	E mm	F Dia mm	G mm	H mm	I mm
SLF2WS15*	334	195	280	141	75	150	160	32	na
SLF2WS20*	334	195	280	141	75	200	80	32	na
SLF3020*	334	334	280	280	60	200	80	32	na
SLF3025*	334	334	280	280	60	250	80	32	na
SLF3030*	334	334	280	280	60	300	80	32	na
SLF2WL20	416	237	365	185	60	200	83	118	na
SLF2WL25	416	237	365	185	60	250	83	118	na
SLF2WL30	416	237	365	185	60	300	83	118	na

KIT MODEL NO.	A O/all mm	B O/all mm	C Neck mm	D Neck mm	E mm	F Dia mm	G mm	H mm	I mm
SLF4020*	416	416	360	360	60	200	80	32	97
SLF4025*	416	416	360	360	60	250	80	32	97
SLF4030*	416	416	360	360	60	300	80	32	97
SLF4030	416	416	360	360	60	300	60	60	na
SLF4035	416	416	360	360	60	350	60	60	na
SLF4040	416	416	360	360	60	400	60	60	na
SLF5440	596	416	540	360	60	400	100	16	75
SLF5445	596	416	540	360	60	450	100	16	na
SLF5450	596	416	540	360	60	500	100	16	na

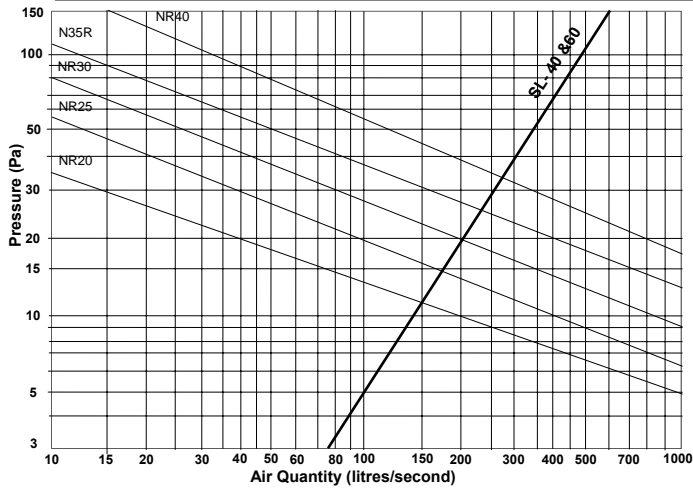
PLASTIC DIFFUSERS AND GRILLES

STREEMLINE - FIXED BLADE DIFFUSER

PERFORMANCE CHARACTERISTICS

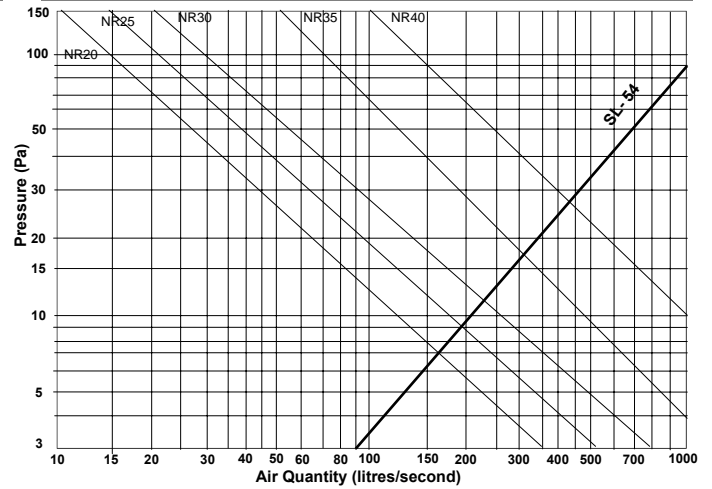
AdvantageAir

SL-40 (360x360 Streamline diffuser - 4 way blow)



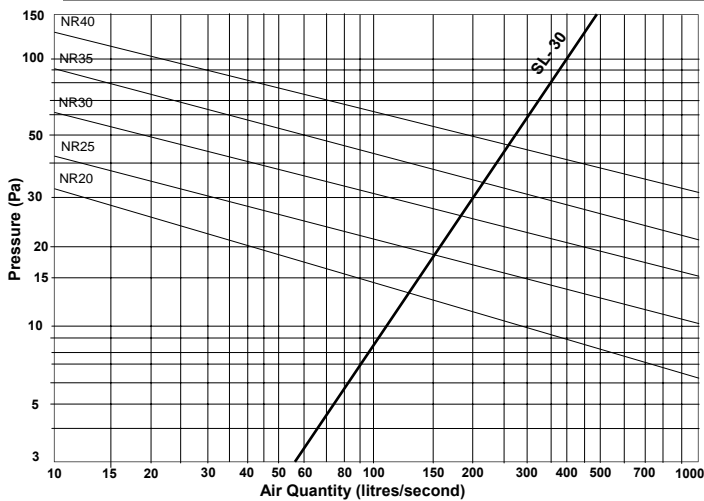
Throws vary between 1 to 5 meters up to 200 l/s and +5 meters for all air quantities above 200 l/s.

SL-54 (360x540 Streamline diffuser - 4 way blow)



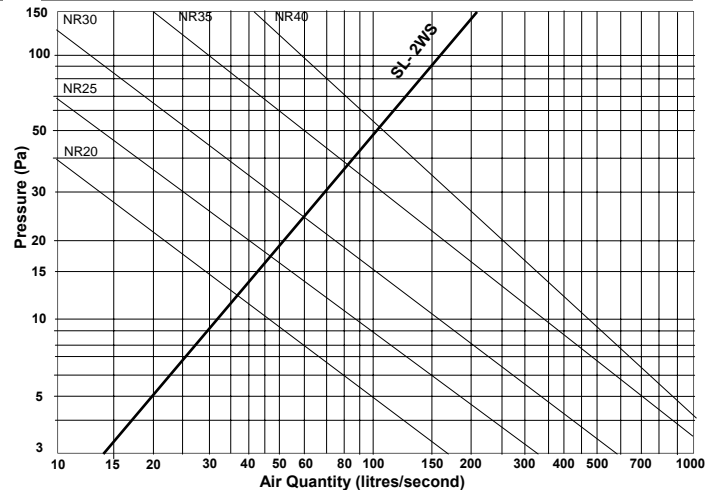
Throws vary between 1 to 5 meters up to 330 l/s and +5 meters for all air quantities above 330 l/s.

SL-30 (280x280 Streamline diffuser - 4 way blow)



Throws vary between 1 to 5 meters up to 120 l/s and +5 meters for all air quantities above 120 l/s.

SL-2WS (280x140 Streamline diffuser - 2 way blow)

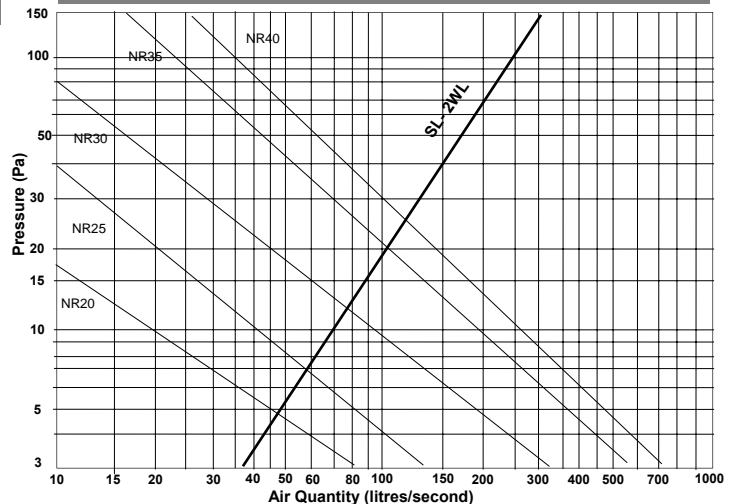


Throws vary between 1 to 5 meters up to 95 l/s and +5 meters for all air quantities above 95 l/s.

LEGEND

NR - Noise Rating

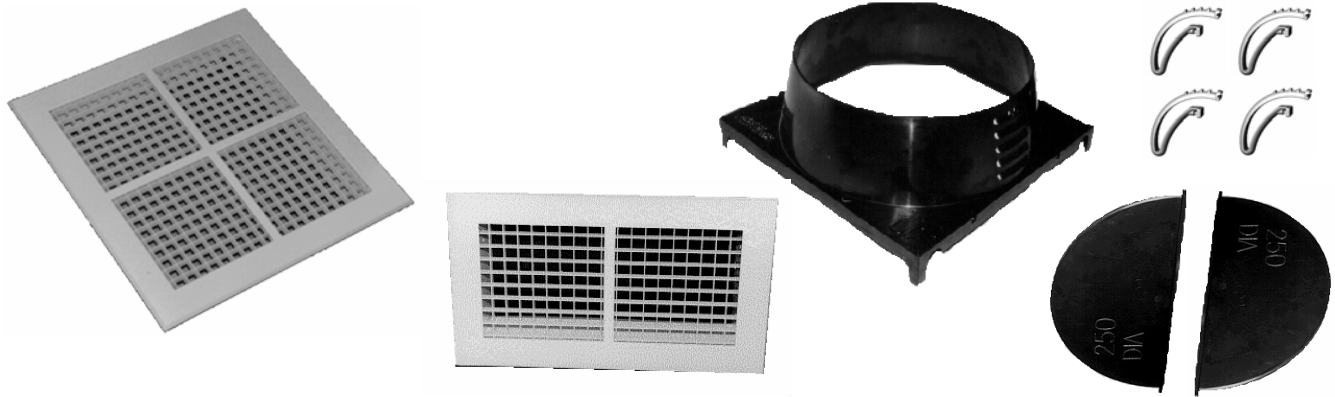
SL-2WL (360x180 Streamline diffuser - 2 way blow)



Throws vary between 1 to 5 meters up to 95 l/s and +5 meters for all air quantities above 95 l/s.

PLASTIC DIFFUSERS AND GRILLES STREEMLINE - EGGCRATE GRILLE KITS

AdvantageAir



FEATURES

- Eggcrate biscuits are moulded in one piece.
- Grilles are quick and easy to install.
- The eggcrate biscuits can be removed and washed.
- The SL60 & SL54 are designed to fit in a standard commercial "T bar" ceiling grid.
- Fixed blade Streamline Eggcrate grilles are less expensive than aluminum eggcrate grilles and easier to remove and clean.

CONSTRUCTION

- The grille is manufactured from white H.I.P.S plastic.
- Plastic neck adaptors are manufactured from black plastic.
- The grille clips are constructed from Acetal plastic.

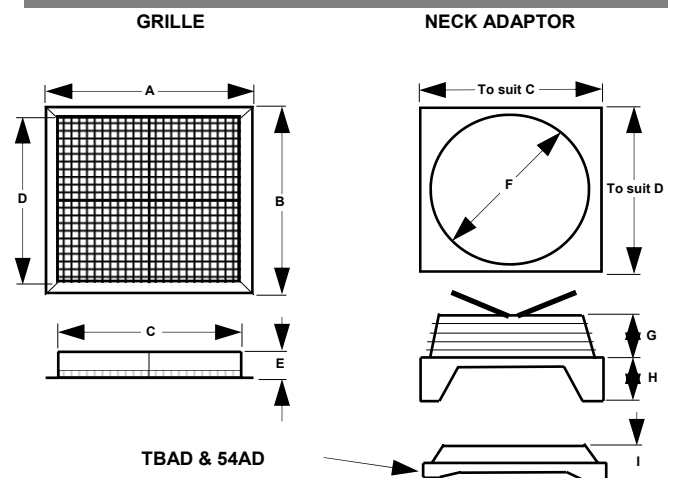
APPLICATIONS

- Ideal for residential and commercial exhaust and ventilation applications.

OPTIONAL EXTRAS

- Butterfly dampers are priced separately and must be specified at the time of ordering. Butterfly dampers can only be supplied on model numbers indicated with an asterisk (*).
- Cushion head adaptors can be fitted to SL 30 and SL 40 Streamline diffusers

DIMENSIONS



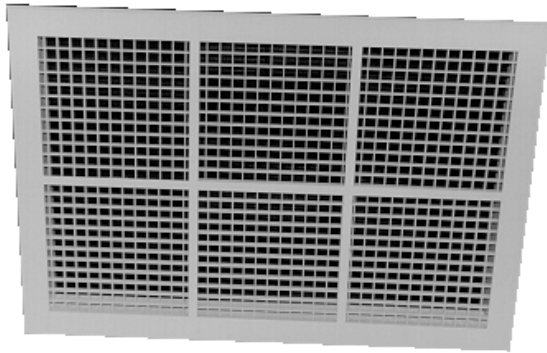
KIT MODEL NO.	A O/all mm	B O/all mm	C Neck mm	D Neck mm	E mm	F Dia mm	G mm	H mm	I mm
SLE2WS15*	334	195	280	141	75	150	160	32	na
SLE2WS20*	334	195	280	141	75	200	80	32	na
SLE3020*	334	334	280	280	60	200	80	32	na
SLE3025*	334	334	280	280	60	250	80	32	na
SLE3030*	334	334	280	280	60	300	80	32	na
SLE2WL20	416	237	365	185	60	200	83	118	na
SLE2WL25	416	237	365	185	60	250	83	118	na
SL2EWL30	416	237	365	185	60	300	83	118	na

KIT MODEL NO.	A O/all mm	B O/all mm	C Neck mm	D Neck mm	E mm	F Dia mm	G mm	H mm	I mm
SLE4020*	416	416	360	360	60	200	80	32	97
SLE4025*	416	416	360	360	60	250	80	32	97
SLE4030*	416	416	360	360	60	300	80	32	97
SLE4030	416	416	360	360	60	300	60	60	na
SLE4035	416	416	360	360	60	350	60	60	na
SLE4040	416	416	360	360	60	400	60	60	na
SLE5440	596	416	540	360	60	400	100	16	75
SLE5445	596	416	540	360	60	450	100	16	na
SLE5450	596	416	540	360	60	500	100	16	na

PLASTIC DIFFUSERS AND GRILLES

STREEMLINE SECURITY RELIEF VENTS

AdvantageAir



FEATURES

- Rectangular grille with six removable eggcrate cores and a vision proof barometric damper behind the grille.
- The barometric damper will open if the pressure on the room side of the grille is greater than the pressure in the ceiling void.
- Supplied with a separate metal stop to prevent the damper from blowing open.
- Fitted with rubber seals to prevent noise when damper closes.

CONSTRUCTION

- These relief vents are constructed from white plastic and have a black, fluted, plastic barometric damper behind.

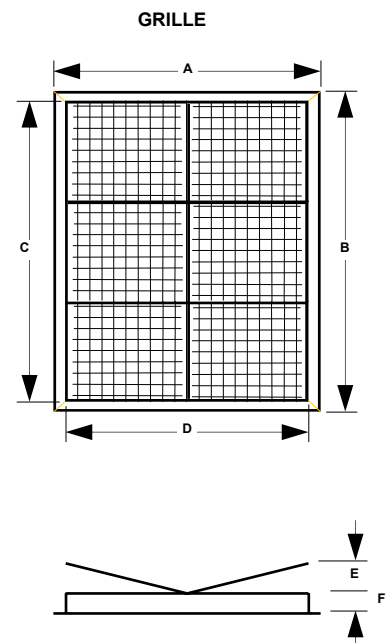
PERFORMANCE

- Air flow through the grille will be determined by the pressure in the room and room leakage. Maximum air flow through a single grille should not exceed 390 l/s if air noise through the grille is to be avoided.

APPLICATIONS

- Security relief vents are designed to be installed in the ceiling of residences which are evaporatively cooled. Installation of these grilles provides a relief path for the evaporative system and eliminates the need to open windows and doors.

DIMENSIONS



MODEL NO.	A O/all mm	B O/all mm	C Neck mm	D Neck mm	E Open mm	F mm
SSRV	416	596	540	360	150	60

PLASTIC DIFFUSERS AND GRILLES

SWIVEL JET DIFFUSERS

AdvantageAir



FEATURES

- Unique swivel core allows the occupant to adjust the direction of airflow through 360° to suit furniture layouts etc.
- Easy to clean.
- Quiet.
- Damper is easily adjusted from the face of the grille and will not blow closed.
- Snap action clips for fast installation.
- Tapered neck for easy duct connection

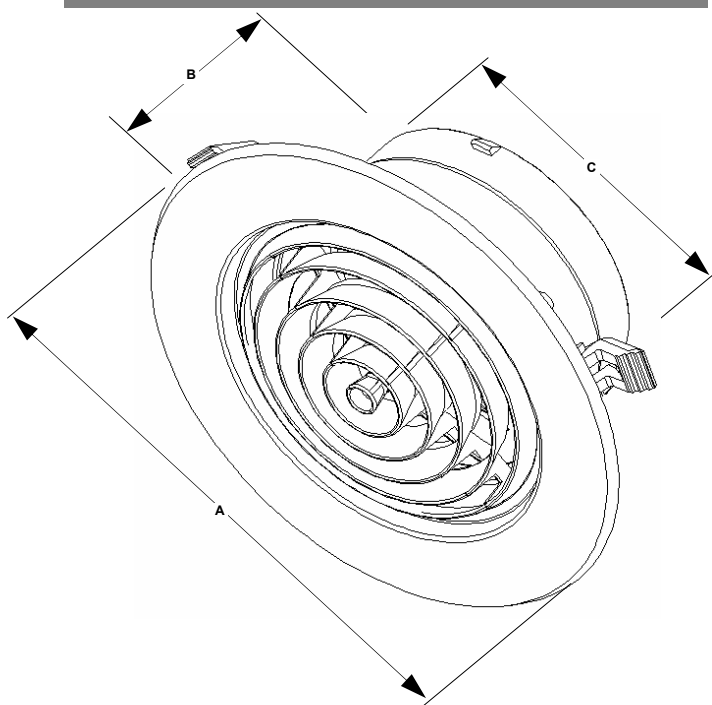
CONSTRUCTION

- These outlets are injection moulded from white A.B.S plastic and have integrated spring loaded clips

APPLICATIONS

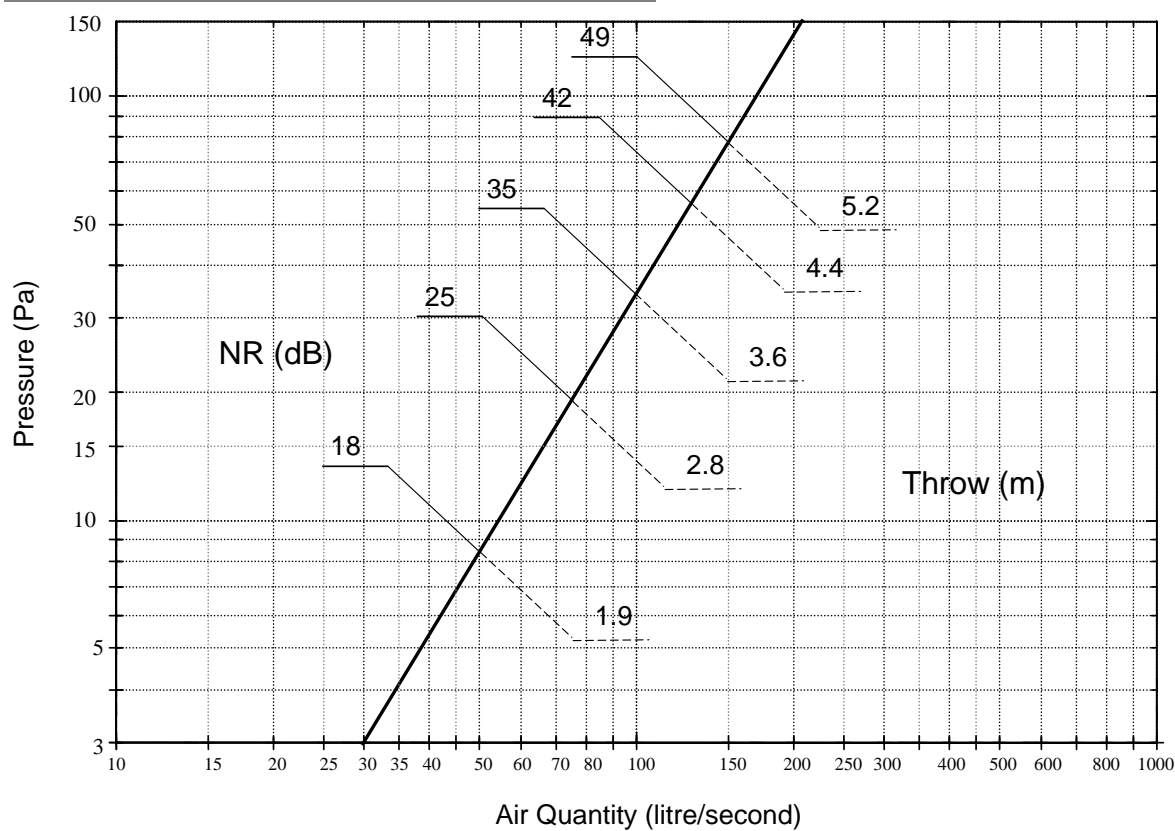
- These outlets are ideal as residential heating, supply air ceiling diffusers.
- Can also be used for ensuite exhaust, bulkhead air conditioning / heating or as a reverse cycle jet diffuser.

DIMENSIONS

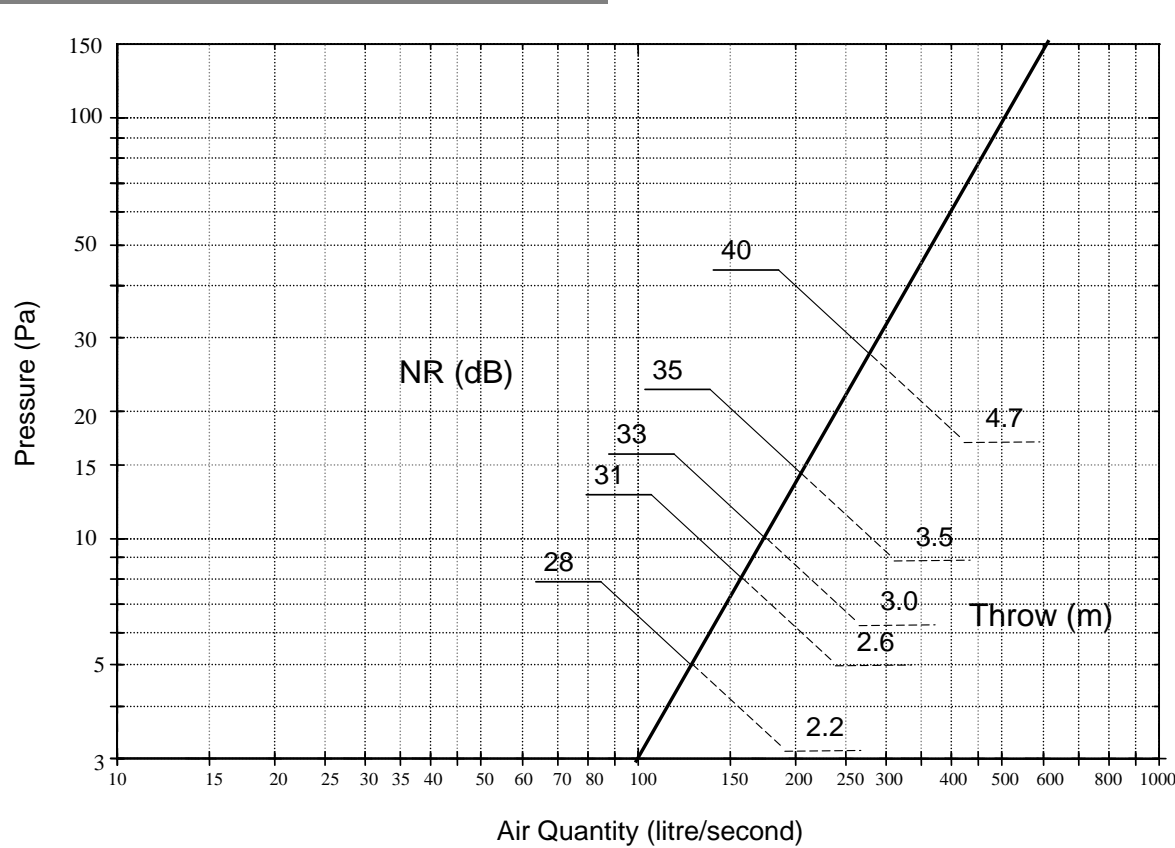


MODEL NO.	A O/all	B O/all	C NECK
SJ 15	262	100	148
SJ 20	312	103	198

150 DIA SWIVEL JET DIFFUSER



200 DIA SWIVEL JET DIFFUSER



PLASTIC DIFFUSERS AND GRILLES

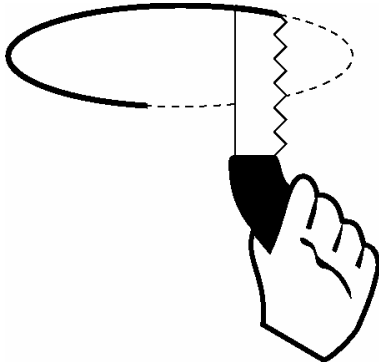
SWIVEL JET DIFFUSER - INSTALLATION INSTRUCTIONS

AdvantageAir

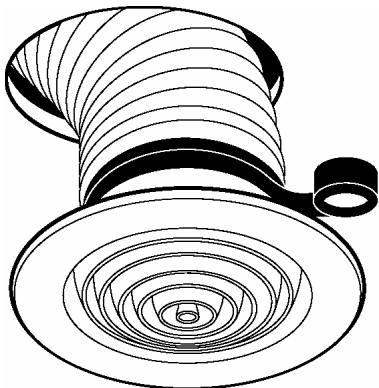
1. Select the required position for the grille. Ensure there are no obstructions above the ceiling in the selected location. Using the template provided, mark hole for the grille as follows:

150 diameter grille: **hole sizes 225mm dia.**
200 diameter grille: **holes size 275mm dia.**

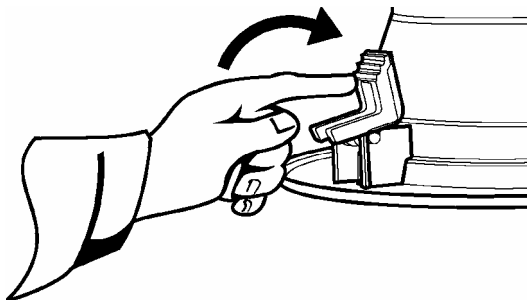
2. Carefully cut opening in ceiling.



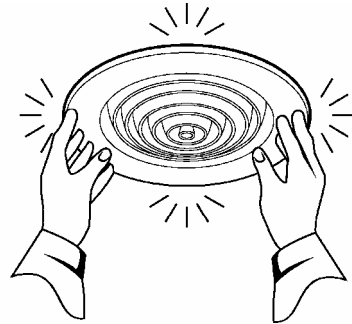
3. Pull the duct through the opening in the ceiling and attach the grille to the duct using duct tape.



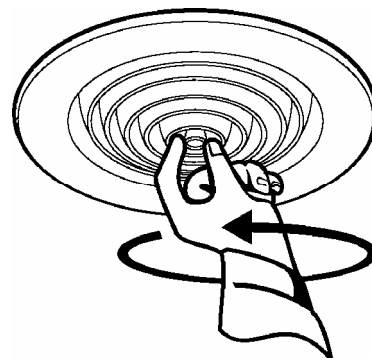
4. Load the clips in the upright position. TAKE CARE you do not accidentally trigger a clip and catch your finger.



5. Carefully pass the grille up into the opening ensuring all clips are triggered down.

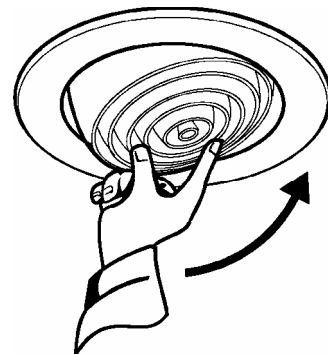


6. Adjust the air quantity using the center damper controller.



Clockwise to close,
anticlockwise to open.

7. Adjust the direction of throw to suit the occupant or furniture layout. If grille is to be used as 90° down jet it will lock into position with a subtle click.



8. To clean grille wipe down with warm soapy water.

9. Please recycle all packaging.



No liability

Make sure you read and understand all the installation instructions before you install this Swivel Jet diffuser. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Swivel Jet diffuser.

PLASTIC DIFFUSERS AND GRILLES

SUNLINE DIFFUSER

AdvantageAir



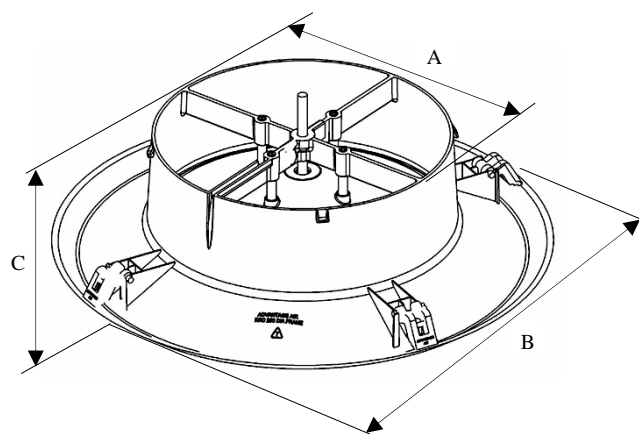
FEATURES

- Available in 3 different sizes:
 - 200 dia
 - 250 dia
 - 300 dia
- Stylish design
- Easily adjusted diffuser opening
- Low cost
- Lightweight rigid construction
- Easy to clean.
- Scratch resistant surface.
- Quiet.
- Snap action clips for fast and easy installation.
- Tapered neck for easy duct connection

OPTIONAL EXTRAS

- Available in motorised/remote controlled option. (See Sunline Remote in the “Controls” section of the Technical Catalogue for further details.

DIMENSIONS



CONSTRUCTION

- These outlets are injection moulded from white ABS plastic and have integrated spring loaded clips

APPLICATIONS

- Ideal for residential and commercial reverse cycle air-conditioning, heating and ventilation applications.

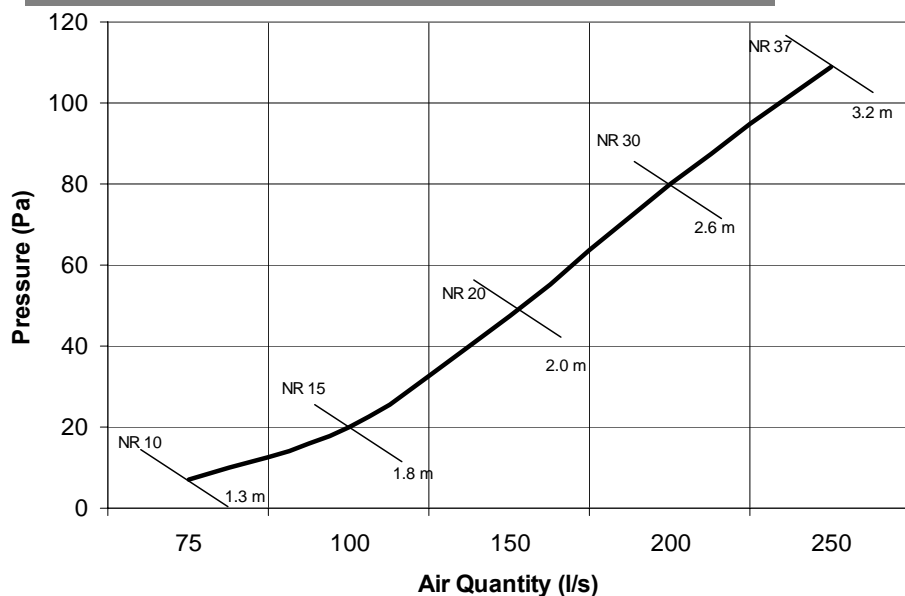
Grille Size	A Nominal Neck Size (mm)	B Flange Size (mm)	C Height (mm)	Hole Diameter (mm)
200 DIA	200	364	114	314
250 DIA	250	413	114	364
300 DIA	300	464	114	414

PLASTIC DIFFUSERS AND GRILLES

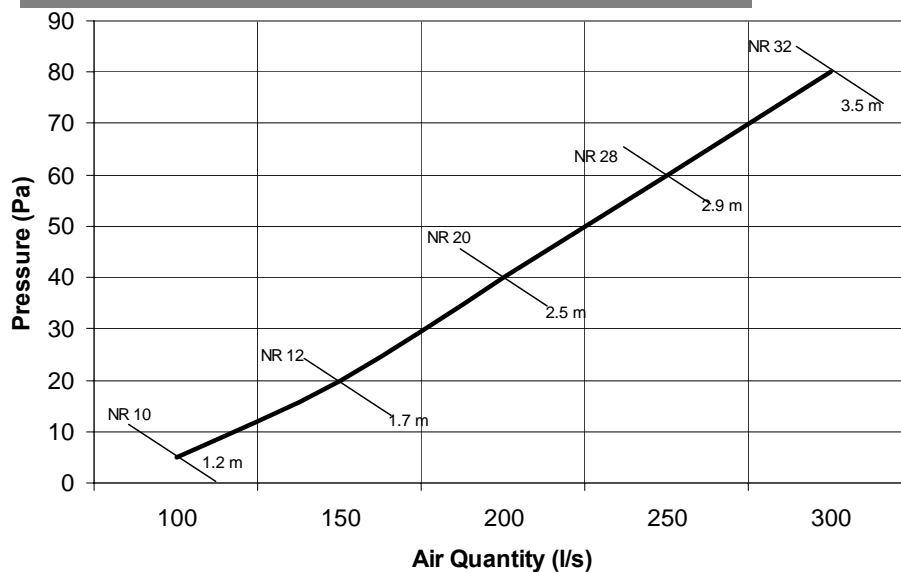
SUNLINE DIFFUSERS - PERFORMANCE DATA

AdvantageAir

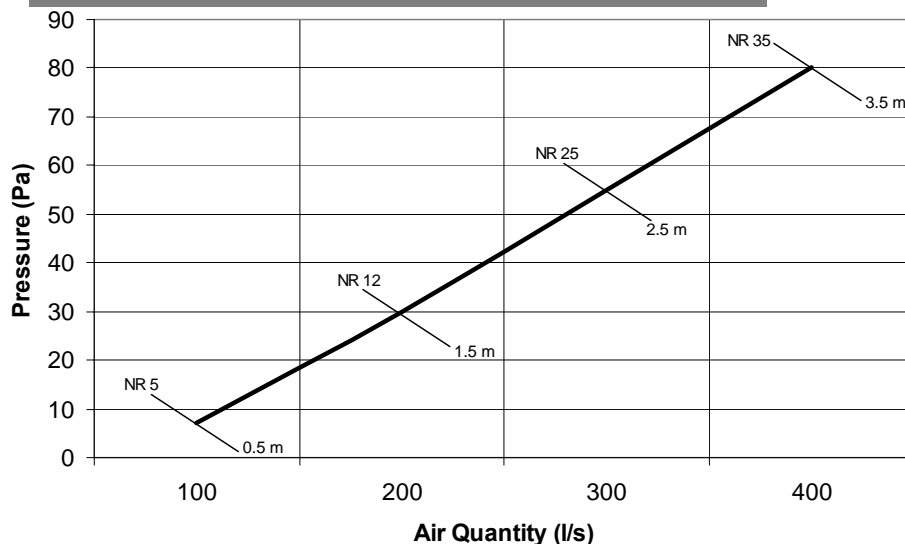
200 DIA SUNLINE DIFFUSER



250 DIA SUNLINE DIFFUSER



300 DIA SUNLINE DIFFUSER



PLASTIC DIFFUSERS AND GRILLES

SUNLINE DIFFUSER

INSTALLATION INSTRUCTIONS

AdvantageAir

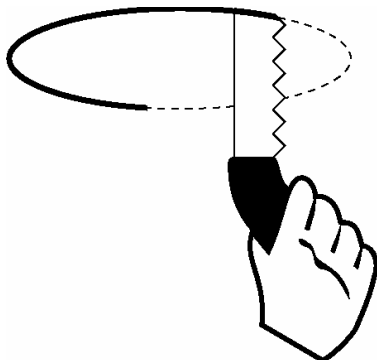
1. Select the required position for the grille. Ensure there are no obstructions above the ceiling in the selected location. Using the template provided, mark hole for the grille as follows:

200 diameter grille: **hole sizes 314mm dia.**

250 diameter grille: **holes size 364mm dia.**

300 diameter grille: **holes size 414mm dia.**

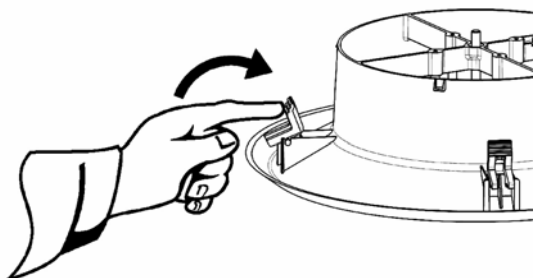
2. Carefully cut opening in ceiling.



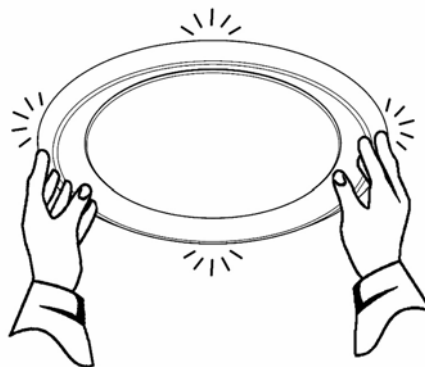
3. Pull the duct through the opening in the ceiling and attach the grille to the duct using duct tape.



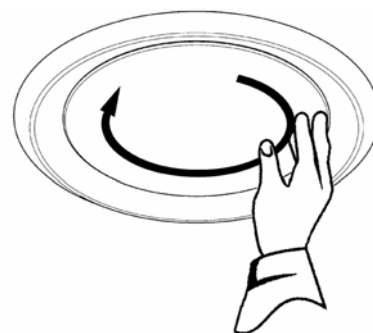
4. Load the clips in the upright position. TAKE CARE you do not accidentally trigger a clip and catch your finger.



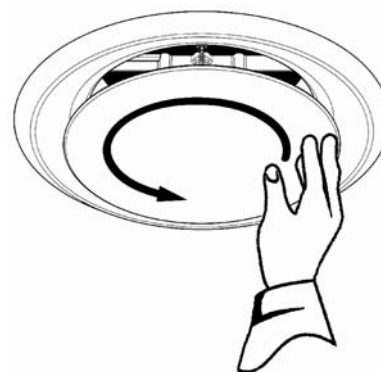
5. Carefully pass the grille up into the opening ensuring all clips are triggered down.



6. Adjust the air quantity by spinning the diffuser cone clockwise or anticlockwise.



Clockwise to close



Anticlockwise to open

8. To clean grille wipe down with warm soapy water.

9. Please recycle all packaging.



No liability

Make sure you read and understand all the installation instructions before you install this Sunline diffuser. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Sunline diffuser.



FEATURES

- All grille are fitted with 3 removable cores which can be adjusted to provide the required throw pattern.
- The grilles are fitted with a shutoff damper which is controlled via a small lever on the front of the grille.
- The spigots are fitted with a butterfly damper to balance the grille and is accessed via the removal of the cores.
- Two spigot sizes are available, 150 diameter and 200 diameter.

CONSTRUCTION

- The grilles & boot are constructed from coloured, heat stabilised plastic.

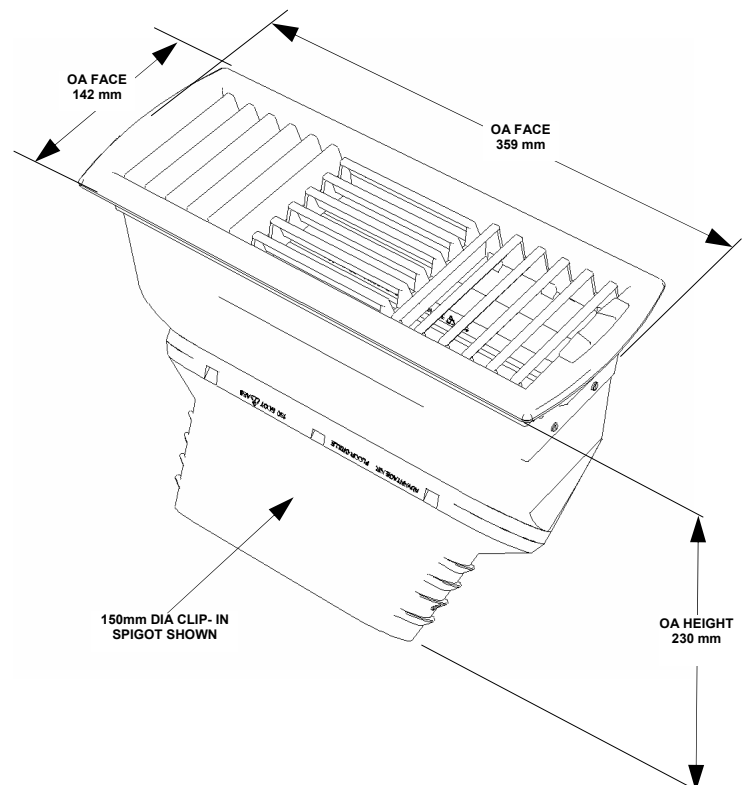
APPLICATIONS

- These grilles are designed specifically for underfloor heating and air conditioning applications.
- Grilles can also be used in walls or bulkheads.

OPTIONAL EXTRAS

- Please specify the spigot size required. (150 or 200 diameter)
- Grilles can also be supplied with a custom made sheet metal boot.

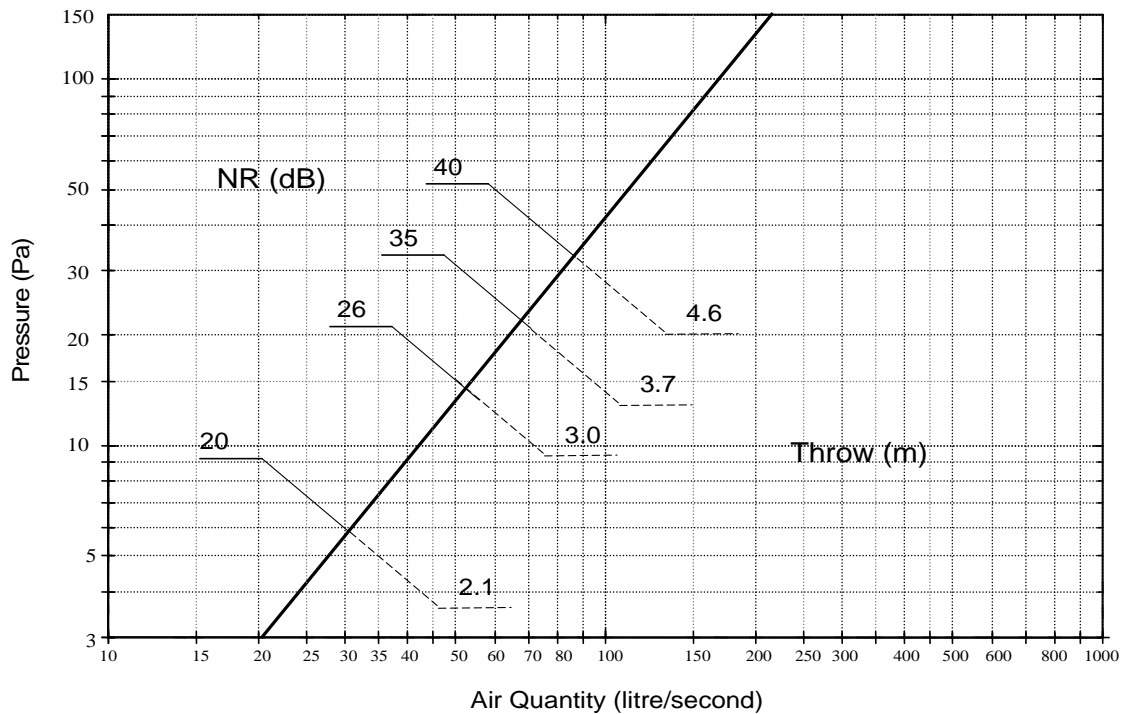
DIMENSIONS



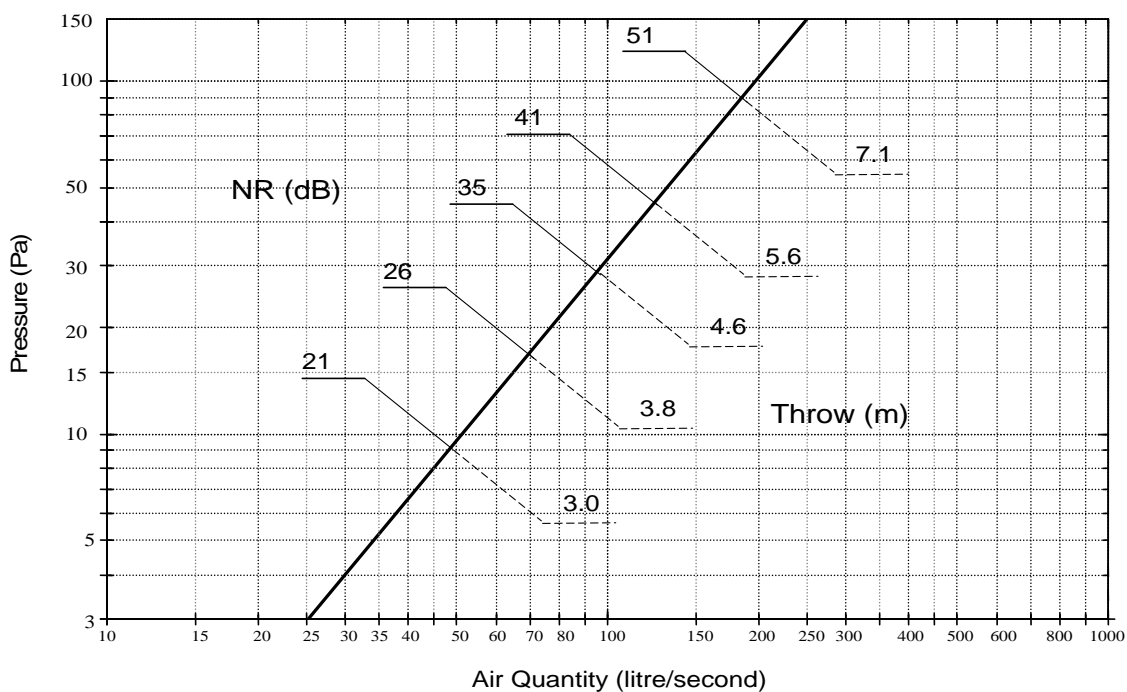
PLASTIC DIFFUSERS AND GRILLES FLOORLINE PERFORMANCE DATA

AdvantageAir

FLOOR GRILLE (150mm DIAMETER SPIGOT)



FLOOR GRILLE (200mm DIAMETER SPIGOT)



LEGEND

NR - Noise Rating

NB. TEST DATA IS BASED ON THE (CORE + GRILLE FRAME + SPIGOT) CONFIGURATION

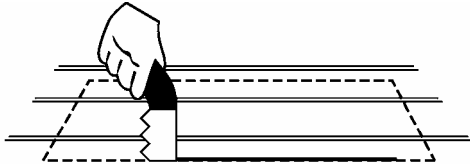
PLASTIC DIFFUSERS AND GRILLES FLOORLINE - INSTALLATION INSTRUCTIONS

AdvantageAir

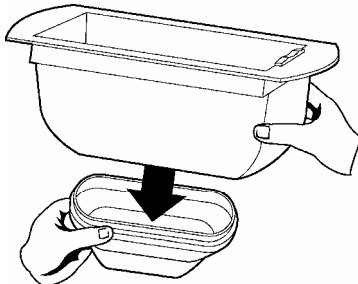
1. Select the required position for the floor grille. Ensure there are no obstructions below the floor in the selected location. Mark hole cut size for the grille as follows:

- **Holes size 325mm x 110mm**

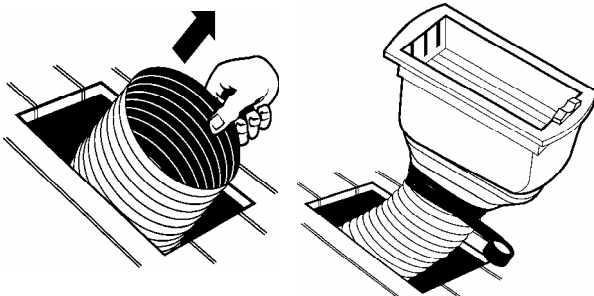
2. It is important to cut out the hole on the floor accurately using the appropriate cutting tool.



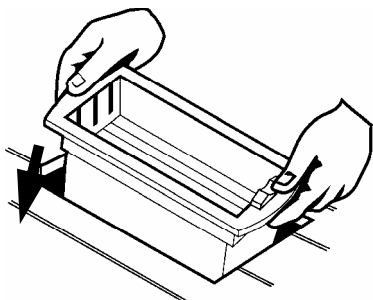
3. Take the spigot and firmly clip it into the grille frame, ensuring that all the clips are properly engaged.



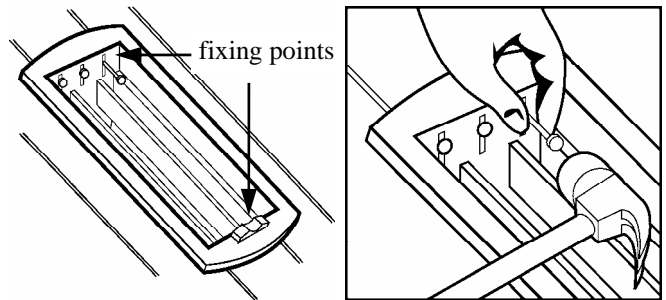
4. Pull the duct up through the opening in the floor and attach the duct to the spigot using duct tape.



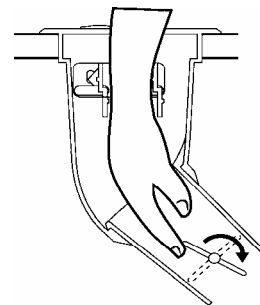
5. Carefully lower the grille down into the floor opening. Ensure the grille is flat and square.



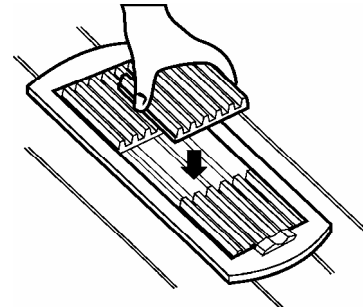
6. Locate the fixing points on either side of the grille frame and fix the grille to the structure.



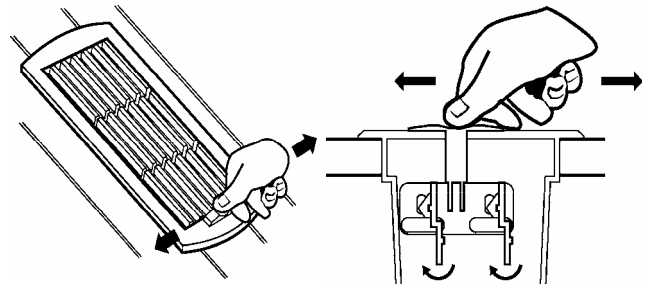
7. Once the floorgrille is secured, balance the system by adjusting the balancing blade as required.



8. Place the cores in the frame to obtain the required throw. Ensure that all cores are securely clipped into place.



9. Move the slider to adjust the air volume as required.



10. Use warm soapy water to clean diffuser.

11. Please recycle all packaging.



No liability

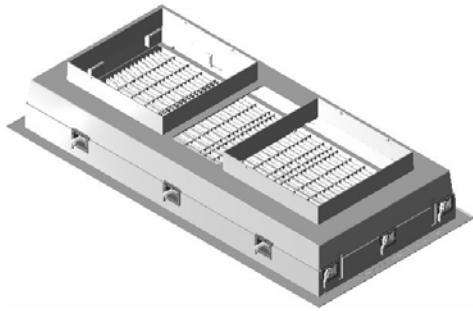
Make sure you read and understand all the installation instructions before you install this Floorline diffuser. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Floorline diffuser.

RETURN AIR GRILLES

PLASTIC DIFFUSERS AND GRILLES

PURTECH RETURN AIR GRILLE, FILTER AND BOX

AdvantageAir



FEATURES

- Low cost.
- Scratch resistant.
- Removable core for easy cleaning.
- Complete with leak proof return air box.
- Two return air duct connections to ensure even air distribution across grille and filter.
- Electrostatic filters provides 14% more efficiency than standard filters.
- Accepts standard Advantage Air neck adaptors for quick connection.
- Close tolerances ensure the grille does not whistle.
- Attractive elongated eggcrate core reduces pressure drop across core.
- Hidden mechanical latches ensures the core will not drop.
- Plastic box construction reduces risk of condensation and corrosion.
- Three sizes 1200x600, 900x400 and 750x550.
- 1200x600 model will drop into metric ceiling T-bar system.
- Built in swivel clips make installation a fast one man operation.
- Light weight ridged construction.
- Standard ceiling white.
- Paintable.

CONSTRUCTION

- Grille, box and adaptors are all blended engineering plastics.
- Electrostatic filters are a special combination of materials layered to provide the maximum static charge to capture dust particles.
- Can be internally insulated using 6 mm 'closed cell' polyethylene adhesive material

APPLICATIONS

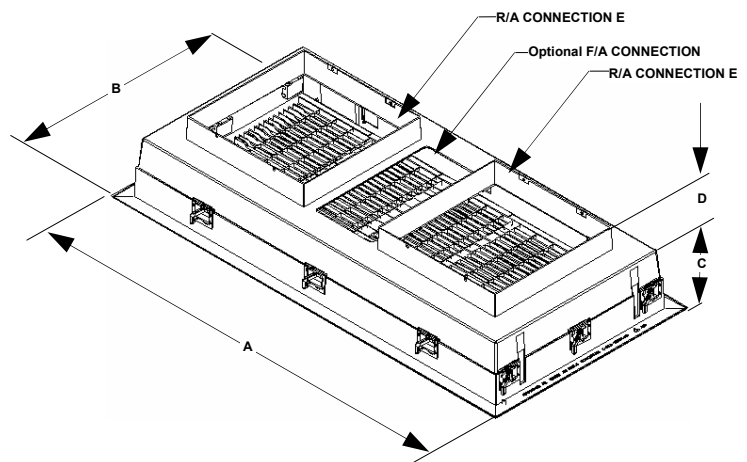
- Ideal for residential and small commercial ducted reverse cycle return air grilles.
- Can also be used for ducted gas heating return air.
- Can be used without filters for air transfer and ventilation systems.



OPTIONAL EXTRAS

- Optional fresh air filter/connection.
- Optional dirty filter alarm to alert owner when filter clean is overdue.
- Optional internal insulation for high humidity climates.
- Optional double layer or 3 layer filter.

DIMENSIONS



MODEL NO.	A O'all Length mm	B O'all Width mm	C mm	D mm	E R/A Connection mm	F F/A Connection mm	Max O'all Height with Adaptors mm	Effective face area M ²
PUR1260	1195	595	155	60	200 to 400	200 to 300	275	0.529
PUR9040	973	466	155	60	200 to 400	150 to 200	348	0.309
PUR7555	800	595	160	18	200 to 550	150 to 200	281	0.337

PLASTIC DIFFUSERS AND GRILLES

PURTECH RETURN AIR GRILLE, FILTER AND BOX

AVAILABLE OPTIONS

AdvantageAir

	MODEL NO.	SIZE (MM)	INTERNAL INSULATION	FRESH AIR FILTER OPENING	DIRTY FILTER ALARM
OPTION 1	PUR9040A	900X400			YES
OPTION 2	PUR9040AI	900X400	YES		YES
OPTION 3	PUR9040B	900X400			
OPTION 4	PUR9040BI	900X400	YES		
OPTION 5	PUR9040F	900X400		YES	
OPTION 6	PUR9040FA	900X400		YES	YES
OPTION 7	PUR9040FAI	900X400	YES	YES	YES
OPTION 8	PUR9040FI	900X400	YES	YES	
OPTION 9	PUR1260A	1200X600			YES
OPTION 10	PUR1260AI	1200X600	YES		YES
OPTION 11	PUR1260B	1200X600			
OPTION 12	PUR1260BI	1200X600	YES		
OPTION 13	PUR1260F	1200X600		YES	
OPTION 14	PUR1260FA	1200X600		YES	YES
OPTION 15	PUR1260FAI	1200X600	YES	YES	YES
OPTION 16	PUR1260FI	1200X600	YES		YES
OPTION 17	PUR7555A	750X550			YES
OPTION 18	PUR7555AI	750X550	YES		YES
OPTION 19	PUR7555B	750X550			
OPTION 20	PUR7555BI	750X550	YES		
OPTION 21	PUR7555F	750X550		YES	
OPTION 22	PUR7555FA	750X550		YES	YES
OPTION 23	PUR7555FAI	750X550	YES	YES	YES
OPTION 24	PUR7555FI	750X550	YES	YES	

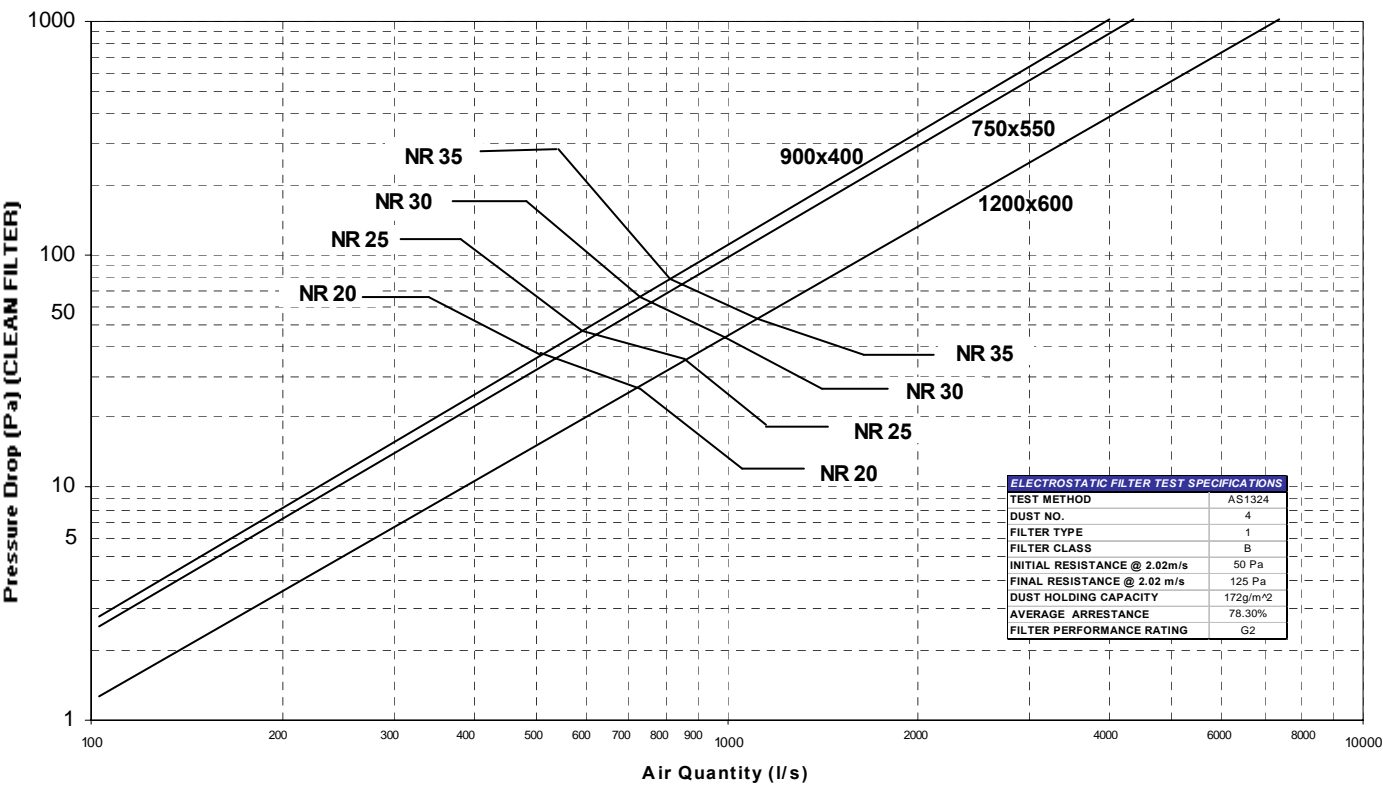
Purtech grilles prices include neck adaptors but exclude filters. Select required filters from the price list relevant to your location.

Insulated Purtech and Slimline grilles are available on request. Refer to your local branch for price & lead time required.

PLASTIC DIFFUSERS AND GRILLES
PURTECH RETURN AIR GRILLE, FILTER AND BOX
PERFORMANCE DATA



PURTECH RETURN AIR GRILLE WITH 3 LAYER ELECTROSTATIC FILTER



PLASTIC DIFFUSERS AND GRILLES

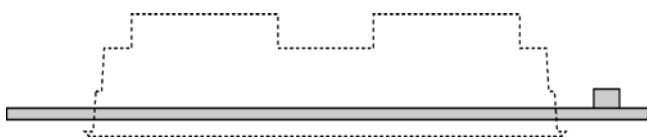
PURTECH RETURN AIR GRILLE, FILTER AND BOX

INSTALLATION INSTRUCTIONS

AdvantageAir

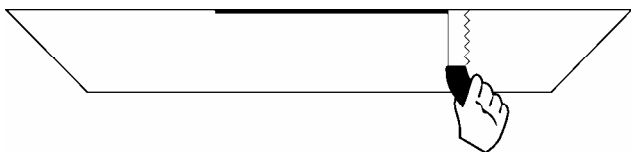
1. Select the required position for the return air grille. Ensure there are no obstructions above the ceiling in the selected location. Mark hole cut size for the grille as follows:

- 900x400 grille: **holes size 930x420**
- 1200 x 600 grille: **hole sizes 1155x555**
- 750 x 550 grille: **hole sizes 755x535**



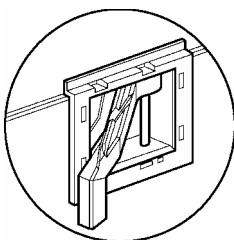
2. If it is necessary to cut off existing ceiling battens, the installer must fit additional supports to ensure that the structural integrity of the ceiling is maintained.

3. Carefully cut opening in ceiling.

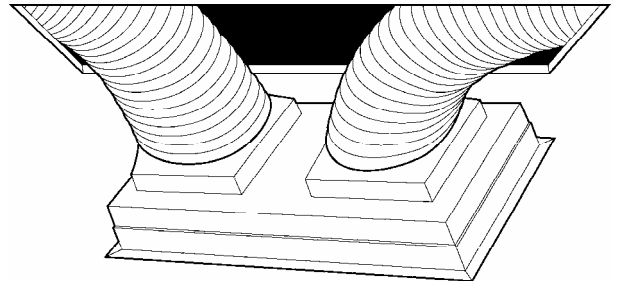


4. Carefully remove core and filter from return air box.

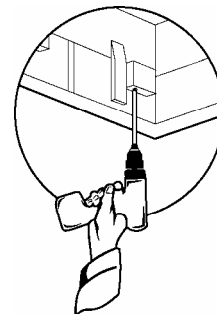
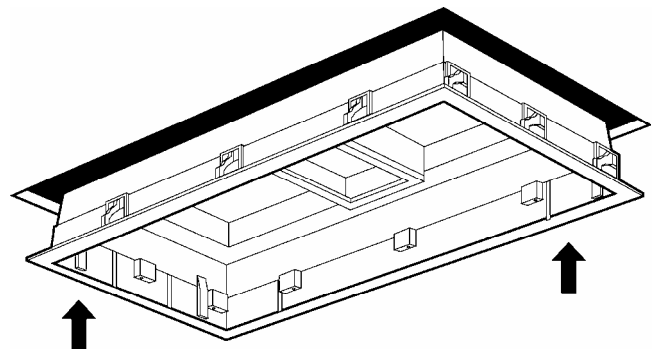
5. Ensure all clips are loaded in up and in position.



6. Pull the duct/neck adaptors through the ceiling opening and clip the neck adaptors onto the box.



7. Carefully push the box up through the opening and screw the corner clips down lightly.



8. Screw the remaining clips down lightly. **DO NOT TIGHTEN.**

9. Check frame is correctly positioned and is square.

10. Tighten screws sufficiently to hold grille in position.

No liability

Make sure you read and understand all the installation instructions before you install this Purtech Return air grille. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Purtech Return air grille.

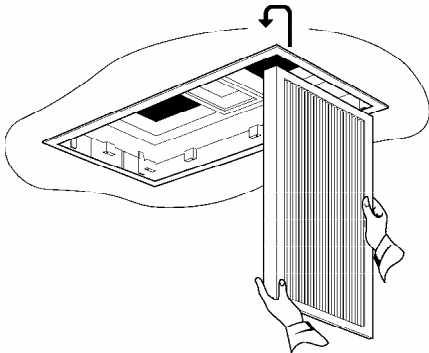
PLASTIC DIFFUSERS AND GRILLES

PURTECH RETURN AIR GRILLE, FILTER AND BOX

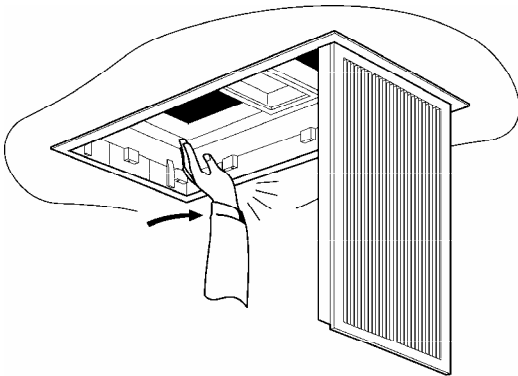
INSTALLATION INSTRUCTIONS

AdvantageAir

11. Install core without filter and hinge up.

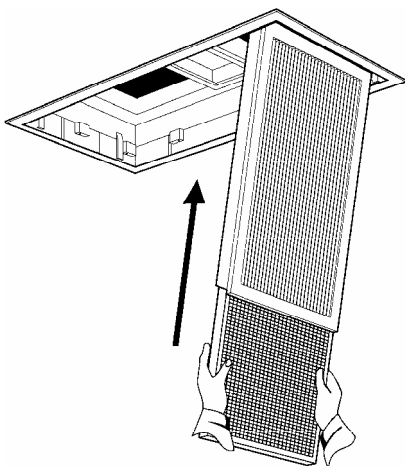


12. Ensure core does not bind on frame. If core is binding on frame loosen off the swivel clip screws and square up frame.

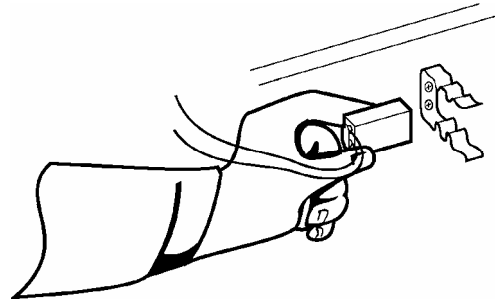


13. Tighten all swivel clip screws.

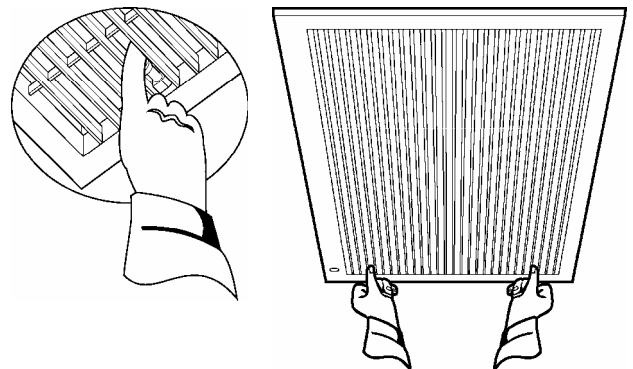
14. Install return air filters and fresh air filters (if used). If using electrostatic filters ensure the black side is facing down.



15. If optional dirty alarm filter is used install the battery provide in the dirty filter alarm holder.



16. Hinge filter up and fasten with the two latches.



17. Please recycle all packaging.



No liability

Make sure you read and understand all the installation instructions before you install this Purtech Return air grille. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Purtech Return air grille.

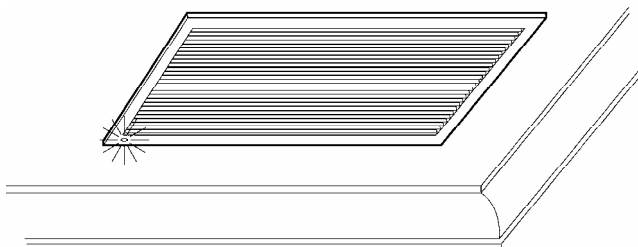
PLASTIC DIFFUSERS AND GRILLES

PURTECH RETURN AIR GRILLE, FILTER AND BOX

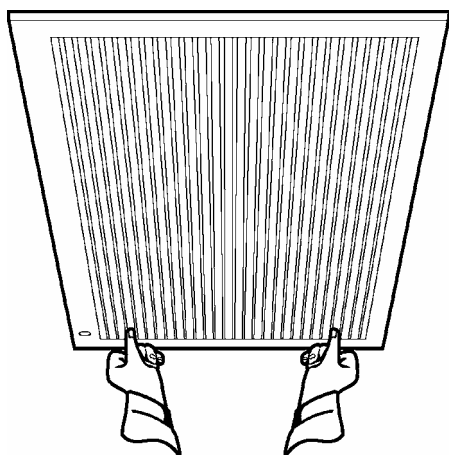
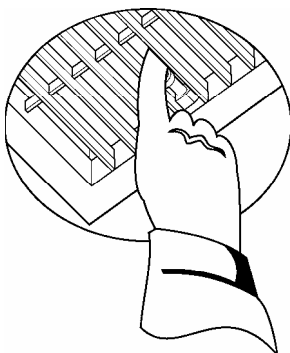
MAINTENANCE INSTRUCTIONS

AdvantageAir

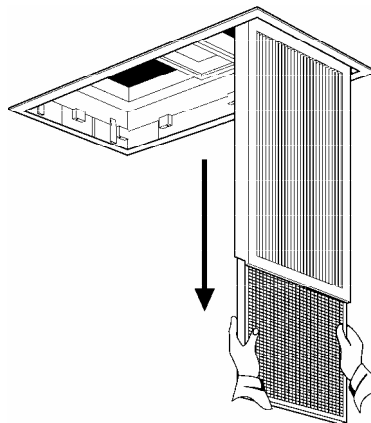
1. The filter should be cleaned at the beginning of summer each year or when the red light on frame starts flashing.



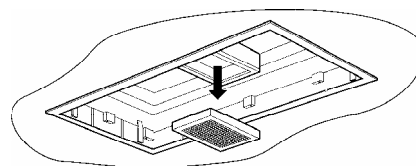
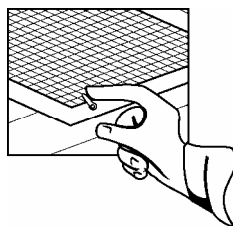
2. Switch the air conditioning unit OFF. (The light will stop flashing)
3. Unfasten the two end core clips and hinge the core down.



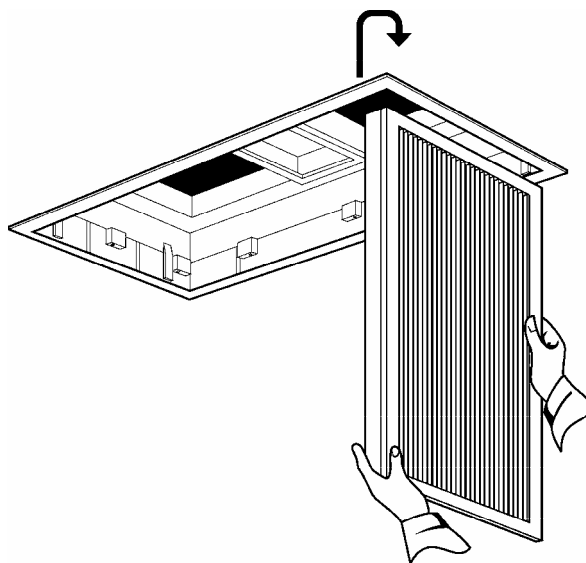
4. Slide the filter out from the core.
5. Wash in warm soapy water and rinse.
6. Dry under shade.



7. If a fresh air filter is fitted turn clips through 90° and remove filter.



8. Wash filter in warm soapy water and rinse well.
9. Dry under shade.
10. If the grille core requires cleaning.
11. Lift and unclip core.
12. Wash in warm soapy water, rinse and dry.



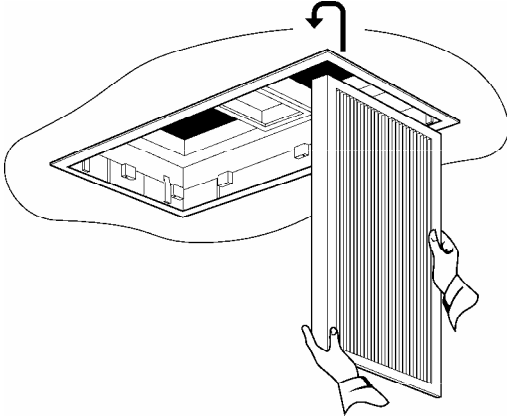
PLASTIC DIFFUSERS AND GRILLES

PURTECH RETURN AIR GRILLE, FILTER AND BOX

MAINTENANCE INSTRUCTIONS

AdvantageAir

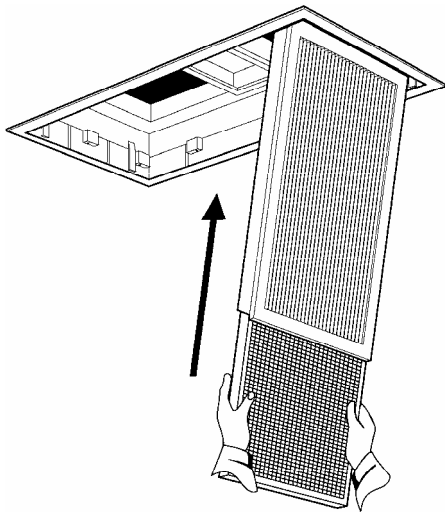
14. To install grille core after cleaning, lift up into return air box pull foreword and allow to drop gently.



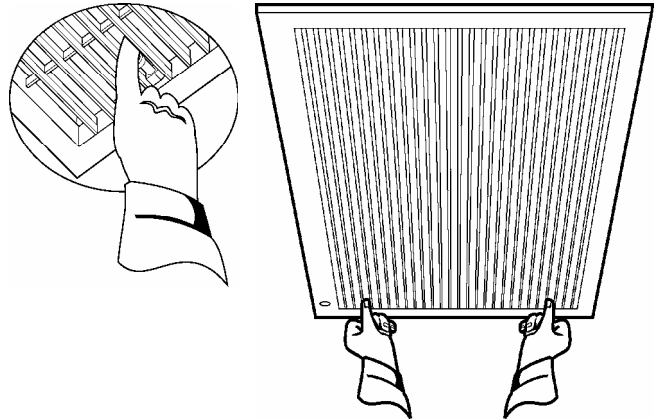
15. Ensure air flow through the filter is in the correct direction.

16. Slide the filter into core.

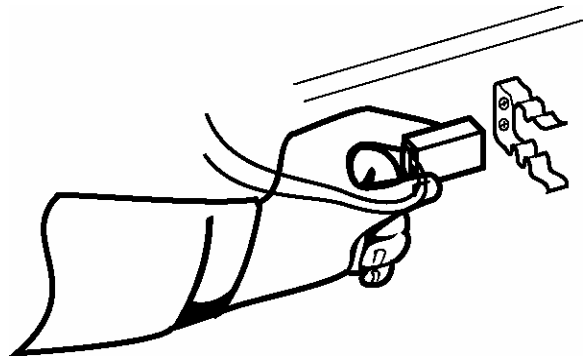
17. Push up at a slight angle until it clips into place.



18. Hinge filter up and fasten with the two latches.



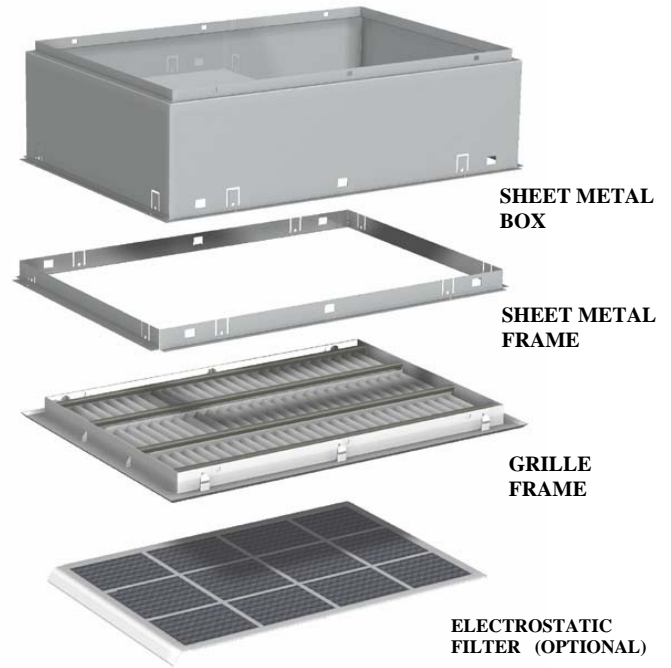
19. It is very important to replace the battery every twelve months with a standard 9 volt battery (EN22 type).



PLASTIC DIFFUSERS AND GRILLES

SLIMLINE HEATING RETURN AIR GRILLE

AdvantageAir



FEATURES

- Low cost
- Front loading and removal of filter (optional)
- Vision Proof
- Light weight rigid plastic construction
- Scratch resistant
- Suitable for ceiling installations
- All plastic construction reduces risk of condensation and corrosion.

CONSTRUCTION

- Grille frame is constructed from H.I.P.S blended engineering plastics
- Filter frame and media are constructed from Polypropylene plastic to provide maximum static charge to capture dust particles

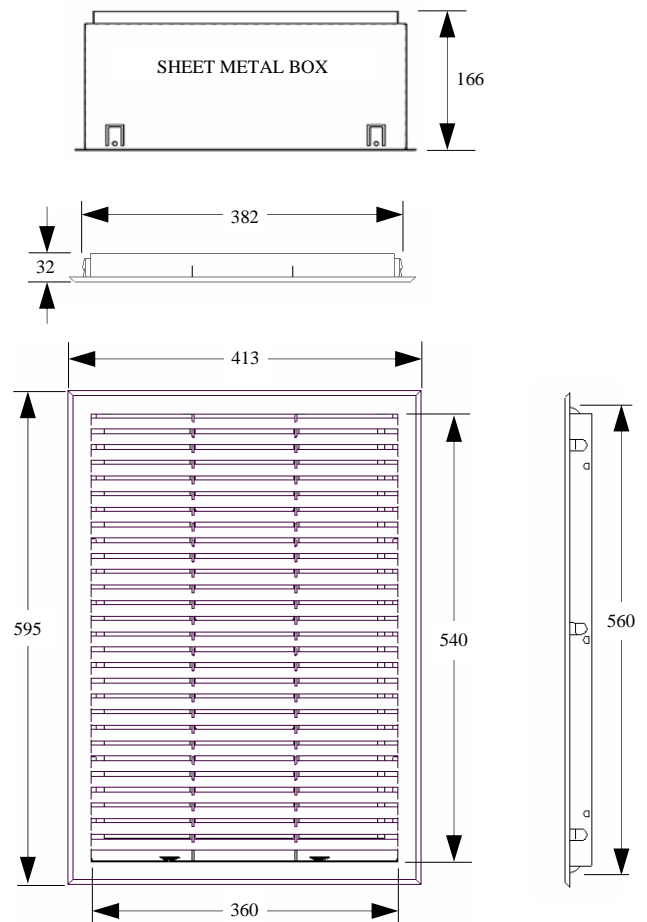
APPLICATIONS

- Ideal for residential and small commercial ducted gas heating and reverse cycle return air systems.
- Can be used without filters for air transfer and ventilation systems

OPTIONAL EXTRAS

- Removable electrostatic filter
- Sheet metal installation frame
- Sheet metal box for ceiling return air applications.
- Suitable for connection to standard Advantage Air neck adaptors for ducting.

DIMENSIONS



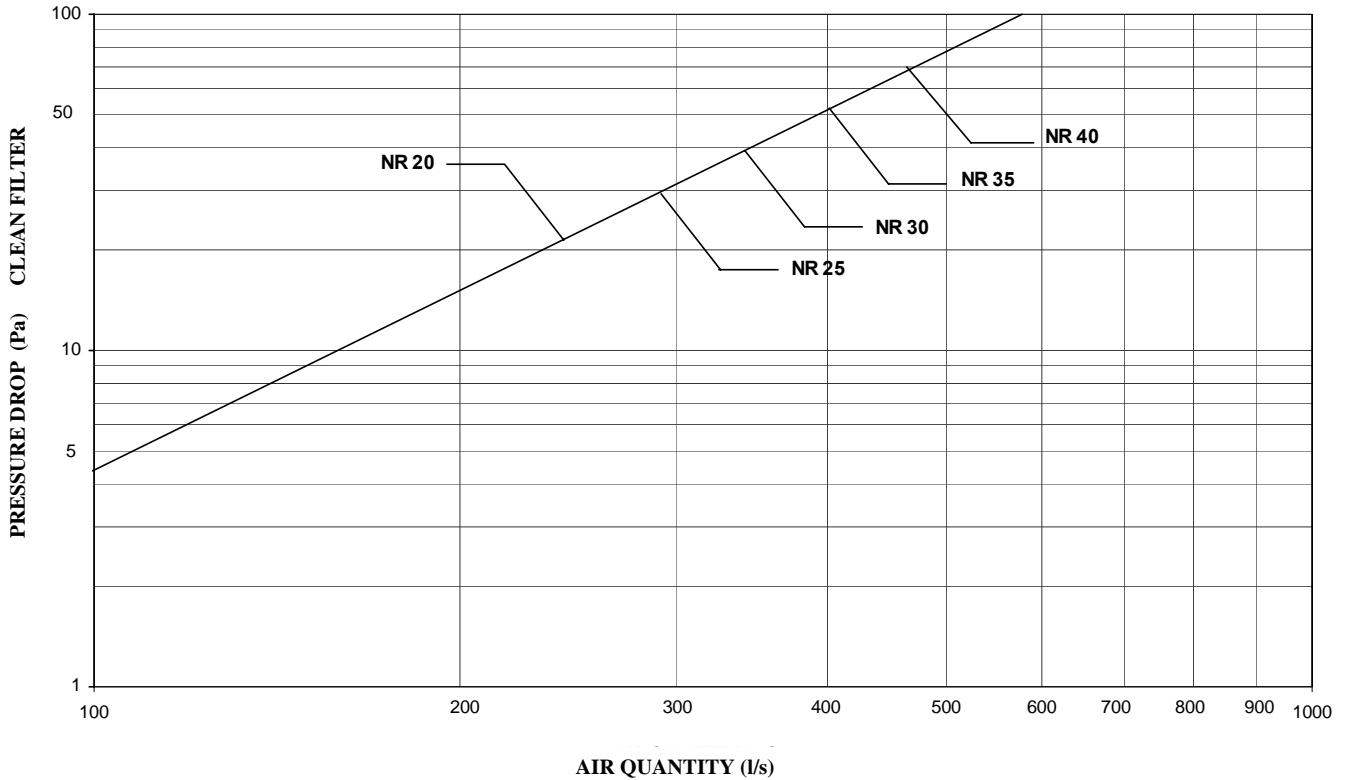
PLASTIC DIFFUSERS AND GRILLES

SLIMLINE

PERFORMANCE CHART

AdvantageAir

SLIMLINE HEATING RETURN AIR GRILLE



HONEYCOMB FILTER TEST SPECIFICATIONS

TEST METHOD	ASHRAE STANDARD 52.1-1992
TEST DUST	ASHRAE
INITIAL RESISTANCE @ 1.02m/s	10 Pa
FINAL RESISTANCE @ 1.02m/s	250 Pa
AVERAGE ATMOSPHERIC DUST SPOT EFFICIENCY	< 20%
DUST HOLDING CAPACITY	237g/m ²
AVERAGE ARRESTANCE	54.00%

LEGEND

NR - Noise Rating

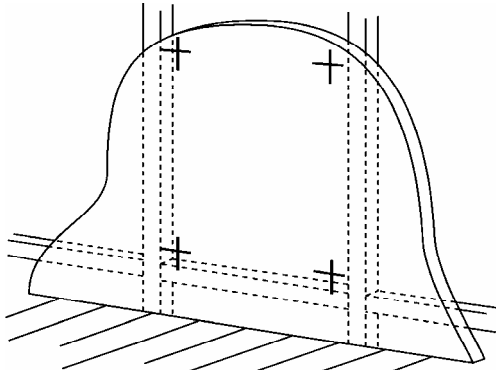
NB. TEST DATA IS BASED ON THE (GRILLE FRAME + FILTER) CONFIGURATION

PLASTIC DIFFUSERS AND GRILLES SLIMLINE

AdvantageAir

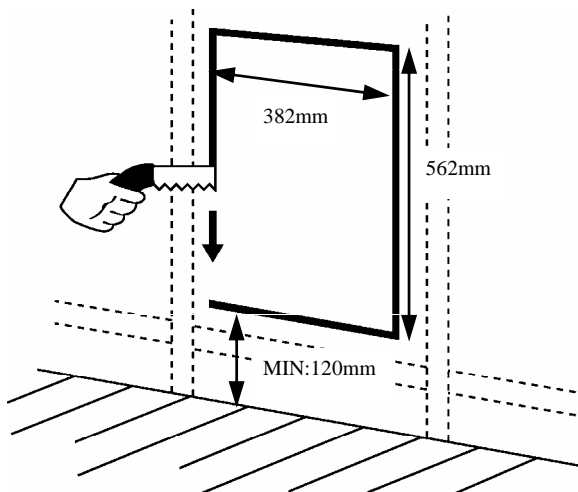
INSTALLATION WITHOUT SHEET METAL FRAME

1. Check the proposed location for the Heating Return Air Grille. Ensure the installation of the grille does not require the cutting of any structural members.

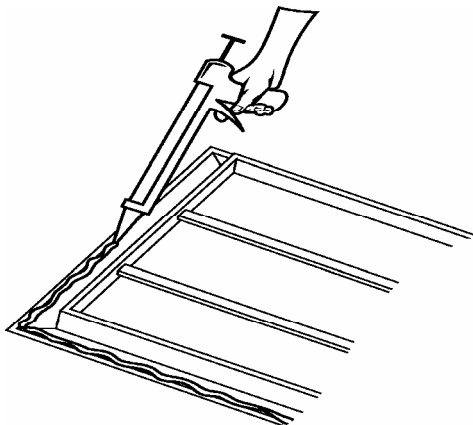


2. Cut out the hole size as follows:

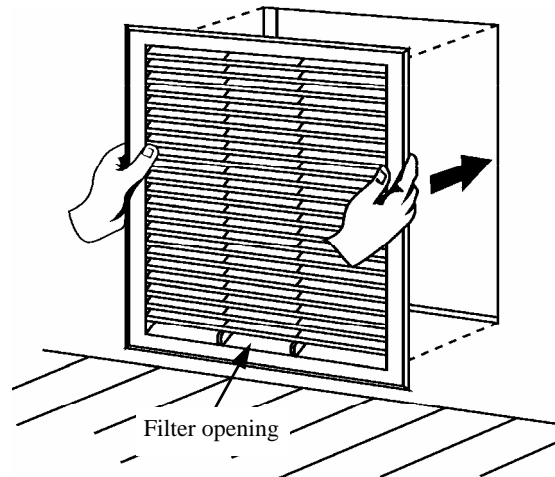
- **Hole size: 382mm x 562mm**
Ensure a minimum distance of 120mm between the bottom edge of the hole and the floor.
This facilitates removal of the filter for cleaning.



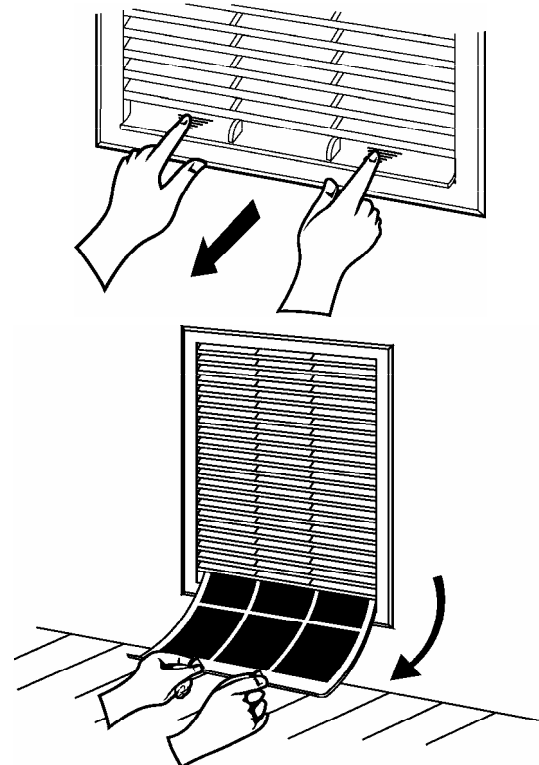
3. Turn the grille around and apply adhesive along the back edges of the grille frame.



4. Ensure the grille is in the correct orientation (filter opening should be at the bottom). Carefully push the grille through the hole and ensure that it is flat and square. Support the frame in the required position while the adhesive sets.



5. To clean the filter, simply slide the whole filter out of the grille frame and wash with warm soapy water.



6. If required, replacement filters can be purchased from Advantage Air.

7. Please recycle all packaging.



No liability

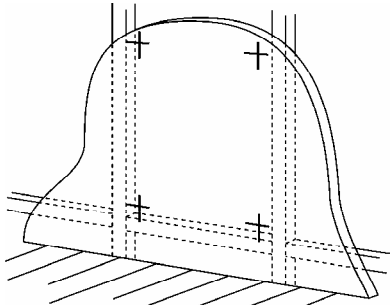
Make sure you read and understand all the installation instructions before you install this Slimline Return air grille. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Slimline Return air grille.

PLASTIC DIFFUSERS AND GRILLES SLIMLINE

AdvantageAir

INSTALLATION WITH SHEET METAL FRAME OR BOX

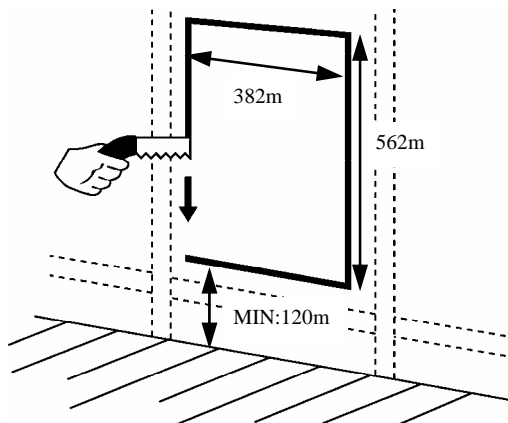
1. Check the proposed location for the Heating Return Air Grille. Ensure the installation of the grille does not require the cutting of any structural members.



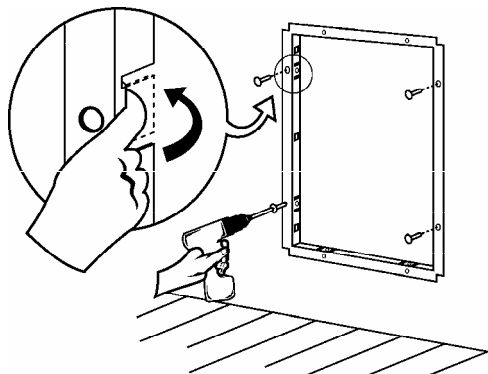
2. Cut out the hole size as follows:

- **Hole size: 382mm x 562mm**

Ensure a minimum distance of 120mm between the bottom edge of the hole and the floor. This facilitates removal of the filter for cleaning.

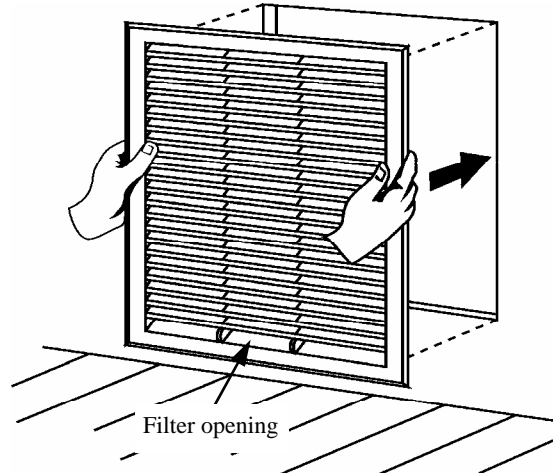


3. Carefully place the sheet metal frame into the hole and make sure that it is flat and square. Secure the sheet metal frame with screws or by bending the metal tabs over the gyprock sheeting.

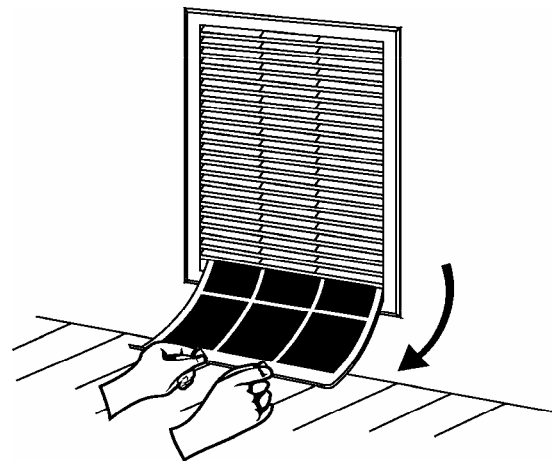
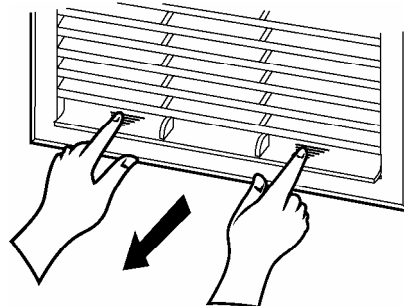


NOTE: when using the sheet metal box for ceiling applications, use **flexible** (PVC) duct tape to run along the inside bottom edge of the box to seal the openings once the box is installed in the ceiling.

4. Ensure the grille is in the correct orientation (filter opening should be at the bottom). Push the grille into the sheet metal frame. Ensure all clips are properly engaged.



5. To clean the filter, simply slide the whole filter out of the grille frame and wash with warm soapy water.



6. If required, replacement filters can be purchased from Advantage Air.

7. Please recycle all packaging.



No liability

Make sure you read and understand all the installation instructions before you install this Slimline Return air grille. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Slimline Return air grille.

EXACT AIR REGULATORS

*Advantage***Air**

* PLEASE CIRCLE SELECTION REQUIRED

BLACK	240V	ADM	
GREY	24V	CLIP24	GENIII & ZS
GREEN	24V	ADM24GREENP	CAP
RED	24V	ADM24S	VAV
YELLOW	24V	ELV24	

FITTINGS - PLASTIC EXACTAIR - ORDER FORM

AdvantageAir

LARGE EXACTAIR REGULATOR (L-EAR)

LEAR

* PLEASE CIRCLE SELECTION REQUIRED

INLET DAMPERS

MOTOR	BLACK	200	250	300	350	NO INLET SPIGOT IF CONNECTED TO FANCOIL
	GREY	400	450	500	550	
	GREEN					
	RED					
	YELLOW					
MANUAL						
NONE						

INSULATION YES ☐ NO ☐

DAY/NIGHT ☐

DAMPERS

MOTOR	BLACK	MOTOR	BLACK	MOTOR	BLACK	MOTOR	BLACK
	GREY		GREY		GREY		GREY
	GREEN		GREEN		GREEN		GREEN
	RED		RED		RED		RED
	YELLOW		YELLOW		YELLOW		YELLOW
MANUAL		MANUAL		MANUAL		MANUAL	
NONE		NONE		NONE		NONE	

150 ☐ **150** ☐ **200** ☐ **250** ☐ **300** ☐ **BLANK** ☐

150 ☐ **150** ☐ **200** ☐ **250** ☐ **300** ☐ **BLANK** ☐

150 ☐ **150** ☐ **200** ☐ **250** ☐ **300** ☐ **BLANK** ☐

150 ☐ **150** ☐ **200** ☐ **250** ☐ **300** ☐ **BLANK** ☐

BLACK	240V	ADM	
GREY	24V	CLIP24	GENIII & ZS
GREEN	24V	ADM24GREENP	CAP
RED	24V	ADM24S	VAV
YELLOW	24V	ELV24	

FITTINGS - PLASTIC
EXACTAIR - ORDER FORM

AdvantageAir

FINAL EXACTAIR REGULATOR (F-EAR)

* PLEASE CIRCLE SELECTION REQUIRED

FEAR

INLET DAMPERS

MOTOR	BLACK
	GREY
	GREEN
	RED
	YELLOW
MANUAL	
NONE	

200	250	300	350
400	450	500	550
NONE			

NO INLET SPIGOT IF CONNECTED TO FANCOIL

INSULATION

YES
NO

DAY/NIGHT

400	250	350	200	300	BLANK
OR					

150
150
200
250
300
BLANK

150
150
200
250
300
BLANK

MOTOR	BLACK
	GREY
	GREEN
	RED
	YELLOW
NONE	

400	250	350	200	300	BLANK
OR					

150
150
200
250
300
BLANK

150
150
200
250
300
BLANK

MOTOR	BLACK
	GREY
	GREEN
	RED
	YELLOW
MANUAL	
NONE	

MOTOR	BLACK
	GREY
	GREEN
	RED
	YELLOW
MANUAL	
NONE	

MOTOR	BLACK
	GREY
	GREEN
	RED
	YELLOW
MANUAL	
NONE	

MOTOR	BLACK
	GREY
	GREEN
	RED
	YELLOW
MANUAL	
NONE	

MOTOR	BLACK
	GREY
	GREEN
	RED
	YELLOW
MANUAL	
NONE	

MOTOR	BLACK
	GREY
	GREEN
	RED
	YELLOW
MANUAL	
NONE	

MOTOR	BLACK
	GREY
	GREEN
	RED
	YELLOW
MANUAL	
NONE	

DAMPERS

BLACK	240V	ADM	
GREY	24V	CLIP24	GENIII & ZS
GREEN	24V	ADM24GREENP	CAP
RED	24V	ADM24S	VAV
YELLOW	24V	ELV24	

FITTINGS - PLASTIC
EXACTAIR - ORDER FORM



SMALL EXACTAIR REGULATOR (S-EAR)

SEAR

* PLEASE CIRCLE SELECTION REQUIRED

INLET DAMPERS

MOTOR

BLACK

GREY

GREEN

RED

YELLOW

MANUAL

NONE

200

250

300

350

400

NONE

NO INLET SPIGOT IF CONNECTED TO FANCOIL

INSULATION

YES

NO

DAY/NIGHT

MOTOR

BLACK

GREY

GREEN

RED

YELLOW

MANUAL

NONE

150

150

200

250

300

BLANK

400

250

350

200

300

BLANK

OR

400

250

350

200

300

BLANK

150

150

200

250

300

BLANK

400

250

350

200

300

BLANK

OR

400

250

350

200

300

BLANK

150

150

200

250

300

BLANK

MOTOR

BLACK

GREY

GREEN

RED

YELLOW

MANUAL

NONE

MOTOR

BLACK

GREY

GREEN

RED

YELLOW

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NONE

MOTOR

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NONE

MOTOR

BLACK

GREY

GREEN

RED

YELLOW

MANUAL

NONE

MOTOR

BLACK

GREY

GREEN

RED

YELLOW

MANUAL

NONE

MOTOR

BLACK

GREY

GREEN

RED

YELLOW

MANUAL

NONE

DAMPERS

BLACK	240V	ADM	
GREY	24V	CLIP24	GENIII & ZS
GREEN	24V	ADM24GREENP	CAP
RED	24V	ADM24S	VAV
YELLOW	24V	ELV24	

MINI EXACTAIR REGULATOR (M-EAR)

MEAR

*PLEASE CIRCLE SELECTION REQUIRED

150 200 250
300 350 400 NONE

NO INLET SPIGOT
IF CONNECTED TO
FANCOIL

INSULATION YES
NO

150 200 250
300 350 400 NONE

OR

150 150
150 150
200 200
250 250
300 300
BLANK BLANK

MOTOR BLACK GREY GREEN RED YELLOW
MANUAL NONE

MOTOR BLACK GREY GREEN RED YELLOW
MANUAL NONE

MOTOR BLACK GREY GREEN RED YELLOW
MANUAL NONE

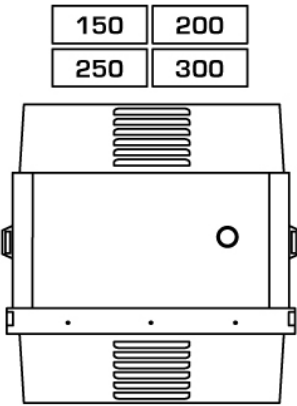
DAMPERS

BLACK	240V	ADM	
GREY	24V	CLIP24	GENIII & ZS
GREEN	24V	ADM24GREENP	CAP
RED	24V	ADM24S	VAV
YELLOW	24V	ELV24	

CLIP-IN EXACTAIR REGULATOR (C-EAR)

CEAR

*PLEASE CIRCLE SELECTION REQUIRED



INSULATION YES
NO

PLASTIC CUSHION HEAD ADAPTOR

NO SPIGOT REQUIRED
IF CONNECTED TO
CUSHION HEAD ADAPTOR

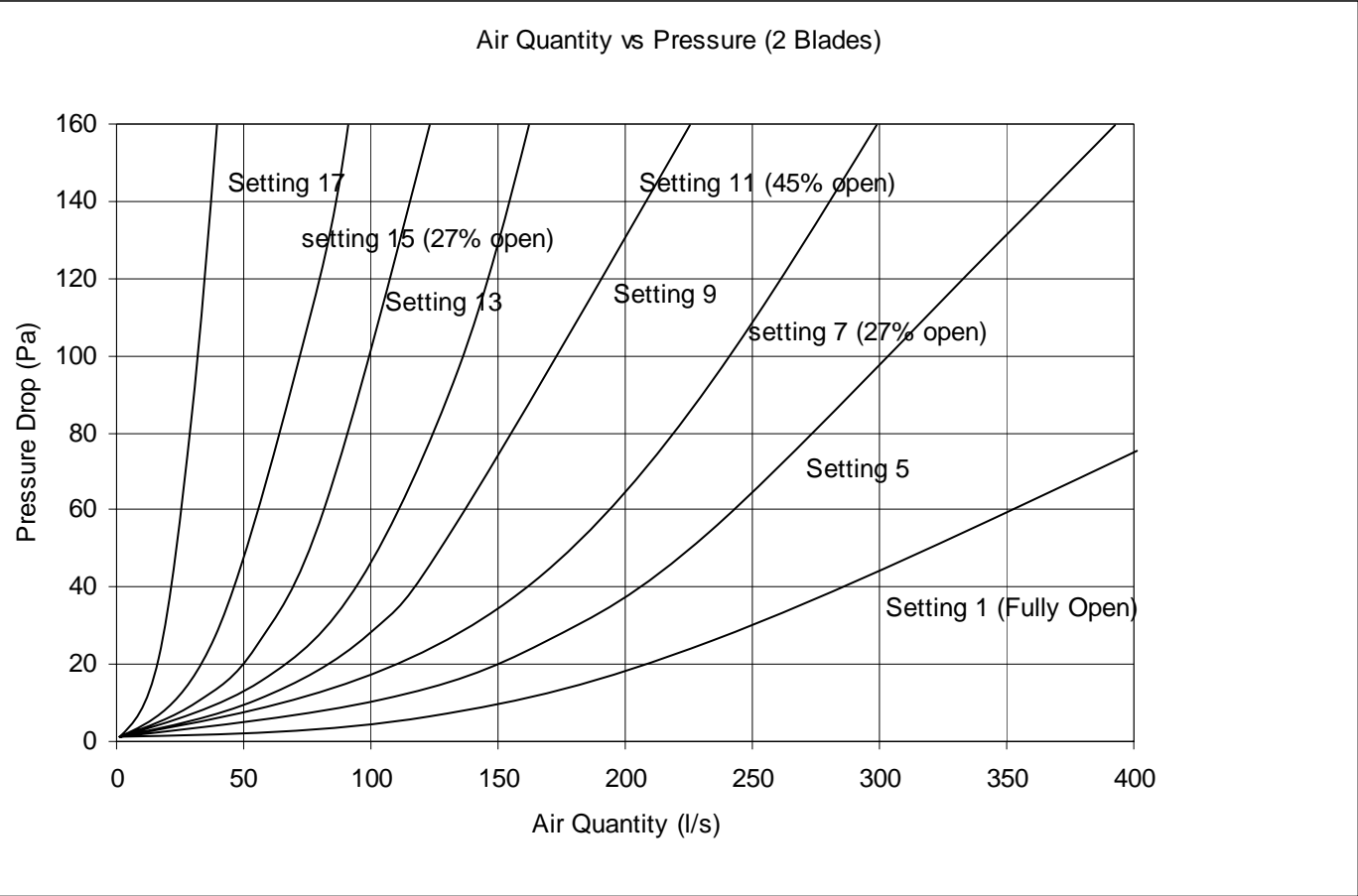
OR

150
150
200
250
300

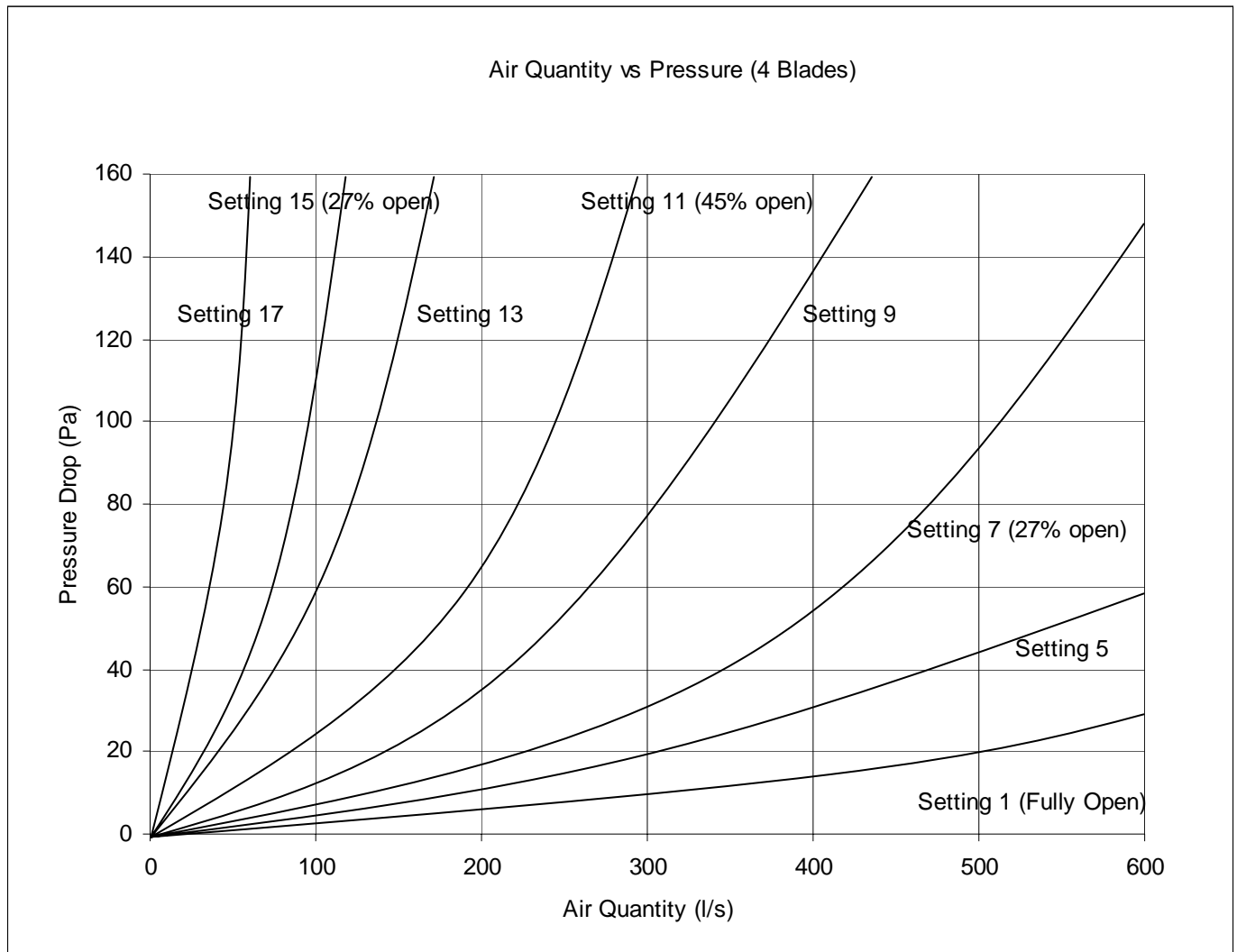
MOTOR
BLACK
GREY
GREEN
RED
YELLOW
MANUAL
NONE
DAMPERS

BLACK	240V	ADM	
GREY	24V	CLIP24	GENIII & ZS
GREEN	24V	ADM24GREENP	CAP
RED	24V	ADM24S	VAV
YELLOW	24V	ELV24	

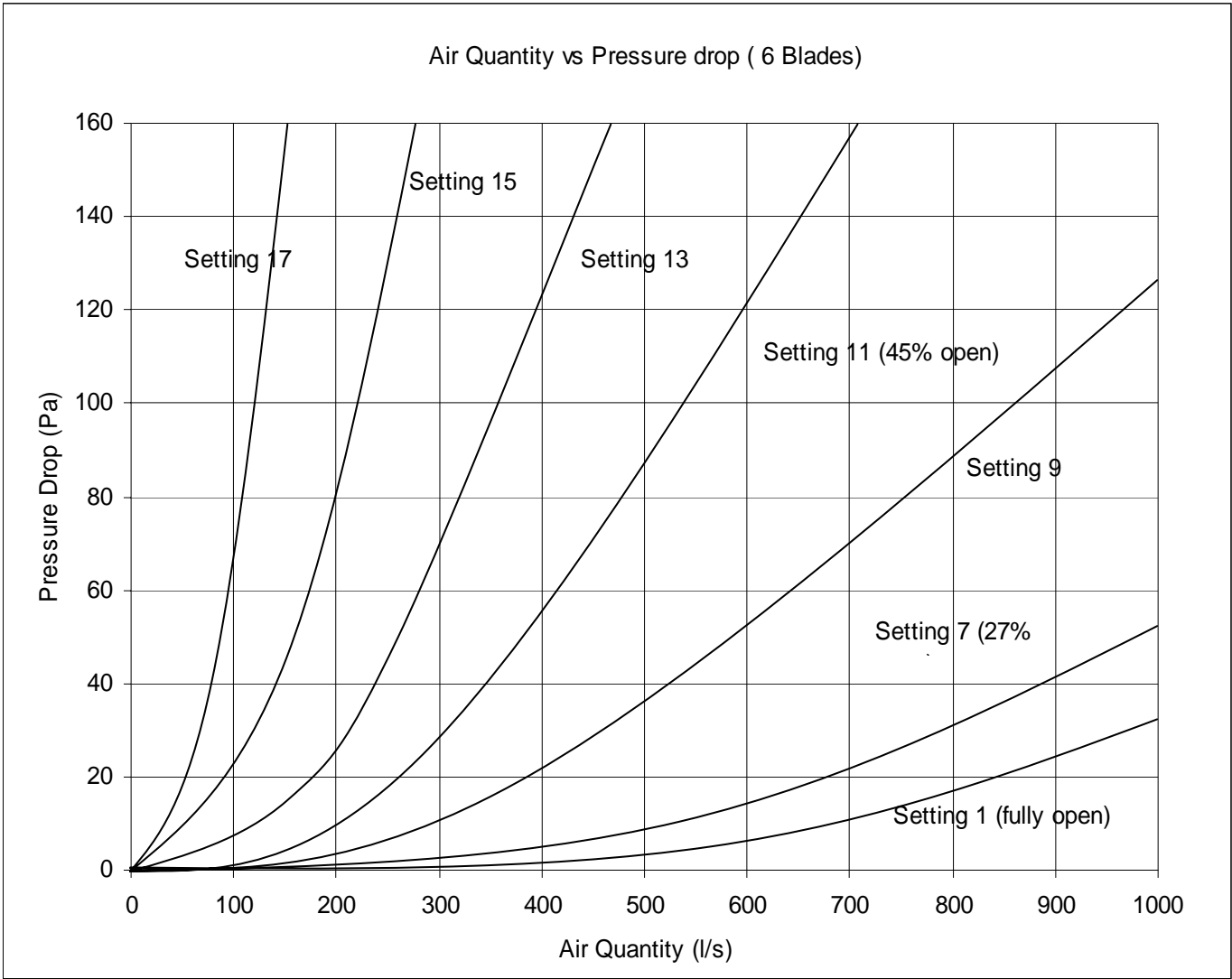
OPPOSED BLADE DAMPER PERFORMANCE (2 BLADE)



OPPOSED BLADE DAMPER PERFORMANCE (4 BLADE)



OPPOSED BLADE DAMPER PERFORMANCE (6 BLADE)



FITTINGS - PLASTIC BIG EXACT AIR REGULATOR

AdvantageAir



FEATURES

- Up to 6 x 300 diameter or 3 x 400 diameter outlets can be fitted.
- Can be easily transported in breakdown form.
- Uses the same adaptors as Streamline diffusers.
- Easily modified to suit any configuration.
- Can be internally insulated.
- Can incorporate manual or motorised dampers.
- Can be fitted with a day/night damper arrangement which uses a single motor to drive both sets of damper blades.
- Lower cost than conventional Y pieces or double branch take-offs.

CONSTRUCTION

- All components are manufactured from a combination of industrial plastics.
- Internal insulation is moulded polystyrene.
- Additional external insulation can be applied for humid climate applications.

APPLICATIONS

- Evaporative cooling.
- Reverse cycle air conditioning. Ideal as a supply air starter set for residential ducted split air conditioning units.
- Heating.
- Ventilation.

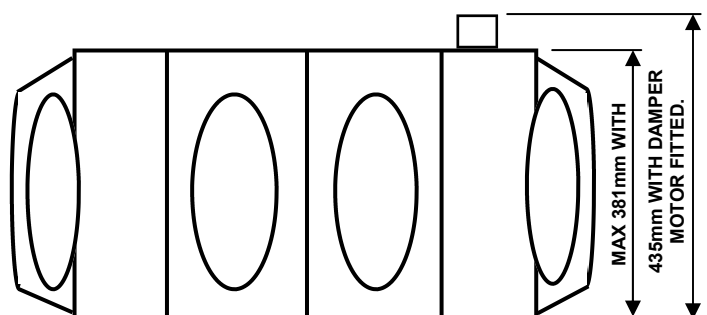
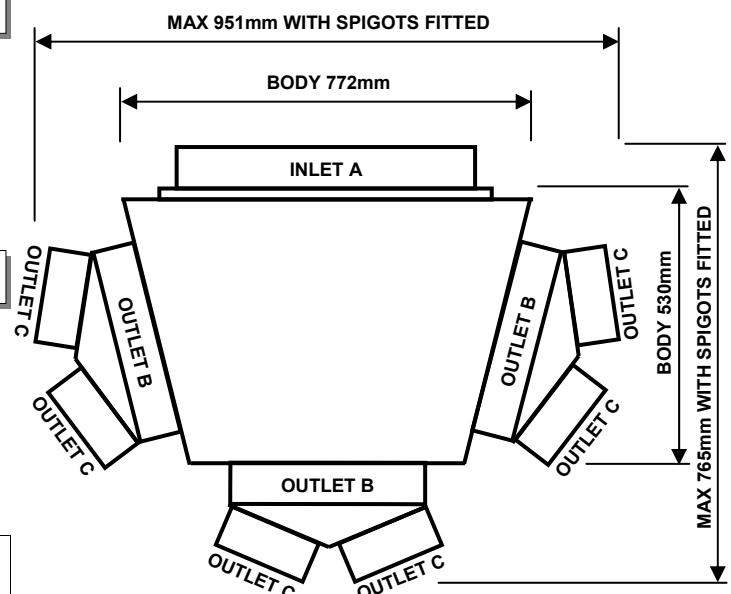
ADAPTOR SIZES AVAILABLE	INLET SPIGOT A	OUTLET SPIGOTS B	OUTLET SPIGOTS C
550 DIA	YES	NO	NO
500 DIA	YES	NO	NO
450 DIA	YES	NO	NO
400 DIA	YES (USE 545 TO 360 ADAPTOR)	YES	NO
350 DIA	YES (USE 545 TO 360 ADAPTOR)	YES	NO
300 DIA	YES (USE 545 TO 360 ADAPTOR)	YES	YES
250 DIA	YES (USE 545 TO 360 TO 280 ADAPTOR)	YES (USE 360 TO 280 ADAPTOR)	YES
200 DIA	YES (USE 545 TO 360 TO 280 ADAPTOR)	YES (USE 360 TO 280 ADAPTOR)	YES
150 DIA	NO	NO	YES
DOUBLE ADAPTOR	NO	YES	YES (FOR 150 DIA SPIGOTS)
BLANK	NO	YES	YES

OPTIONAL EXTRAS

The following components are optional extras and are priced separately and must be specified at the time of ordering.

- Internal or external insulation.
- Damper blades and gears.
- Manual damper handles.
- Motorised damper shafts.
- Adaptors.
- Day/night damper facilities.

DIMENSIONS



FITTINGS - PLASTIC LARGE EXACT AIR REGULATOR

AdvantageAir



FEATURES

- Up to 2 x 550 diameter outlets can be fitted.
- Can be easily transported in breakdown form.
- Uses the same adaptors as Streamline diffusers.
- Easily modified to suit any configuration.
- Can be internally insulated.
- Can incorporate manual or motorised dampers.
- Can be fitted with a day/night damper arrangement which uses a single motor to drive both sets of damper blades.
- Lower cost than conventional Y pieces or double branch take-offs.

CONSTRUCTION

- All components are manufactured from a combination of industrial plastics.
- Internal insulation is moulded polystyrene.
- Additional external insulation can be applied for humid climate applications.

APPLICATIONS

- Evaporative cooling.
- Reverse cycle air conditioning. Ideal as a supply air starter set for residential ducted split air conditioning units.
- Heating.
- Ventilation.

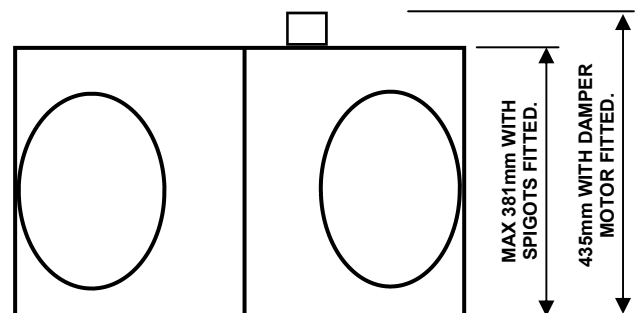
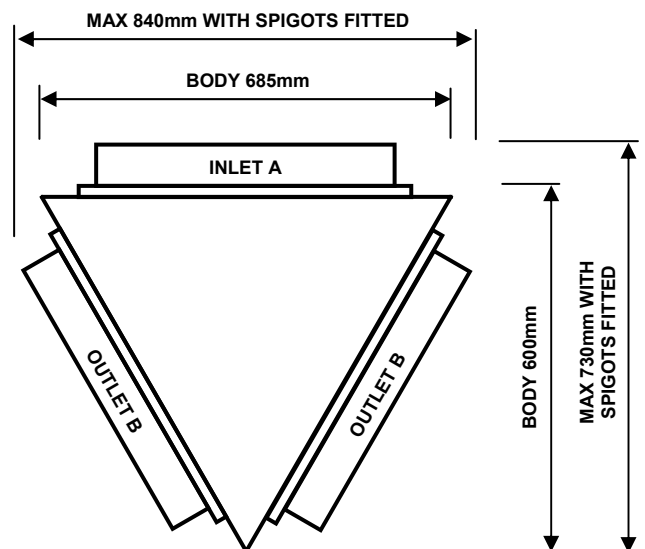
ADAPTOR SIZES AVAILABLE	INLET SPIGOT A	OUTLET SPIGOTS B
550 DIA	YES	YES
500 DIA	YES	YES
450 DIA	YES	YES
400 DIA	YES (USE 545 TO 360 ADAPTOR)	YES (USE 545 TO 360 ADAPTOR)
350 DIA	YES (USE 545 TO 360 ADAPTOR)	YES (USE 545 TO 360 ADAPTOR)
300 DIA	YES (USE 545 TO 360 ADAPTOR)	YES (USE 545 TO 360 ADAPTOR)
250 DIA	YES (USE 545 TO 360 TO 280 ADAPTOR)	YES (USE 545 TO 360 TO 280 ADAPTOR)
200 DIA	YES (USE 545 TO 360 TO 280 ADAPTOR)	YES (USE 545 TO 360 TO 280 ADAPTOR)
150 DIA	NO	YES (USE 545 TO 360 TO 280 ADAPTOR)
DOUBLE ADAPTOR	NO	NO
BLANK	NO	NO

OPTIONAL EXTRAS

The following components are optional extras and are priced separately and must be specified at the time of ordering.

- Internal or external insulation.
- Damper blades and gears.
- Manual damper handles.
- Motorised damper shafts.
- Adaptors.
- Day/night damper facilities.

DIMENSIONS



FITTINGS - PLASTIC
FINAL EXACT AIR REGULATOR



FEATURES

- Up to 4 outlets can be fitted.
- Can be easily transported in breakdown form.
- Uses the same adaptors as Streamline diffusers.
- Easily modified to suit any configuration.
- Can be internally insulated.
- Can incorporate manual or motorised dampers.
- Lower cost than conventional Y pieces or double branch take-offs.
- Can be fitted with a day/night damper arrangement which uses a single motor to drive both sets of damper blades.

CONSTRUCTION

- All components are manufactured from a combination of industrial plastics.
- Internal insulation is moulded polystyrene.
- Additional external insulation can be applied for humid climate applications.

APPLICATIONS

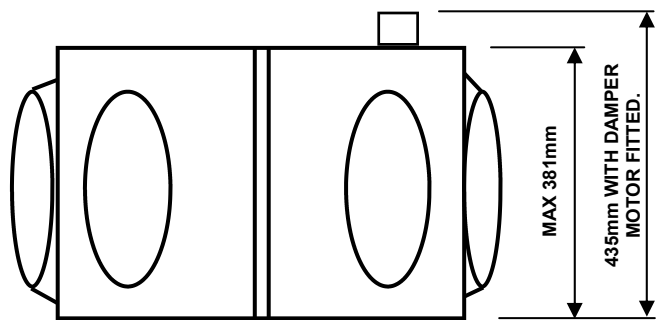
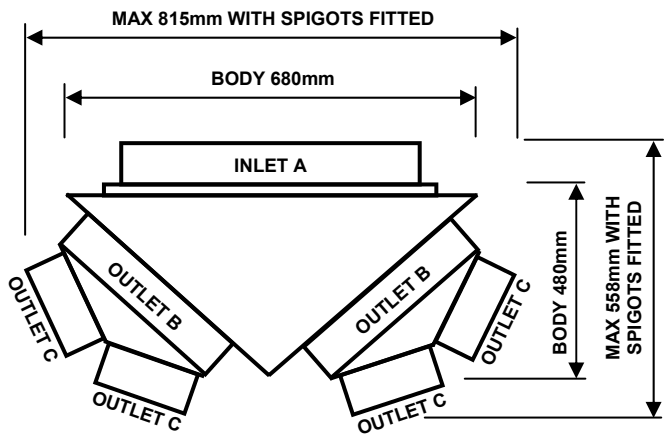
- evaporative cooling.
- reverse cycle air conditioning.
- heating.
- ventilation.

OPTIONAL EXTRAS

The following components are optional extras and are priced separately and must be specified at the time of ordering.

- Internal or external insulation.
- Damper blades and gears.
- Manual damper handles.
- Motorised damper shafts.
- Adaptors, blank plates and deflectors.
- Day/night damper facilities.

DIMENSIONS



ADAPTOR SIZES AVAILABLE	INLET SPIGOT A	OUTLET SPIGOTS B	OUTLET SPIGOTS C
550 DIA	YES	NO	NO
500 DIA	YES	NO	NO
450 DIA	YES	NO	NO
400 DIA	YES (USE 545 TO 360 ADAPTOR)	YES	NO
350 DIA	YES (USE 545 TO 360 ADAPTOR)	YES	NO
300 DIA	YES (USE 545 TO 360 ADAPTOR)	YES	YES
250 DIA	YES (USE 545 TO 360 TO 280 ADAPTOR)	YES (USE 360 TO 280 ADAPTOR)	YES
200 DIA	YES (USE 545 TO 360 TO 280 ADAPTOR)	YES (USE 360 TO 280 ADAPTOR)	YES
150 DIA	NO	NO	YES
DOUBLE ADAPTOR	NO	YES	YES (FOR 150 DIA SPIGOTS)
BLANK	NO	YES	YES

FITTINGS - PLASTIC SMALL EXACT AIR REGULATOR

AdvantageAir



FEATURES

- Up to 4 outlets can be fitted.
- Can be easily transported in breakdown form.
- Uses the same adaptors as Streamline diffusers.
- Easily modified to suit any configuration.
- Can be internally insulated.
- Can incorporate manual or motorised dampers.
- Lower cost than conventional Y pieces or double branch take-offs.
- Can be fitted with a day/night damper arrangement which uses a single motor to drive both sets of damper blades.

CONSTRUCTION

- All components are manufactured from a combination of industrial plastics.
- Internal insulation is moulded polystyrene.
- Additional external insulation can be applied for humid climate applications.

APPLICATIONS

- evaporative cooling.
- reverse cycle air conditioning.
- heating.
- ventilation.

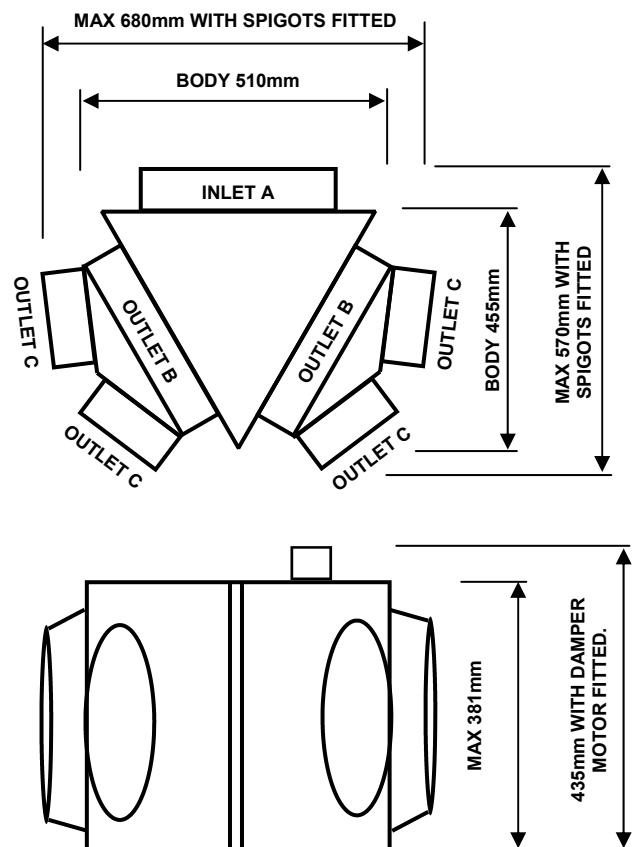
ADAPTOR SIZES AVAILABLE	INLET SPIGOT A	OUTLET SPIGOTS B	OUTLET SPIGOTS C
550 DIA	NO	NO	NO
500 DIA	NO	NO	NO
450 DIA	NO	NO	NO
400 DIA	YES	YES	NO
350 DIA	YES	YES	NO
300 DIA	YES	YES	YES
250 DIA	YES (USE 360 TO 280 ADAPTOR)	YES (USE 360 TO 280 ADAPTOR)	YES
200 DIA	YES (USE 360 TO 280 ADAPTOR)	YES (USE 360 TO 280 ADAPTOR)	YES
150 DIA	NO	NO	YES
DOUBLE ADAPTOR	NO	YES	YES (FOR 150 DIA SPIGOTS)
BLANK	NO	YES	YES

OPTIONAL EXTRAS

The following components are optional extras and are priced separately and must be specified at the time of ordering.

- Internal or external insulation.
- Damper blades and gears.
- Manual damper handles.
- Motorised damper shafts.
- Adaptors, blank plates and deflectors.
- Day/night damper facilities.

DIMENSIONS



FITTINGS - PLASTIC
MINI EXACT AIR REGULATOR



FEATURES

- Up to 2 outlets can be fitted.
- Can be easily transported in breakdown form.
- Uses the same adaptors as Streamline diffusers.
- Easily modified to suit any configuration.
- Can be internally insulated.
- Can incorporate manual or motorised dampers.
- Lower cost than conventional Y pieces.

CONSTRUCTION

- All components are manufactured from a combination of industrial plastics.
- Internal insulation is moulded polystyrene.
- Additional external insulation can be applied for humid climate applications.

APPLICATIONS

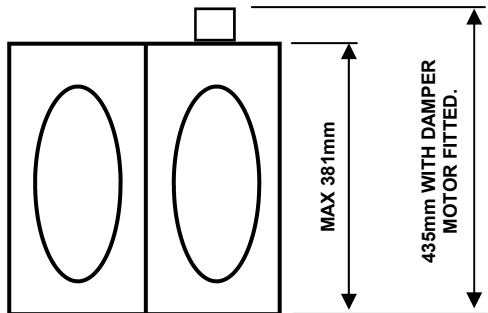
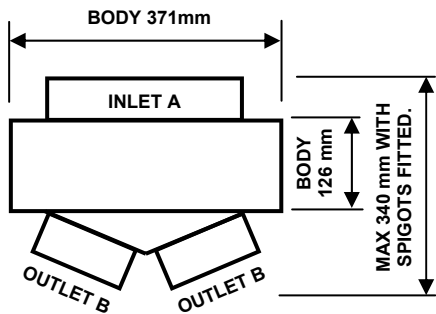
- evaporative cooling.
- reverse cycle air conditioning.
- heating.
- ventilation.

OPTIONAL EXTRAS

The following components are optional extras and are priced separately and must be specified at the time of ordering.

- Internal or external insulation.
- Damper blades and gears.
- Manual damper handles.
- Motorised damper shafts.
- Adaptors, blank plates and deflectors.

DIMENSIONS



ADAPTOR SIZES AVAILABLE	INLET SPIGOT A	OUTLET SPIGOTS B
550 DIA	NO	NO
500 DIA	NO	NO
450 DIA	NO	NO
400 DIA	YES	NO
350 DIA	YES	NO
300 DIA	YES	YES
250 DIA	YES (USE 360 TO 280 ADAPTOR)	YES
200 DIA	YES (USE 360 TO 280 ADAPTOR)	YES
150 DIA	NO	YES
DOUBLE ADAPTOR	NO	YES
BLANK	NO	YES

FITTINGS - PLASTIC INLINE DAMPER

AdvantageAir



FEATURES

- Can be used to reduce or increase flexible duct sizes.
- Can be easily transported in breakdown form.
- Uses the same adaptors as Streamline diffusers.
- Easily modified to suit any configuration.
- Can be internally insulated.
- Can incorporate manual or motorised dampers.
- Lower cost than conventional barrel dampers.
- Better air seal and control range than barrel dampers.

CONSTRUCTION

- All components are manufactured from a combination of industrial plastics.
- Internal insulation is moulded polystyrene.
- Additional external insulation can be applied for humid climate applications.

APPLICATIONS

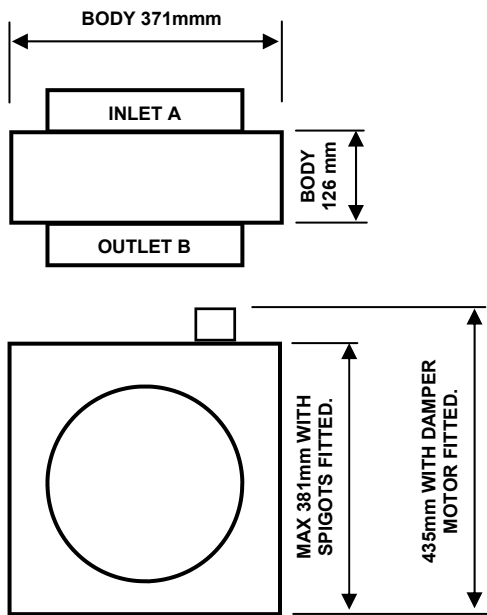
- evaporative cooling.
- reverse cycle air conditioning.
- heating.
- ventilation.

OPTIONAL EXTRAS

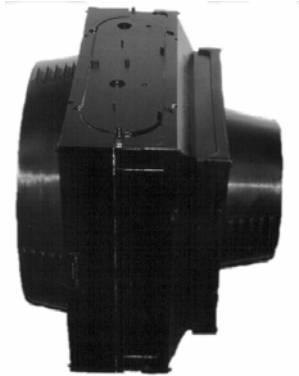
The following components are optional extras and are priced separately and must be specified at the time of ordering.

- Internal or external insulation.
- Manual damper handles.
- Motorised damper shafts.
- Adaptors, blank plates and deflectors.

DIMENSIONS



ADAPTOR SIZES AVAILABLE	INLET SPIGOT A	OUTLET SPIGOTS B
550 DIA	NO	NO
500 DIA	NO	NO
450 DIA	NO	NO
400 DIA	YES	YES
350 DIA	YES	YES
300 DIA	YES	YES
250 DIA	YES (USE 360 TO 280 ADAPTOR)	YES (USE 360 TO 280 ADAPTOR)
200 DIA	YES (USE 360 TO 280 ADAPTOR)	YES (USE 360 TO 280 ADAPTOR)
150 DIA	NO	YES
DOUBLE ADAPTOR	NO	YES (FOR 150 DIA SPIGOTS)
BLANK	NO	NO



FEATURES

- Can be used to reduce or increase flexible duct sizes from 400mm diameter down to 200mm diameter in 50mm increments.
- Can be easily transported in breakdown form.
- Uses the same adaptors as Streamline diffusers.
- Easily modified to suit any configuration.
- Can be internally insulated.

CONSTRUCTION

- All components are manufactured from a combination of industrial plastics.
- Internal insulation is moulded polystyrene.
- Additional external insulation can be applied for humid climate applications.

APPLICATIONS

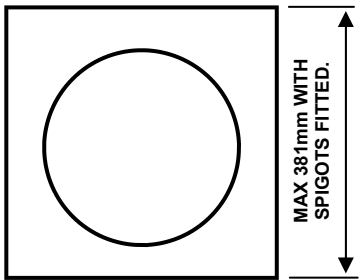
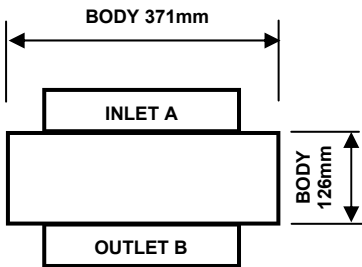
- evaporative cooling.
- reverse cycle air conditioning.
- heating.
- ventilation.

OPTIONAL EXTRAS

The following components are optional extras and are priced separately and must be specified at the time of ordering.

- Internal or external insulation.
- Manual or motorised dampers.

DIMENSIONS



INLET SPIGOT A SIZES AVAILABLE	OUTLET SPIGOT B SIZES AVAILABLE
400 DIA	400 DIA
350 DIA	350 DIA
300 DIA	300 DIA
250 DIA	250 DIA
200 DIA	200 DIA

FITTINGS - PLASTIC CLIP-IN EXACT AIR REGULATOR

AdvantageAir



CLIP-IN EAR



CLIP-IN EAR WITH NECK
ADAPTERS



CLIP-IN EAR CONNECTED TO CUSHION
HEAD ADAPTER

FEATURES

- Low profile inline damper.
- Can be easily transported in breakdown form.
- Easily modified to suit different flexible duct sizes.
- Clips into plastic cushion head adapter.
- Can be internally insulated.
- Can incorporate manual or motorised dampers.
- Integral hanging points
- Suitable for use as a reducer or connector.

CONSTRUCTION

- All components are manufactured from a combination of industrial plastics.
- Internal insulation is moulded polystyrene.
- Additional external insulation can be applied for humid climate applications.

APPLICATIONS

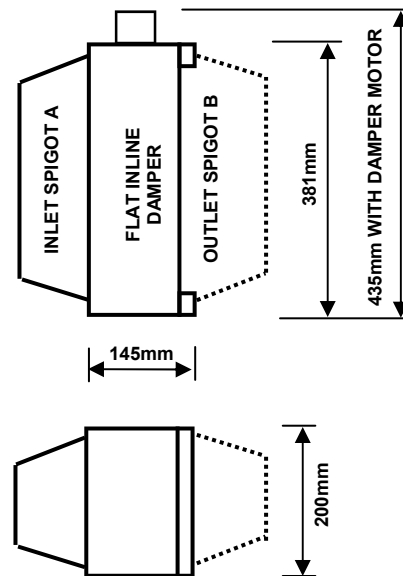
- reverse cycle air conditioning.
- heating.
- ventilation.
- evaporative cooling.

OPTIONAL EXTRAS

The following components are optional extras and are priced separately and must be specified at the time of ordering.

- Insulation.
- Damper blades and gears.
- Manual damper handles.
- Motorised damper shafts.
- Adaptors, blank plates and deflectors.
- Plastic cushion head box

DIMENSIONS



FLEXIBLE DUCT SIZES AVAILABLE	INLET SPIGOT A	OUTLET SPIGOT B
300 DIA	YES	YES
250 DIA	YES	YES
200 DIA	YES	YES
150 DIA	YES*	YES*
CLIP-IN DOUBLE ADAPTOR	YES	YES
CUSHION HEAD BOX	NO	YES

* The outlet can be fitted with two (Ø150mm) neck adapters by using a CLIP-IN DOUBLE ADAPTER.

Important: Both Ø150mm outlets would be controlled by the same damper.



MANUAL DAMPER



MOTORISED DAMPER

FEATURES

- Motorised or manual gear driven Opposed Blade Damper with good proportional control characteristics.
- Suitable for use with Advantage Air control systems and damper motors in commercial applications.
- Can be easily transported in breakdown form.

CONSTRUCTION

- Metal damper body.
- Externally insulated with closed cell material (6.5mm).
- ABS blades and gears.

APPLICATIONS

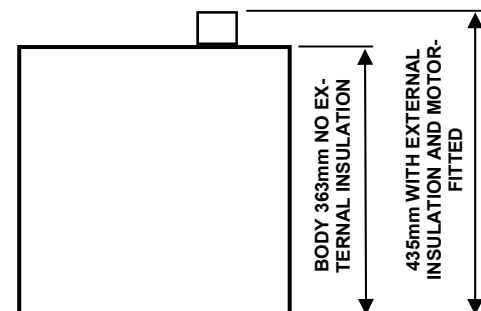
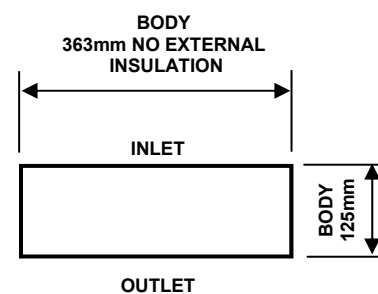
- Primarily designed for use in commercial applications.
- Suitable for the control of air volumes in ducted systems.
- Suitable for air conditioning, ducted gas heating and ventilation applications.
- Not suitable for use above 100 degrees Celsius.

OPTIONAL EXTRAS

The following components are optional extras and are priced separately and must be specified at the time of order.

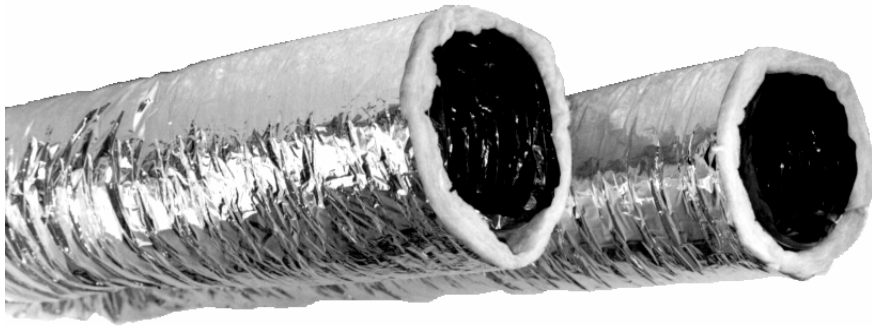
- Control systems.
- Damper motors.
- Manual damper handles.
- Angle for square duct connections.
- Metal square to round connectors for flexible duct-work.

DIMENSIONS



FLEXIBLE DUCT

MAXIMUM RECOMMENDED AIR QUANTITY (LITRES PER SECOND)	FLEXIBLE DUCT DIAMETER (mm)
44 l/s	Ø 150
92 l/s	Ø 200
170 l/s	Ø 250
275 l/s	Ø 300
385 l/s	Ø 350
503 l/s	Ø 400
636 l/s	Ø 450
785 l/s	Ø 500
950 l/s	Ø 550



CONSTRUCTION

- Supplied in 3 or 6 metre lengths.

Core

- Core is constructed from 12 micron clear polyester film bonded to 12 micron clear polyester film with water based fire retardant glue approximately 18 grams per m² encapsulating helically wound spring steel wire.
- The adhesives give the core a black appearance.

Insulation

- Thick polyester blanket as specified by the customer to comply with the BCA.
- Other insulation options available on request.

Jacket

- Inner surface 12 micron clear polyester film bonded to 12 micron labeled metallised polyester film with water based fire retardant glue approximately 18 grams per m².

APPLICATIONS

- Dynaflex is a less expensive alternative to aluminium duct.
- Is suitable for residential and commercial refrigerated air conditioning, evaporative cooling, heating and ventilation applications.
- Not recommended for return air flexible ductwork on commercial projects, or on systems with AC units larger than 6Hp (18kW).

TECHNICAL

Dynaflex has been tested and complies with the requirements of the Building Code of Australia.

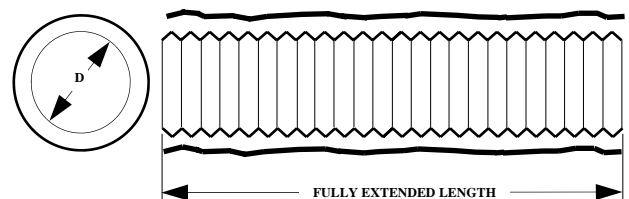
AS 4254 & AS 1530 Part 3

Dynaflex has passed all of the above tests and has obtained a "0003 rating". Copies of test certificates will be made available on request.

Operating range

- Between -10⁰ C and +80⁰ C
- Between -200Pa and +1000Pa internal pressure
- Maximum velocity 20 m/s

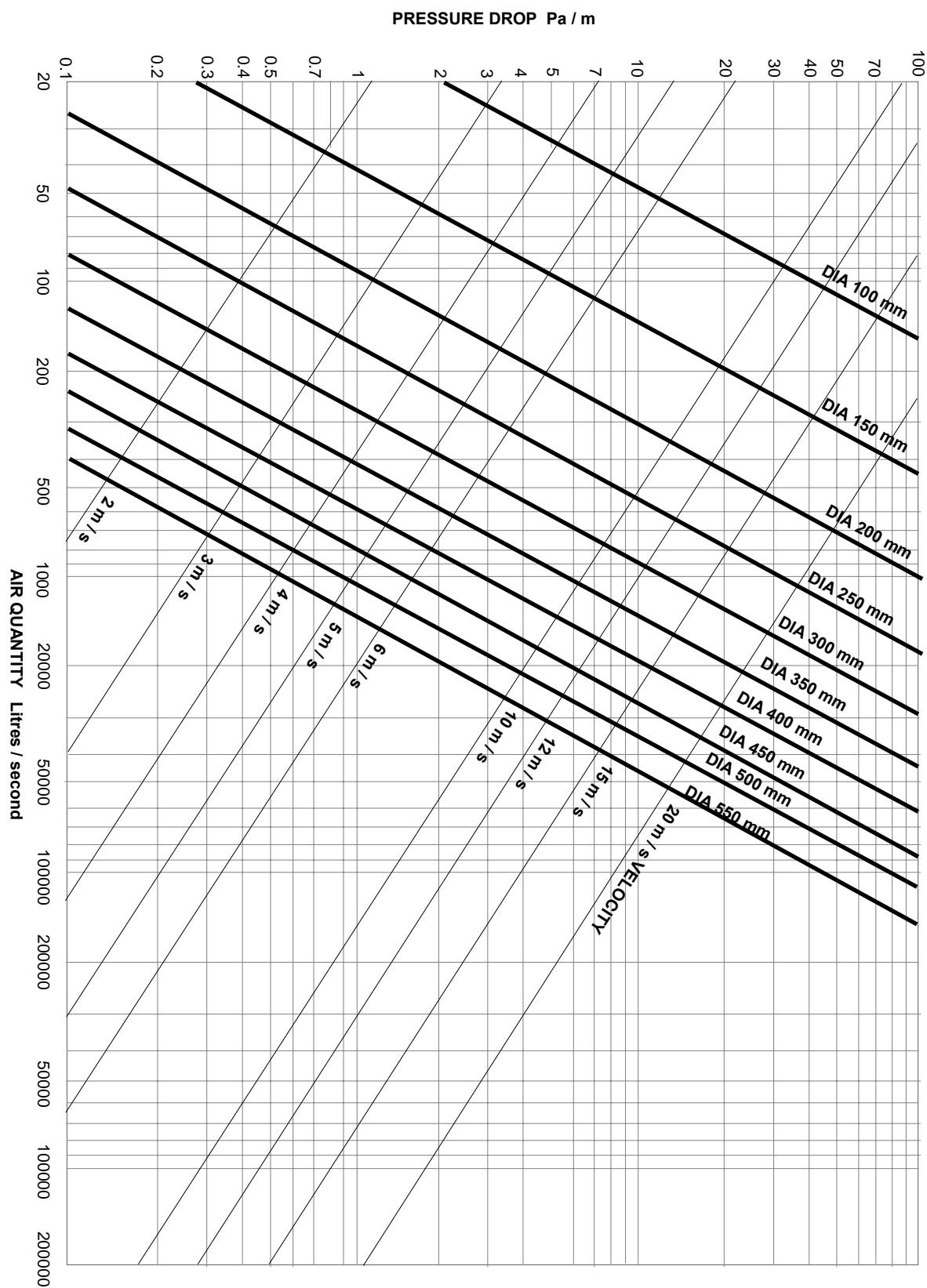
DIMENSIONS

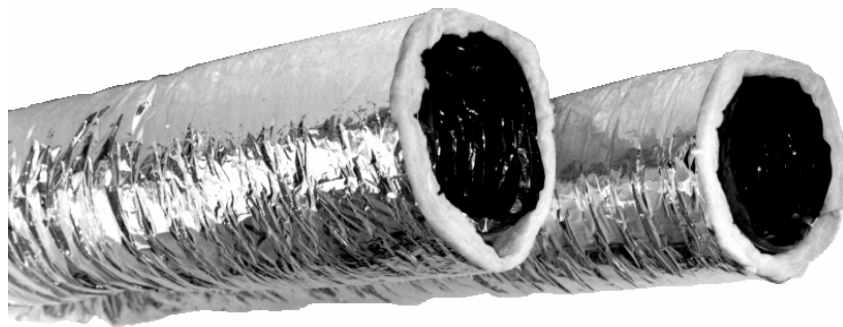


MODEL NO.	DIA D mm	LENGTH mm
D15	150	3000 or 6000
D20	200	3000 or 6000
D25	250	3000 or 6000
D30	300	3000 or 6000
D35	350	3000 or 6000
D40	400	3000 or 6000
D45	450	3000 or 6000
D50	500	3000 or 6000
D55	550	3000 or 6000

FLEXIBLE DUCTWORK

DYNAFLEX - PERFORMANCE CHARACTERISTICS





CONSTRUCTION

- Supplied in 3 or 6 metre lengths.

Core

- Core is constructed from 12 micron clear polyester film bonded to 12 micron metallised polyester film with water based fire retardant glue approximately 18 grams per m² encapsulating helically wound spring steel wire.
- The adhesives give the core a black internal appearance.

Insulation

- Thick polyester blanket as specified by the customer to comply with the BCA.
- Other insulation options available on request.

Jacket

- Inner surface 12 micron clear polyester film bonded to 12 micron labeled metallised polyester film with water based fire retardant glue approximately 18 grams per m².

APPLICATIONS

- Dynaflex M6P is a less expensive alternative to aluminium duct.
- Is suitable for residential and commercial refrigerated air conditioning, evaporative cooling, heating and ventilation applications.
- Not recommended for return air flexible ductwork on commercial projects, or on systems with AC units larger than 6Hp (18kW).

TECHNICAL

Dynaflex M6P has been tested and complies with the requirements of the Building Code of Australia.

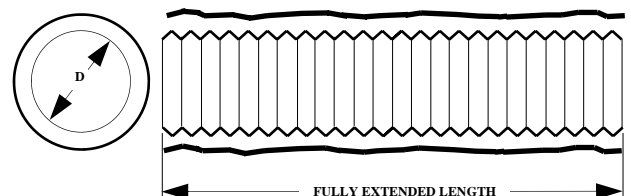
AS 4254 & AS 1530 Part 3

Dynaflex M6P has passed all of the above tests and has obtained a "0003 rating". Copies of test certificates will be made available on request.

Operating range

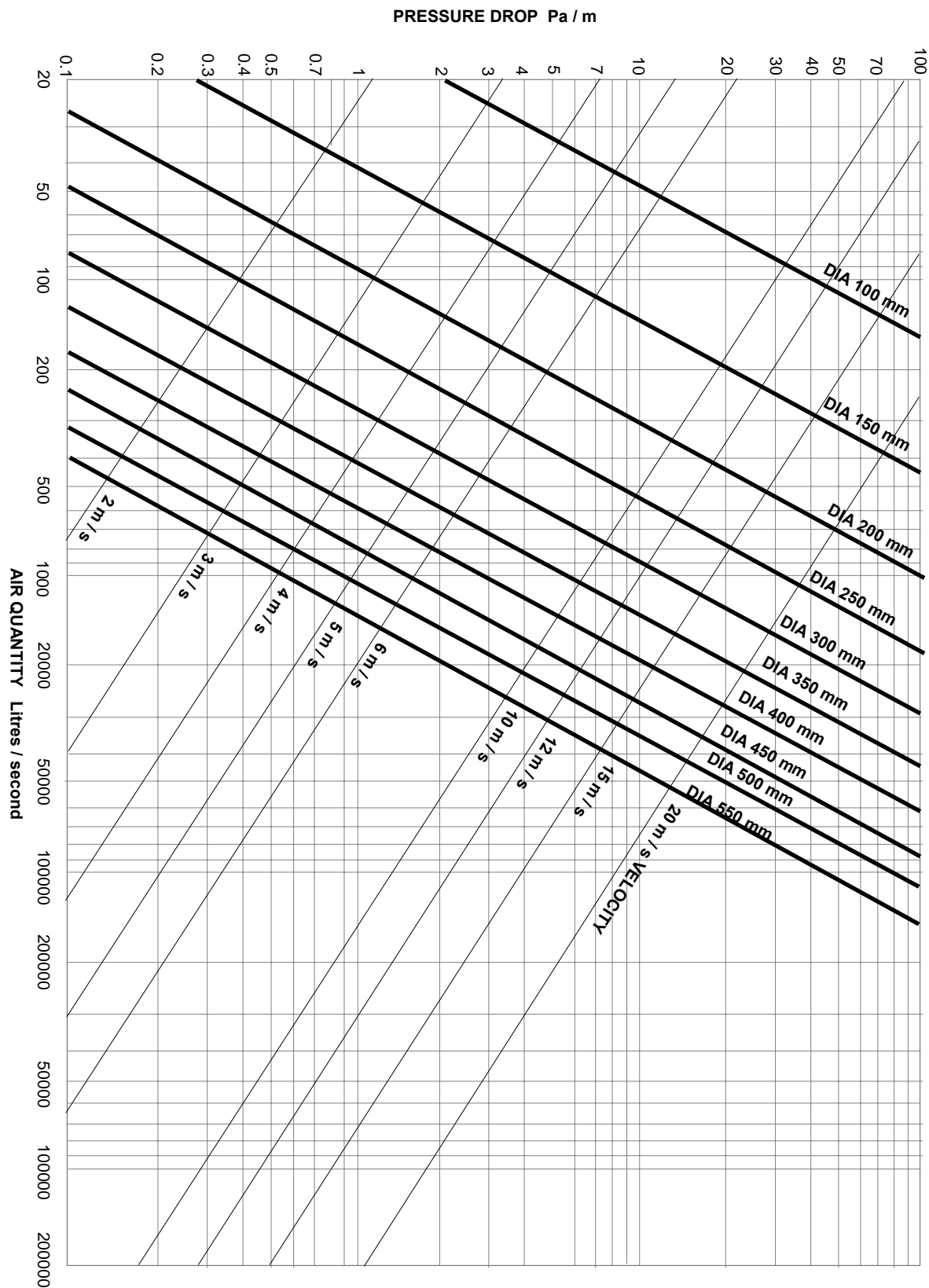
- Between -10^o C and +80^o C
- Between -200Pa and +1000Pa internal pressure
- Maximum velocity 20 m/s

DIMENSIONS



MODEL NO.	DIA D mm	LENGTH mm
D15	150	3000 or 6000
D20	200	3000 or 6000
D25	250	3000 or 6000
D30	300	3000 or 6000
D35	350	3000 or 6000
D40	400	3000 or 6000
D45	450	3000 or 6000
D50	500	3000 or 6000
D55	550	3000 or 6000

FLEXIBLE DUCTWORK
DYNAFLEX M6P - PERFORMANCE
CHARACTERISTICS





CONSTRUCTION

- Aluflex is supplied in 3 or 6 metre lengths.
- Other lengths can be made to order but require a lead time of 10 working days.

Core

- Core is constructed from 15 micron aluminium film bonded to 15 micron aluminium film with water based fire retardant glue approximately 18 grams per m² encapsulating helically wound spring steel wire.

Insulation

- Thick polyester blanket as specified by the customer to comply with the BCA.
- Other insulation options available on request.

Jacket

- 15 micron aluminium film bonded to 15 micron labeled aluminium film with water based fire retardant glue approximately 18 grams per m².

APPLICATIONS

- Aluflex is a high quality product and is suitable for residential and commercial refrigerated air conditioning, evaporative cooling, heating and ventilation applications.
- Suitable for return air flexible ductwork on commercial applications.

TECHNICAL

Aluflex has been tested and complies with the requirements of the Building Code of Australia.

AS 4254& AS 1530 Part 3

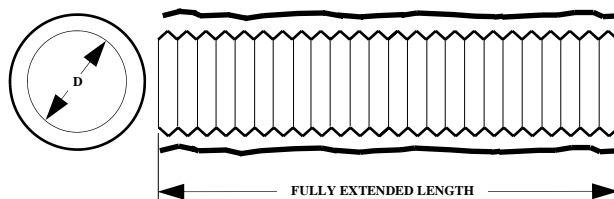
Aluflex has passed all of the above tests and has obtained a "four zero rating". Copies of test certificates will be made available on request.

Operating range

Aluflex is designed to operate in the following range:

- Between -10 °C and +80 °C
- Between -200Pa and +1000Pa internal pressure
- Maximum velocity 20 m/s

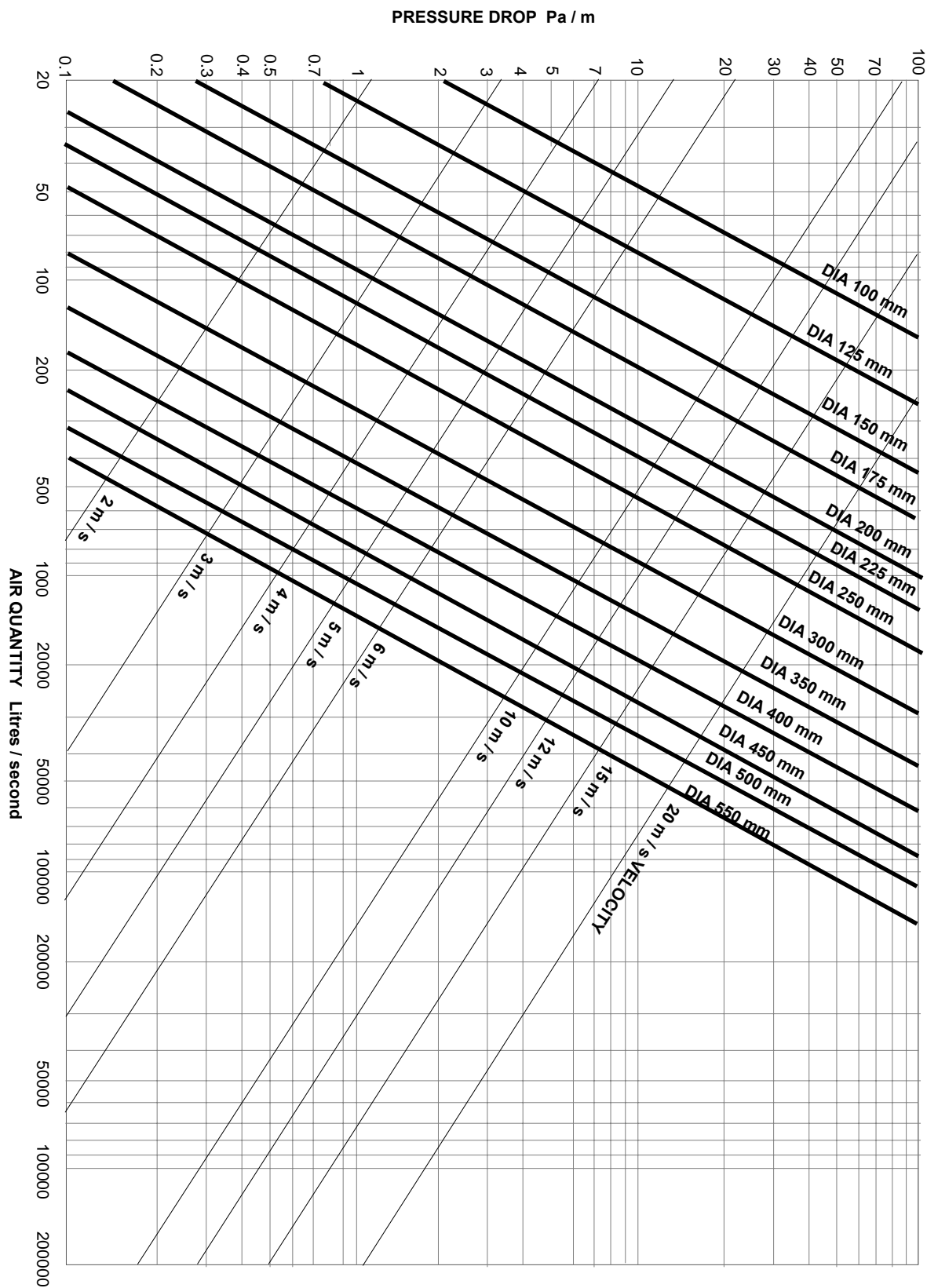
DIMENSIONS



MODEL NO.	DIA D mm	STD LENGTH mm
A15	150	6000
A20	200	6000
A25	250	6000
A30	300	6000

FLEXIBLE DUCTWORK

ALUFLEX - PERFORMANCE CHARACTERISTICS





CONSTRUCTION

- Aluflex M6F is supplied in 3 or 6 metre lengths.
- Other lengths can be made to order but require a lead time of 10 working days.

Core

- Core is constructed from 12 micron metallised film bonded to 15 micron aluminium film with water based fire retardant glue approximately 18 grams per m² encapsulating helically wound spring steel wire.

Insulation

- Thick polyester blanket as specified by the customer to comply with the BCA.

Jacket

- 12 micron clear polyester film bonded to 12 micron labeled metallised polyester film with water based fire retardant glue approximately 18 grams per m².

APPLICATIONS

- Aluflex M6F is a high quality product and is suitable for residential and commercial refrigerated air conditioning, evaporative cooling, heating and ventilation applications.
- Suitable for return air flexible ductwork on commercial applications.

TECHNICAL

Aluflex M6F has been tested and complies with the requirements of the Building Code of Australia.

AS 4254& AS 1530 Part 3

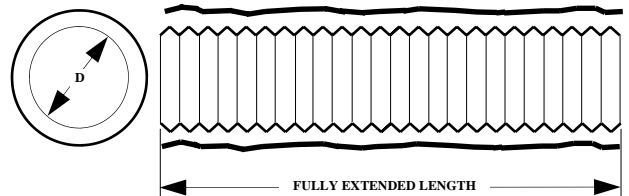
Aluflex M6F has passed all of the above tests and has obtained a "0003 rating". Copies of test certificates will be made available on request.

Operating range

Aluflex M6F is designed to operate in the following range:

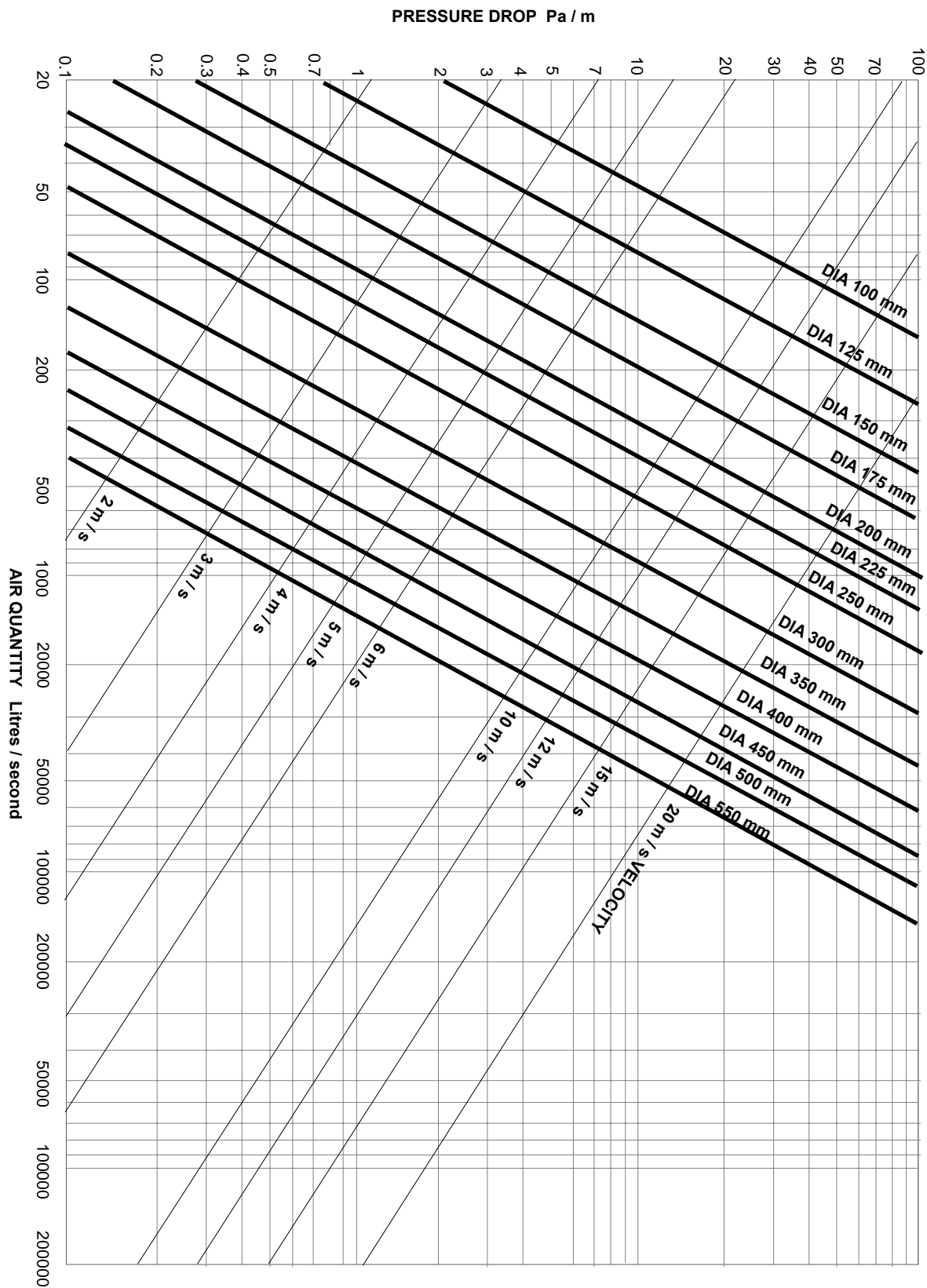
- Between -10^o C and +80^o C
- Between -200Pa and +1000Pa internal pressure
- Maximum velocity 20 m/s

DIMENSIONS



MODEL NO.	DIA D mm	STD LENGTH mm
A15	150	6000
A20	200	6000
A25	250	6000
A30	300	6000

FLEXIBLE DUCTWORK
ALUFLEX M6F - PERFORMANCE
CHARACTERISTICS





CONSTRUCTION

- Aluflex M1F is supplied in 3 or 6 metre lengths.
- Other lengths can be made to order but require a lead time of 10 working days.

Core

- Core is constructed from 12 micron metallised film bonded to 15 micron aluminium film with water based fire retardant glue approximately 18 grams per m² encapsulating helically wound spring steel wire.

Insulation

- Thick polyester blanket as specified by the customer to comply with the BCA.
- Other insulation options available on request.

Jacket

- 12 micron clear polyester film bonded to 12 micron labelled metallised polyester film with water based fire retardant glue approximately 18 grams per m².

APPLICATIONS

- Aluflex M6F is a high quality product and is suitable for residential and commercial refrigerated air conditioning, evaporative cooling, heating and ventilation applications.
- Suitable for return air flexible ductwork on commercial applications.

TECHNICAL

Aluflex M1F has been tested and complies with the requirements of the Building Code of Australia.

AS 4254& AS 1530 Part 3

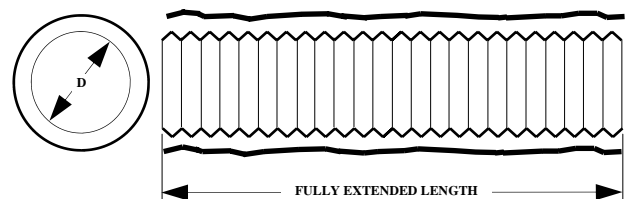
Aluflex M1F has passed all of the above tests and has obtained a "0003 rating". Copies of test certificates will be made available on request.

Operating range

Aluflex M1F is designed to operate in the following range:

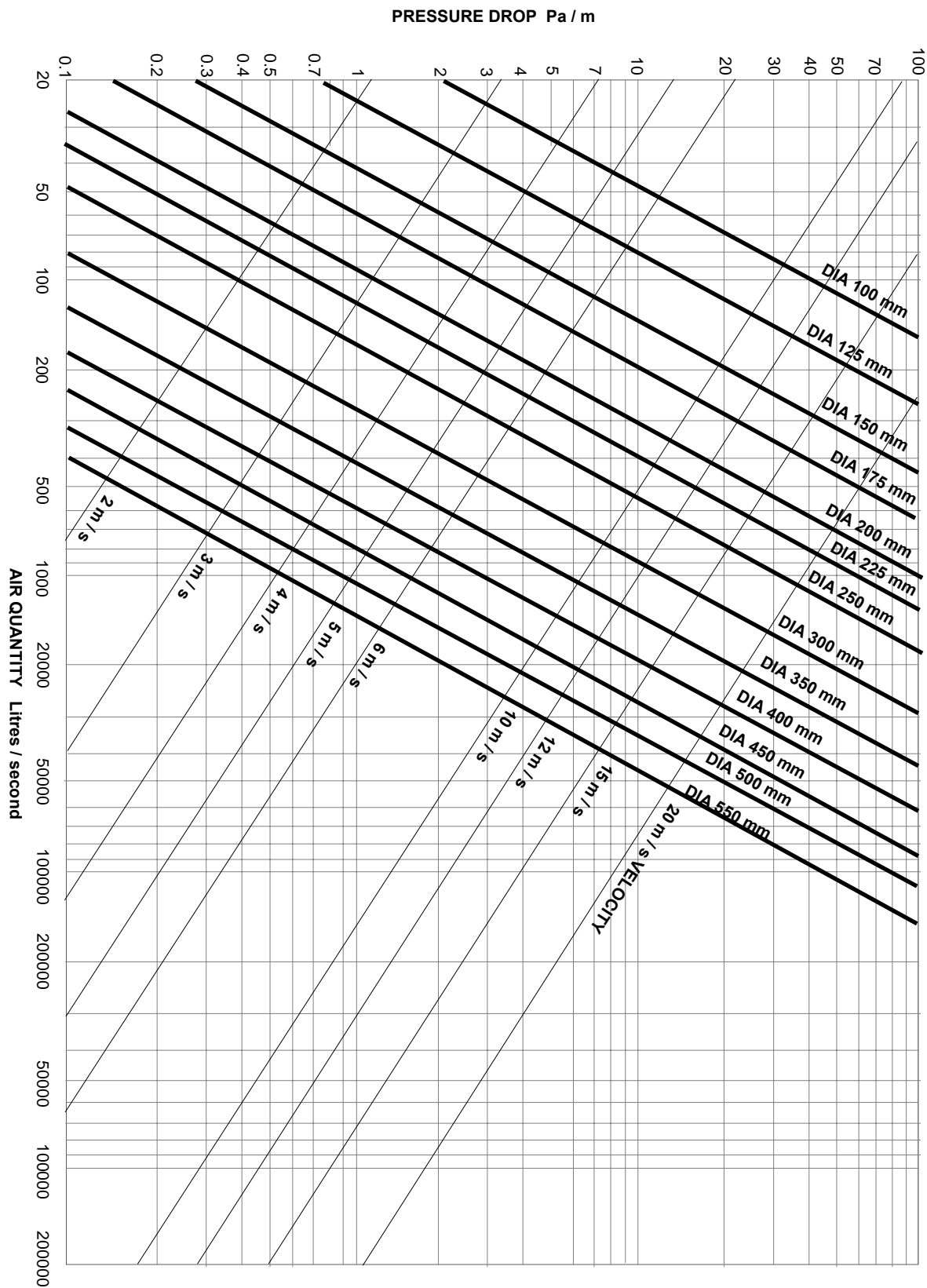
- Between -10⁰ C and +80⁰ C
- Between -200Pa and +1000Pa internal pressure
- Maximum velocity 20 m/s

DIMENSIONS



MODEL NO.	DIA D mm	STD LENGTH mm
A15	150	6000
A20	200	6000
A25	250	6000
A30	300	6000

FLEXIBLE DUCTWORK
ALUFLEX M1F - PERFORMANCE
CHARACTERISTICS





CONSTRUCTION

- Whispaflex is supplied in 3 metre lengths. If longer lengths are required it is recommended that 3 metre lengths are joined.

Core

- Constructed from aluminium tape on the inside and metallised polyester tape on the outside which encapsulates a spiral galvanised steel wire and is chemically bonded using self extinguishing fire retardant adhesives.
- The appearance of the core is silver with perforations at regular intervals.

Insulation

To achieve the published insertion losses the core must be insulated with the following blanket:

- Thick polyester blanket as specified by the customer to comply with the BCA.
- Other insulation options available on request.

Sleeve

- The sleeve is constructed from a silver metallised polyester tape. As an optional extra insulated duct can be supplied with reinforced sleeve. This must be specified at the time of ordering.
- The sleeve must be fully taped to the spigot as the sleeve acts as the air envelope.

APPLICATIONS

- Whispaflex provides higher insertion losses than standard flexible duct and is ideal for reducing low frequency noise levels in air conditioning systems.
- Not recommended for return air flexible ductwork on commercial projects, or on systems with AC units larger than 6Hp (18kW).

TECHNICAL

AS 1530 Part 3

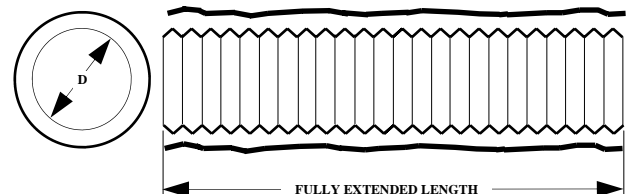
Whispaflex has passed all of the above tests and has obtained a "0003 rating". Copies of test certificates will be made available on request.

Operating range

Whispaflex is designed to operate in the following range:

- Between -10°C and $+80^{\circ}\text{C}$
- Between -200Pa and +1000Pa internal pressure
- Maximum velocity 20 m/s

DIMENSIONS



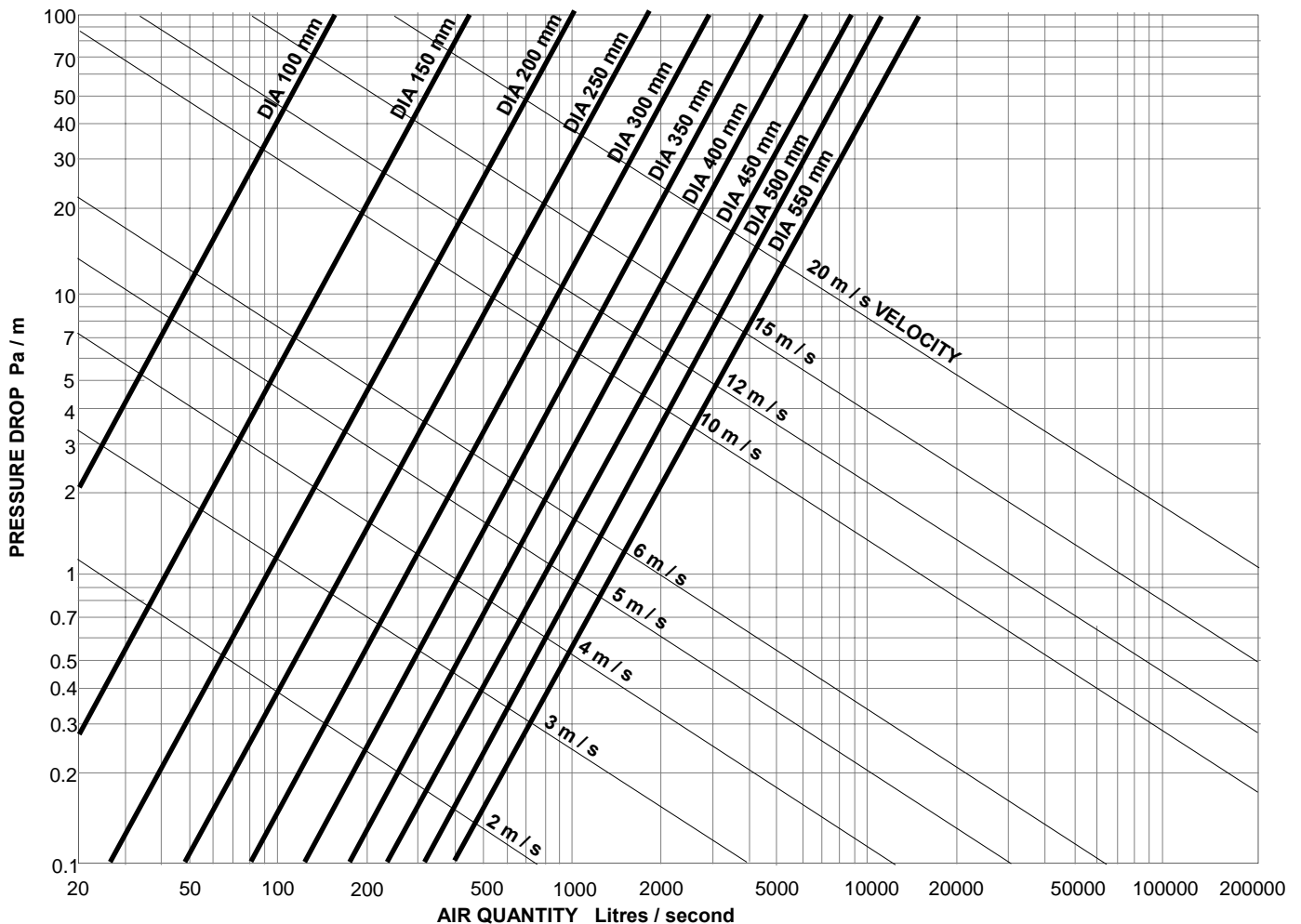
MODEL NO.	DIA D mm	STD LENGTH mm
5AC15	150	3000
5AC20	200	3000
5AC25	250	3000
5AC30	300	3000
5AC35	350	3000
5AC40	400	3000
5AC45	450	3000
5AC50	500	3000

FLEXIBLE DUCTWORK

WHISPAFLEX - PERFORMANCE CHARACTERISTICS

AdvantageAir

DUCT SIZE		STATIC INSERTION LOSS (dB)							
DUCT DIA	DUCT LENGTH	63 (Hz)	125 (Hz)	250 (Hz)	500 (Hz)	1K (Hz)	2K (Hz)	4K (Hz)	8K (Hz)
Ø 150	3	31	37	31	23	30	36	22	13
Ø 200	3	30	36	32	22	31	37	21	12
Ø 250	3	23	29	22	19	25	32	17	8
Ø 300	3	22	27	20	15	20	28	15	10
Ø 350	3	18	20	18	15	22	21	9	7
Ø 400	3	17	22	19	12	8	21	11	6
Ø 450	3	19	24	16	10	11	16	8	5
Ø 500	3	16	23	17	10	9	15	7	5
Ø 550	3	15	19	16	9	10	14	6	5
Ø 150	6	34	43	47	36	39	45	32	20
Ø 200	6	35	41	45	34	38	46	28	18
Ø 250	6	33	38	35	27	33	37	25	13
Ø 300	6	32	34	32	24	30	35	21	16
Ø 350	6	32	33	25	23	28	30	14	11
Ø 400	6	35	31	32	19	17	32	16	10
Ø 450	6	34	30	27	19	14	23	13	10
Ø 500	6	33	30	26	18	13	20	12	9
Ø 550	6	34	29	25	16	11	18	10	8



SUNDRIES

SUNDRIES

ANTI VIBRATION MOUNTS (AVM)

AdvantageAir



FEATURES

- 5mm static deflection.
- Threaded top insert.
- Non skid rubber base.
- Colour coded load ranges.
- Corrosion resistant.

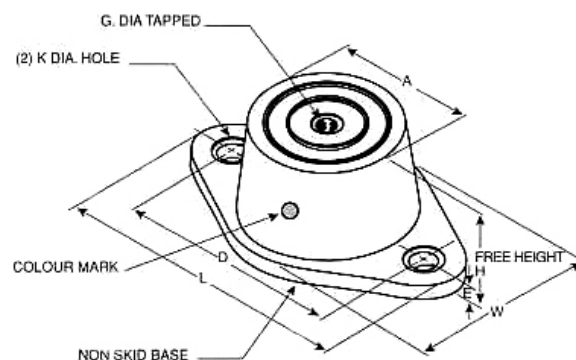
CONSTRUCTION

- Black filled natural rubber; UV and Ozone inhibited.
- Metal components are corrosion protected and embedded in the elastomer.

APPLICATIONS

- For mounting AACV range of outdoor units. See selection chart below.

	MOUNTING ENVIRONMENT			
	CEILING SPACE	FLOOR MOUNT	ROOF MOUNT	WALL MOUNT
ALL AACV FAN COIL UNIT	SPRING (ISOMOUNT)	N/A	N/A	N/A
AACV-147-CON1 (OUTDOOE UNIT)	N/A	WP (WAFFLE PAD)	AVM GREEN	AVM GREEN
AACV-164-CON3 (OUTDOOR UNIT)	N/A	WP (WAFFLE PAD)	AVM GREEN	AVM GREEN
AACV-200-CON3 (OUTDOOR UNIT)	N/A	WP (WAFFLE PAD)	AVM RED	AVM RED



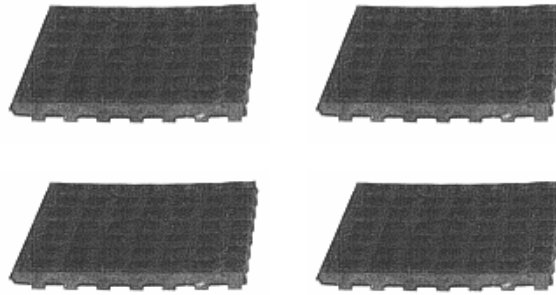
TYPE	COLOUR	MAX LOAD kg	DYNAMIC FACTOR	STATIC DE-FLECTION NR mm	HEIGHT NR mm	L mm	W mm	D mm	A mm	G mm	K mm	E mm
AVM RED	RED	40	1.2	5	28	80	45	60	36	M10	8.5	5
AVM GREEN	GREEN	55	1.3	5	28	80	45	60	36	M10	8.5	5

No liability

Make sure you read and understand all the installation instructions before you install this Anti-Vibration Mounts. Advantage Air (Aust) Pty Ltd does not accept any responsibility for any loss or damage that may be caused either directly or indirectly by the installation of this Anti-Vibration Mounts.

SUNDRIES WAFFLE PAD

AdvantageAir



FEATURES

- Reduces unit elevation.
- Built in anti-contamination seal.
- Superior carrying capacity and grip.

CONSTRUCTION

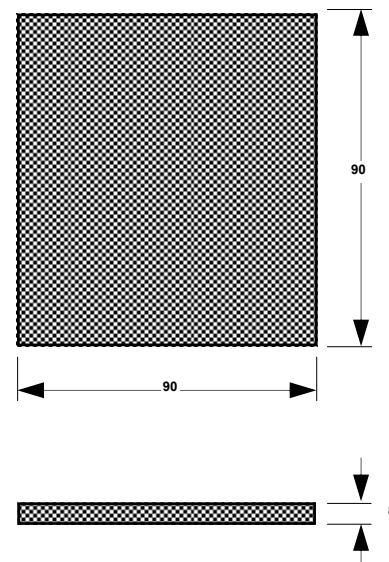
- Neoprene.
- Resistant to oils.

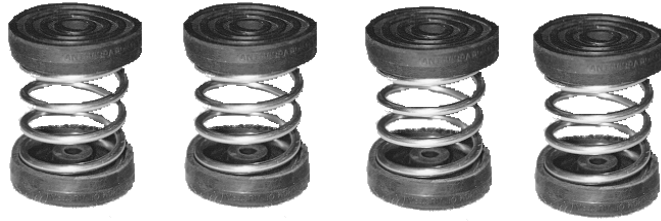
APPLICATIONS

- Suitable for non-critical applications.
- Ideal for mounting ducted fan coil units and condensing units up to 6 HP.

DIMENSIONS

4 MOUNTS
SUPPLIED PER
PACK





FEATURES

- Point loads up to 30 kg per mount.
- 25 mm static deflection.
- Superior acoustic properties.
- Sold in packs of four.

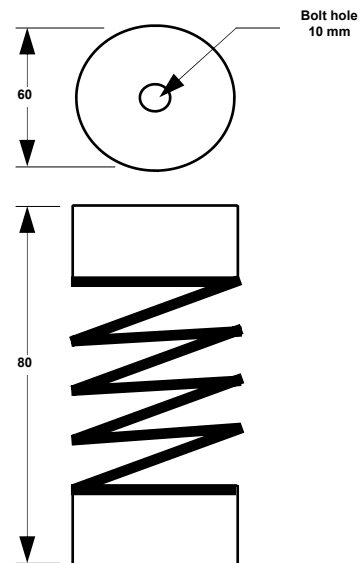
CONSTRUCTION

- Separate top and bottom locating cups of moulded neoprene with non-skid surfaces.
- Heavy duty stable steel spring.
- Colour code black.

APPLICATIONS

- Ideal for mounting ducted fan coil units up to 6 HP.

DIMENSIONS



EVAP COOLER DROPPERS METAL ANGLES

Advantage**Air**



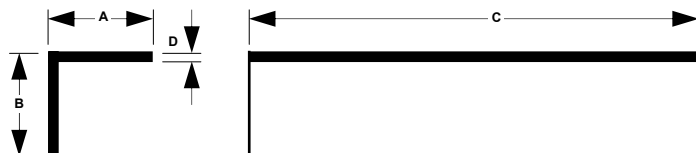
CONSTRUCTION

- Angles are constructed from galvanised sheet metal or primed mild steel depending upon the thickness of the angle.

APPLICATIONS

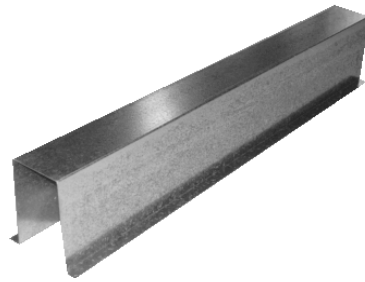
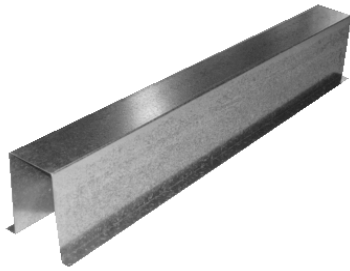
- Ideal for domestic evaporative cooler installations and for fixing grilles and diffusers

DIMENSIONS



MODEL NO.	A mm	B mm	C mm	D mm
MA5006	50	50	600	1.6
MA5018	50	50	1800	2.0
MA5024	50	50	2400	2.0
MA2524	25	25	2400	0.4

Please note other sizes can be made to order and require 1 working days notice.



FEATURES

- Air conditioning unit supports to ensure the unit is installed level and slightly elevated.

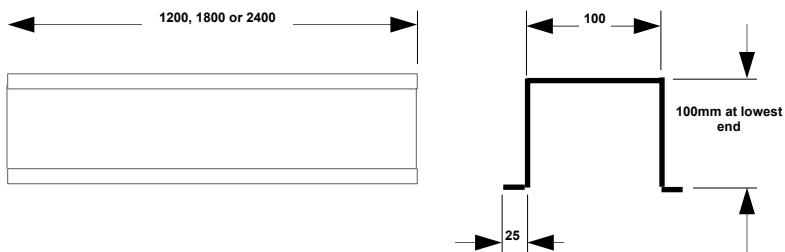
APPLICATIONS

- Ideal for mounting condensing units and roof top package units.

CONSTRUCTION

- 1.6 mm bent up galvanised steel.

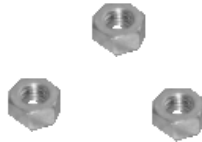
DIMENSIONS



Other sizes are available on request

SUNDRIES THREADED ROD

Advantage**Air**



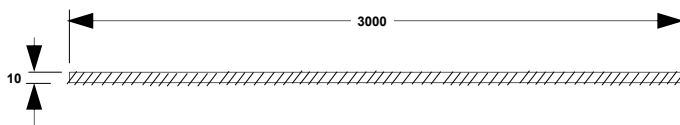
CONSTRUCTION

- Zinc plated steel rod with full 10mm metric thread.
- Supplied in any length upto 3 metre lengths.

APPLICATIONS

- Ideal for hanging air conditioning equipment and sheetmetal ductwork.
- Nuts are an optional extra and must be specified at the time of ordering.

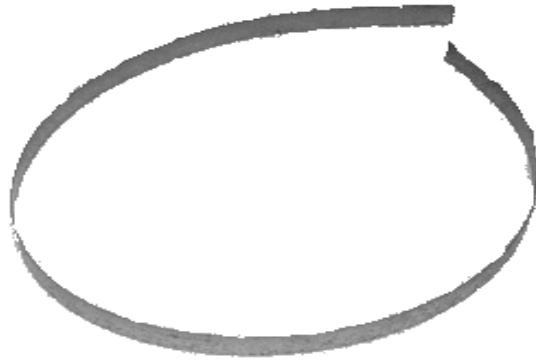
DIMENSIONS



SUNDRIES

PLAIN SHEETMETAL HANGING STRAP

Advantage**Air**



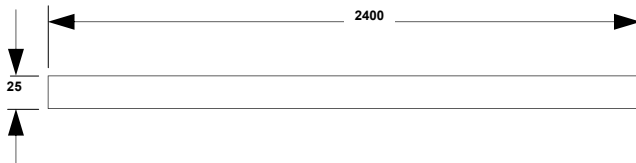
CONSTRUCTION

- Galvanised sheetmetal strips 0.55mm thick

APPLICATIONS

- Suitable for hanging air conditioning duct and equipment.

DIMENSIONS



SUNDRIES

BLUE PLASTIC HANGING STRAP

Advantage**Air**



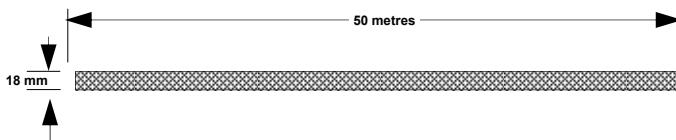
CONSTRUCTION

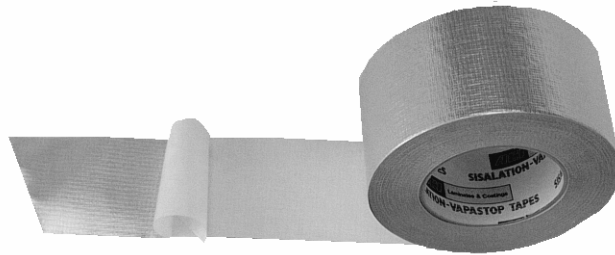
- P.E. coated fabric.
- Non-adhesive.
- Blue in colour.

APPLICATIONS

- Flexible duct hanging strap.

DIMENSIONS





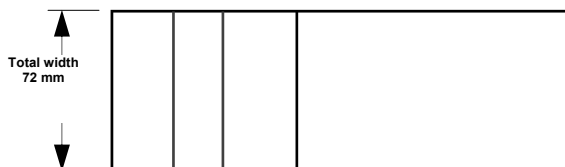
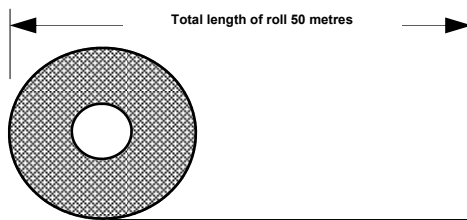
FEATURES

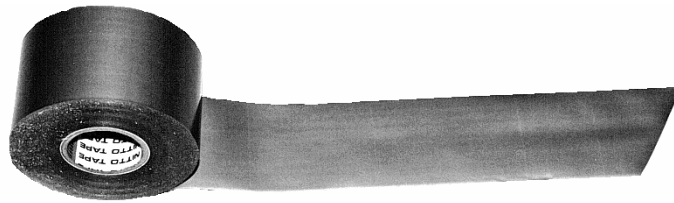
- ACI 883 Vapastop 72 mm wide x 50 metres long.
- Silver in colour.

APPLICATIONS

- Ideal for joining and sealing flexible duct, insulation and galvanised duct.

DIMENSIONS





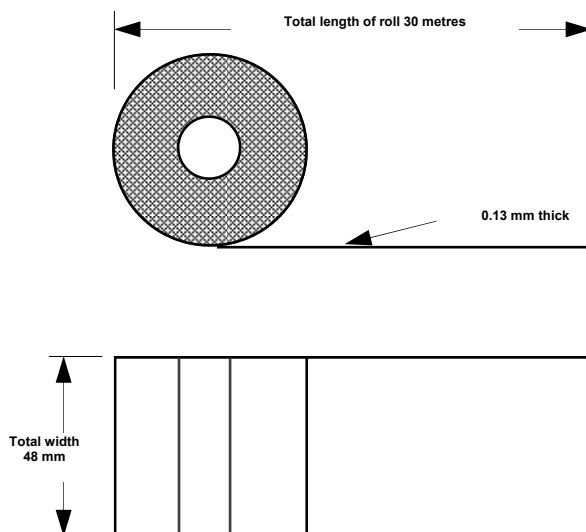
CONSTRUCTION

- Lower cost alternative to foil duct tape.
- 0.13 mm thick x 48 mm wide x 30 metres long.
- Grey in colour.

APPLICATIONS

- Ideal for joining and sealing flexible duct, insulation and galvanised duct.

DIMENSIONS



We recommend ordering one roll per outlet on a typical domestic evaporative, refrigerated or heating system.



FEATURES

Within 24 hours of using Airclenz, your home or working environment will show a remarkable reduction in airborne contaminants through:

Disinfection of your air conditioning ductwork, cooling coils and filters

Significant reduction of airborne bugs in your indoor environment.

Reduction in the probability of development of "sick air" environments

TESTS

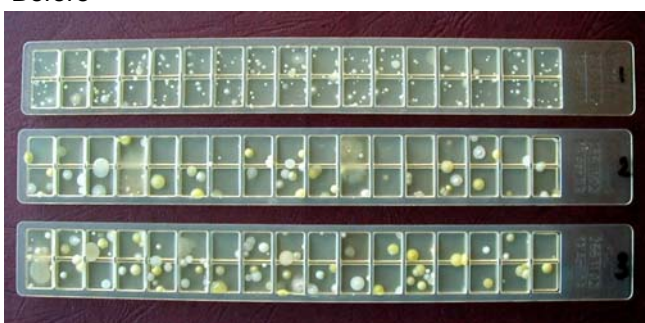
APPLICATIONS

- Ideal for reverse cycle and ducted gas heating systems
- Each pack will be effective for up to 8 weeks.

INSTRUCTIONS FOR USE

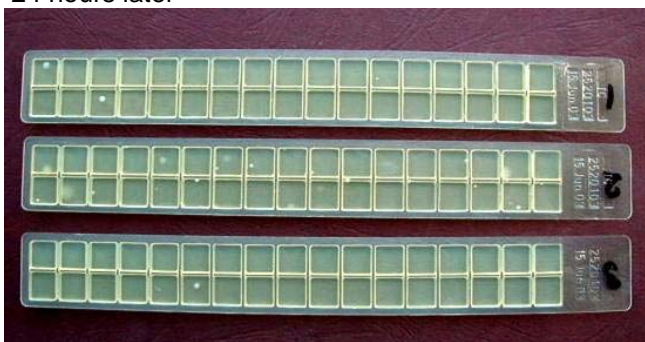
- Puncture 4 holes along the top of the label where indicated.
- Hang the Airclenz inside the return air grille (holes up)
- For maximum benefit change Airclenz every two months.

Before



The Agar strip test comparison shown in the photograph (left) proves Airclenz achieves significant reduction in bacteria contaminants found in the air.

24 hours later



Results from 40 square home in Sydney's west. Home is fitted with ducted reverse cycle air conditioning

