SEELEY INTERNATIONAL

INSTALLATION AND OPERATION

DU SD SERIES HEATER

OR MODELS

AIRA By SEELEY INTERNATIONAL

Original English Instructions

CONTENTS

SAFETY

1.0 INTRODUCTION

This Manual is for use with a Seeley International manufactured AIRA DU/SD Heater OR Model units. This manual is updated without notification and it is the installer and customers responsibility to ensure the latest version is used. This Manual is intended to assist in the Installation, Commissioning and Service of Seeley International manufactured DU/SD units and DOES NOT take precedence over any Australian Standards or legislation.

This book should be retained with the unit or made easily accessible to installation and maintenance personnel.

AIRA DU/SD units are a natural draft gas fired appliance, capable of supplying indirect gas heating and direct air ventilation. DU/SD units are produced in 8 different capacities to suit a wide variety of installation requirements. All Natural Gas AIRA units are certified as a Type A appliance, LPG units require a Type B certification with the exception of DU12, DU16 and SD40 which are Type A LPG certified.

1.1 GENERAL SAFETY INFORMATION

THIS INDIRECT GAS HEATER IS TO BE INSTALLED BY AN AUTHORISED PERSON ONLY

DO NOT Operate this appliance before reading the manual.

DO NOT Place articles on or against this appliance.

DO NOT Use or store flammable materials within 1200mm of this appliance.

DO NOT Operate this appliance with panels, covers or guards removed.

DO NOT Spray aerosols in the vicinity of this appliance while it is in operation.

DO NOT Remove markings and or labels from the unit.

DO NOT Remove warning labels from the unit.

These AIRA DU/SD units must be installed in accordance with these instructions, local plumbing regulations, municipal building codes, electrical wiring regulations, Australian Standard AS/NZS 5601 Gas Installations and any other relevant statutory requirements.

Employers and Employees Responsibility	**Risk Assessment**
The installation and maintenance of gas ducted heating units, particularly at height, has the potential to create Occupational Health and Safety (OH&S) issues for those involved. Installers are advised to ensure they are familiar with relevant State and Federal legislation, such as Acts, Regulations, approved Codes of Practice and Australian Standards, which offer practical guidance on these health and safety issues. Compliance with these regulations will require appropriate work practices, equipment, training and qualification of workers. Seeley International provides the following information as a guide to contractors and employees to assist in minimising risk.	A risk assessment of all hazardous tasks is required under legislation. A risk assessment is an essential element that should be conducted before the commencement of work, to identify and eliminate the risk of falls and other risks, or to minimise these risks by implementing control measures. This does not need to be a complicated process - it is a matter of assessing the job to be done and considering what actions are necessary so the person doing the job does not injure themselves. This should be considered in terms of: • What are the chances of an incident occurring? • What could the possible consequences be? • What can be done to reduce, or better still, eliminate the risk?

1.1.1 Handling the Unit

Heaters are provided with external lifting points and should be moved by appropriately qualified personnel for the type of equipment used to move the unit. i.e Rigger, crane operator and fork lift driver. The heater must remain upright at all times.

1.1.2 Positioning the Heater

The unit should be installed so that it is level. Allow 1200mm clearance at the front and control side of the unit and 500mm on the bottom (for hung units), top, and other side. Air intake to the unit should not be restricted in any manner. Approval should be sought by Seeley for any installation encroaching on these limits. No modifications shall be made to the unit.

1.1.3 Combustibles

The heater should not be installed in contact with combustible materials. Radiant heat from the unit must also be considered. Combustibles should not be stored within 1200mm of the unit.

1.1.4 Wiring Electrical

Connections must be in accordance with all relevant Australian Standards and applicable State regulations.

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1.1.5 Occupational Health and Safety

Only safe working practices shall be employed when working on gas installations. The process of installing gas appliances shall take into consideration relevant OH&S requirements. There requirements pertain to all aspects of access, installation, operation and maintenance. Persons installing gas appliances shall be aware of their responsibilities and qualified in accordance with local OH&S requirements. Precautions shall be taken to avoid any electrical hazards present in the gas installation.

1.1.6 Gas Piping

Gas piping should be sized adequately, located, supported and protected in accordance with the Installation Standard AS/NZS 5601.

1.1.7 Commissioning, Recommissioning and Decommissioning

Every gas installation shall be commissioned according to the instructions in Section 4 of this Manual prior to use to ensure safe start and operation of the unit and shall include checks of safety and operating control.

Following maintenance work on any part of the unit, the affected part of the installation shall be re-commissioned by checking to ensure safe start-up and operation.

After a maintenance shutdown, isolation of the unit or interruption to the gas or electrical supply an appropriately qualified person shall conduct start up checks to confirm safe operation.

When a unit is being decommissioned it shall be physically disconnected from the gas supply, purged and sealed. Where possible components should be recycled, apart from the gas train and valves which should be disposed of in accordance with government regulations.

1.1.8 Operational Safety

AIRA DU/SD Heaters must not be operated until the unit has been commissioned by qualified persons. The unit should not be operated if any safeguards, panels or controls have been removed, damaged or bypassed.

If the unit is not operating as intended turn off the unit at the wall switch/BMS and then isolate the power and gas supply. The unit should remain isolated until a qualified service technician has inspected the unit and resolved any issues.

1.1.9 Gas Compliance

Aira Heater units are not all Type A certified. For those **NOT** Type A certified a Type B certification is required. AS/NZS 5601.1 states that the requirements of the standard are to be used in conjunction with, but do not take precedence over, statutory requirements that may apply in any area. Where no requirement is given, good practice shall apply.

Type A Compliant		
	Natural Gas	LPG
DU12	YES	YES
DU16	YES	YES
SD26	YES	YES
SD30	YES	YES
SD35	YES	YES
SD40	YES	YES

Table 1: Type A Compliance

1.1.10 Safety Points to Consider

- What is the best and safest access to the roof and/or work areas?
- If a worker is alone, who knows they are there and if they get into difficulty, how can they summon help? (Call someone on the ground? Mobile phone? etc.)
- Has the roof section or structure been assessed to ensure that it can withstand the load of the appliance and workers.
- Does the worker have appropriate foot wear? (Flat sole jogger type is advisable.)
- Are all power cables / extension leads safe and appropriately rated?
- Are all ladders, tools and equipment suitable in good condition?
- Where ladders are to be used, is there a firm, stable base for them to stand on? Can they be tied or secured in some way at the top? Is the top of the ladder clear of electricity supply cables?
- Is there a roof anchor to attach a harness and lanyard to? If so, instruction should be issued for the use of an approved harness or only suitably trained people used.

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- Are all tools and materials being used, prevented from slipping and falling onto a person at ground level? Is the area below the work area suitably protected to prevent persons walking in this area?
- Does the work schedule take into account weather conditions, allowing for work to be suspended in high winds, thunder storms/lightning or other types of weather giving wet, slippery surfaces?
- Is there an on-going safety check system of harnesses, ropes, ladders and access/lifting equipment and where they exist on roofs, anchor points before the commencement of work?
- Is there a system which prevents employees from working on roofs if they are unwell or under the influence of drugs or alcohol?
- Are there any special conditions to consider i.e. excessive roof pitch, limited ground area, fragile roof, electrical power lines?
- Is the person conducting the installation and maintenance appropriately qualified and familiar with local authority and Australian Standards.

GENERAL INFORMATION

2.1 UNIT OVERVIEW

AIRA DU/SD units are natural draft, indirect gas fired heaters. The standard control system is configured for integration with Building Management Systems (BMS). An optional standalone control system utilising a room thermostat to control heat demand from the DU/SD is also available. Manual AM006 provides a comprehensive control and wiring information package.

Gas rate modulation is provided in order to maintain a more consistent room temperature. Once the room set temperature is reached the unit will cease heating. Consequently, as the room temperature falls below the set point the unit will automatically resume heating.

DU/SD can be fitted with an optional blower box, housing a single or dual centrifugal fans and electric motor. Alternately the DU/SD can be installed in duct work with a 3rd party blower or evaporative cooler which is designed to provide suitable airflow to the heater.

Units are supplied with a flue suitable for external installation. Units installed in a utility room must be externally flued to atmosphere and in accordance with the Australian Standards and local regulations for flue installations of this type. The units are natural draft and **CAN NOT** be installed in a negative pressure environment.

Commissioning can be provided by Seeley International otherwise for all type A appliances an experienced Type A installer is recommended. Type B units will require independent type B certification to local legislation.

2.2 EQUIPMENT RECEIPT

Inspect the unit for any damage caused in transit. Any such damage must be immediately reported to the shipper of the goods.

The unit has been factory tested to check for correct operation of all components. If any part is obviously missing or damaged, notify the supplier immediately.

Check the appliance to ensure that the SU/DU unit that has been supplied will operate with the available gas supply, i.e. Natural or LPG gas.

2.3 FACTORY UNIT TEST

All AIRA heaters are given a factory unit test which covers the function test and checks of the safety system including;

- Blower/fan operation (if fitted)
- Gas ignition and flame detection
- Gas valve modulation (if fitted)
- Operation of the High Limit Safety Switch
- Functional test for all units

GENERAL INFORMATION

2.4 TECHNICAL SPECIFICATION

2.4.1 Unit and Component Identification

MODEL:			DU12	DU16	SD26	SD30	SD35	SD40	2xSD26	2xSD30	2xSD35
	Type		SINGLE HEAT EXCHANGER						DUAL HEAT EXCHANGER		
HEATING	Airflow 28C Temp Rise	(L/s)	840	1118	1784	2100	2454	2785	2x1784	2x2100	2x2454
	Airflow 11C Temp Rise	(L/s)	2098	2800	4460	5240	6316	6985	2x4460	2x5240	2x6316
	Input NG (LPG)	(MJ/hr)	138 (127)	184 (169)	246 (274)	287 (290)	349 (349)	390 (422)	2x 246 (274)	2x 287 (290)	2x 349 (349)
	Output NG (LPG)	(kW)	29 (26)	38 (35)	51 (44)	60 (51)	73 (62)	81 (69)	2x 51 (44)	2x 60 (51)	2x 73 (62)
SERVICES	Electrical	Voltage V/Ph/ Hz	240/1/50 or 415/3/50	240/1/50 or 415/3/50	240/1/50 or 415/3/50	240/1/50 or 415/3/50	240/1/50 or 415/3/50	240/1/50 or 415/3/50	2x 240/1/50 or 415/3/50	2x 240/1/50 or 415/3/50	2x 240/1/50 or 415/3/50
		Max Power (kW)	1.3	1.3	2.4	3.2	4.2	5.7	4.6	6.2	8.2
	Duct Connections		Side Discharge	Side Discharge	Side Discharge	Side Discharge	Side Discharge	Side Discharge	2x Side Discharge	2x Side Discharge	2x Side Discharge
	Type		BMS Interface	BMS Interface	BMS Interface	BMS Interface	BMS Interface	BMS Interface	BMS Interface	BMS Interface	BMS Interface
	Type	Optional	Wall Switch	Wall Switch	Wall Switch	Wall Switch	Wall Switch	Wall Switch	Wall Switch	Wall Switch	Wall Switch
	Voltage	V/Ph/Hz	BMS (Customer Supplied)	BMS (Customer Supplied)	BMS (Customer Supplied)	BMS (Customer Supplied)	BMS (Customer Supplied)	BMS (Customer Supplied)	BMS (Customer Supplied)	BMS (Customer Supplied)	BMS (Customer Supplied)
FAN	Type		Blower	Blower	Blower	Blower	Blower	Blower	Blower	Blower	Blower
	Diameter	Inch	12	12	15	15	15 x 11 Dual	15 x 11 Dual	2 x 15	2 x 15	2 x 15 x 11 Dual
	Capacity		High	High	High	High	High	High	High	High	High
MOTOR	Type		CS & R	CS & R	3 Phase	3 Phase	3 Phase	3 Phase	3 Phase	3 Phase	3 Phase
	Speed	RPM	1440	1440	1440	1440	1440	1440	1440	1440	1440
	Output	(kW)	1.1	1.1	2.2	3.0	4.0	5.5	2 x 2.2	2 x 3.0	2 x 4.0
	Rated	(A)	7.1	7.1	4.9	6.4	8.4	11.2	4.9 / motor	6.4 / motor	8.4 / motor
	Frame Size		B56	B56	100L	100L	112M	132S	100L	100L	112M
	Rating	IP	21	21	55	55	55	55	55	55	55
GAS SUPPLY LPG (Propane)	Maximum	(kPa)	3.5	3.5	3.5	3.5	3.5	3.5	3.5/unit	3.5/unit	3.5/unit
	Minimum	(kPa)	2.74	2.74	2.74	2.74	2.74	2.74	2.74/unit	2.74/unit	2.74/unit
GAS SUPPLY NG	Maximum	(kPa)	3.5	3.5	3.5	3.5	3.5	3.5	3.5/unit	3.5/unit	3.5/unit
	Minimum	(kPa)	1.12	1.12	1.12	1.12	1.12	1.12	1.12/unit	1.12/unit	1.12/unit
TEST POINT LPG (Propane)	High	(kPa)	2.5	2.5	2.5	2.5	2.5	2.5	2.5/unit	2.5/unit	2.5/unit
	Low	(kPa)	0.875	0.875	0.875	0.875	0.875	0.875	0.875/unit	0.875/unit	0.875/unit
TEST POINT NG	High	(kPa)	0.875	0.875	0.72	0.72	0.72	0.72	0.72/unit	0.72/unit	0.72/unit
	Low	(kPa)	0.30	0.30	0.30	0.30	0.30	0.30	0.30/unit	0.30/unit	0.30/unit
GAS SUPPLY SIZE		inch	3/4	3/4	3/4	3/4	3/4	3/4	2x 3/4	2x 3/4	2x 3/4
INJECTORS/BURNERS		Number	6	8	12	14	17	19	2x 12	2x 14	2x 17
DIMENSIONS	Shipping (Blower)	(mm)	2100 Long 1200 Wide 1500 High	2100 Long 1200 Wide 1500 High	2500 Long 1800 Wide 1820 High	2500 Long 1800 Wide 1820 High	2500 Long 1800 Wide 2170 High	2500 Long 1800 Wide 1820 High	2x Pallets 2500 Long 1800 Wide 1820 High	2x Pallets 2500 Long 1800 Wide 1820 High	2x Pallets 2500 Long 1800 Wide 2170 High
	Shipping (No Blower)	(mm)	2100 Long 1200 Wide 1500 High	2100 Long 1200 Wide 1500 High	2100 Long 1200 Wide 1820 High	2100 Long 1200 Wide 1820 High	2100 Long 1200 Wide 2170 High	2100 Long 1200 Wide 2170 High	2x Pallets 2100 Long 1200 Wide 1820 High	2x Pallets 2100 Long 1200 Wide 1820 High	2x Pallets 2100 Long 1200 Wide 2170 High
	Service Clearance All Sides	(mm)	1200	1200	1200	1200	1200	1200	1200	1200	1200
WEIGHT	Shipping (Blower)	(kg)	290	300	415	425	515	545	2x415	2x425	2x515
	Shipping (No Blower)	(kg)	175	195	255	265	310	340	2x255	2x265	2x310

Table 2: DU SD Unit Technical Data

GENERAL INFORMATION

2.4.2 Construction

- The frame is a galvanised steel body with stainless steel burners and heat exchanger with draft diverter. Flues, flue cowls and external cabinet are marine grade aluminium.
- Aira units are designed to be used with Aira flues and flue cowls. Fitment of third-party flues and flue cowls must be approved by an accredited flue designer.
- Units are standard with an external casing except F units. Open frame units for dual heat exchangers can supplied without a cabinet but to OEM customers only.

2.4.3 Blower

- The standard blower is forward curved and constructed from steel. Units not installed in ductwork are typically optioned with an axial fan due to the low pressure drop.
- Blower housings are powder coated steel as standard.

2.4.4 Fan Motors

- Fan motors are mounted externally to the blower and connect via a set of pulleys.
- All units are available at order with 2 different motor power capacity to meet flow and pressure requirements. Units may be fitted with a larger motor at additional cost. Contact Seeley international for further advice.
- Axial fans are specified for the F configuration and designed to be installed indoors generally as an air curtain.

2.4.5 Pulleys

- Upon order the customer will be given the options of one of three pulley kits to meet their flow and pressure requirements.
- Variations in external pressure drop outside of the standard product range require pulley and belt combinations to be supplied by the customer.
- All pulleys are of steel construction with taper lock mounting.

2.4.6 Dampers

- All units are supplied with adjustable galvanised steel dampeners with preset positions to be set by the installer.
- Axial fan units use the dampers to adjust air throw in addition to heat rise.

2.4.7 Electrical Control and Connection

- All units are equipped with an electrical control box which controls the Gas Pilot, Main Valve, Modulating Valve (when installed) and Blower operation.
- All units are fitted with High Limit Safety Switches on the Air Inlet and Outlet Side and an Automatic Fan Switch to prevent overheating. **Caution:** Automatic fan switch will cause the fan to operate without notice once the unit is powered down and heat soak takes place.

INSTALLATION INFORMATION

3.0 INSTALLATION INFORMATION

The supplied units are to be installed in accordance to this manual, relevant local standards, acts and regulations.

The space in which the DU/SD unit is installed shall be ventilated to the extent required to ensure safe and effective operation. The unit shall also not be installed in a location that will affect the operation of mechanical devices used to displace air either within the same space or within a connected space.

DU/SD units shall be installed so that adjacent combustible surfaces are protected from damage resulting from thermal effects of their operation.

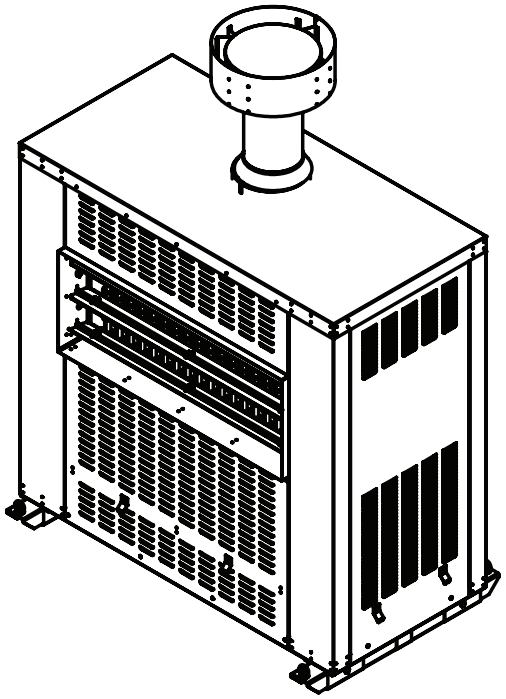
If there are existing gas appliances the it shall be confirmed that there is adequate capacity before connecting the DU/SD unit.

Isolation of the gas and electrical supplies to the units shall be accessible and identifiable at all times.

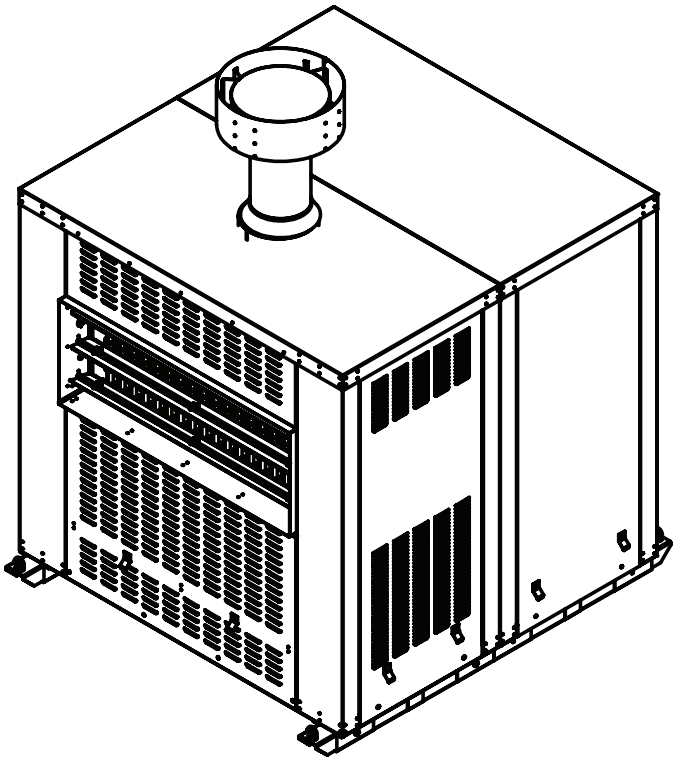
INSTALLATION INFORMATION

3.1 MODEL VARIATIONS

3.1.1 DU/SD NO BLOWER

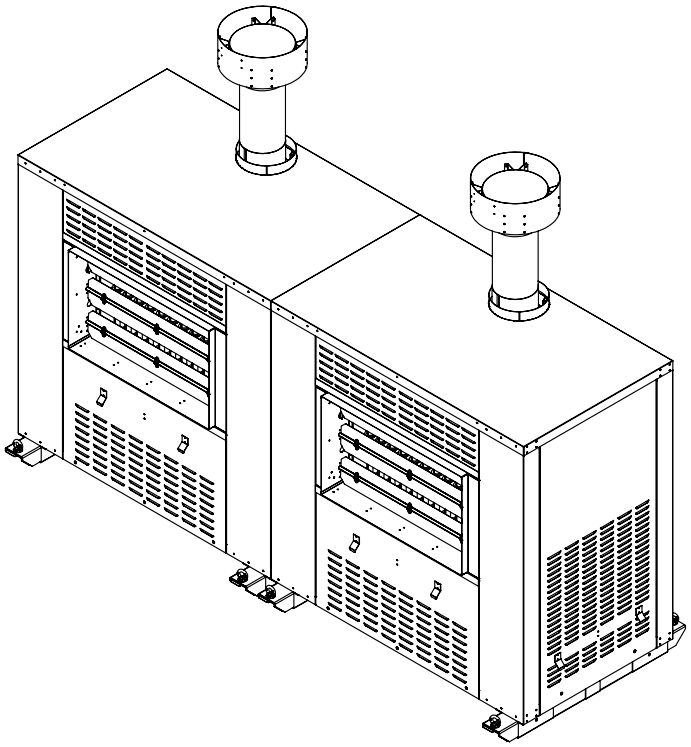


3.1.2 DU/SD WITH BLOWER

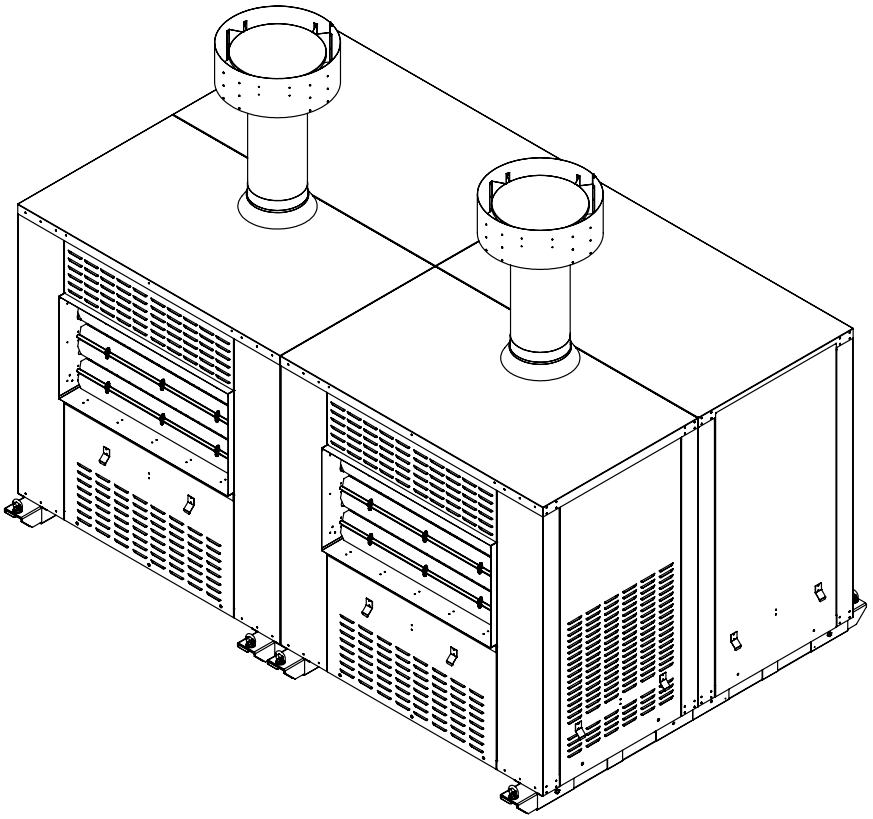


INSTALLATION INFORMATION

3.1.3 DUAL HX DU/SD NO BLOWER



3.1.4 DUAL HX DU/SD WITH BLOWER



INSTALLATION INFORMATION

3.2 INSTALLATION

The following recommendations are not intended to supplant or take precedence over relevant official regulations. AIRA DU / SD units are designed essentially as a roof top or external ground mount unit.

3.2.1 Location

This equipment is not designed for long and complex air distribution ductwork and as such the unit should be located as close as practicable to the points of air distribution. Depending on large volumes of 100% fresh air, care must be taken to locate the unit clear of kitchen exhausts, heavy vehicle traffic, industrial fume discharge etc. that may allow odour or fume laden air to be drawn into the unit. The prime requisites for the correct location of a unit is an unrestricted supply of clean fresh air. Units shall not be installed in an environment where negative pressure is exerted on the unit. If the unit is installed indoors a qualified engineer shall be engaged to ensure that the unit is not subject to negative pressure. **Failure to do so may result in fatalities.**

When selecting a location for the DU / SD unit the following shall be considered.

1. Will the unit be suitably protected from the effects of corrosion and/ or dust laden environments and any likelihood of physical damage?
2. Can qualified personnel perform functional adjustments and maintenance on the unit?
3. Does the chosen location prevent a hazard to the building or structure or to the contents of the building?
4. How to minimise the risks associated with storage, use or release of hazardous or flammable substances in the vicinity of the unit?
5. How to minimise risk of harm to persons?
6. Will the noise of the unit operating affect persons nearby? Units should be located so that quiet areas such as bedrooms, living rooms, meetings rooms etc. are not affected for both the premises that the unit is being installed and adjoining properties.
7. A structural engineer is to be engaged to prove that the supporting structure is suitable for a fully laden unit.
8. Ensure any skylights within 3m of the units have adequate fall protection installed.

3.2.2 Clearance Around Unit

1200mm is the recommended clearance around all sides for service access. All combustibles must be kept outside the 1200mm clearance zone

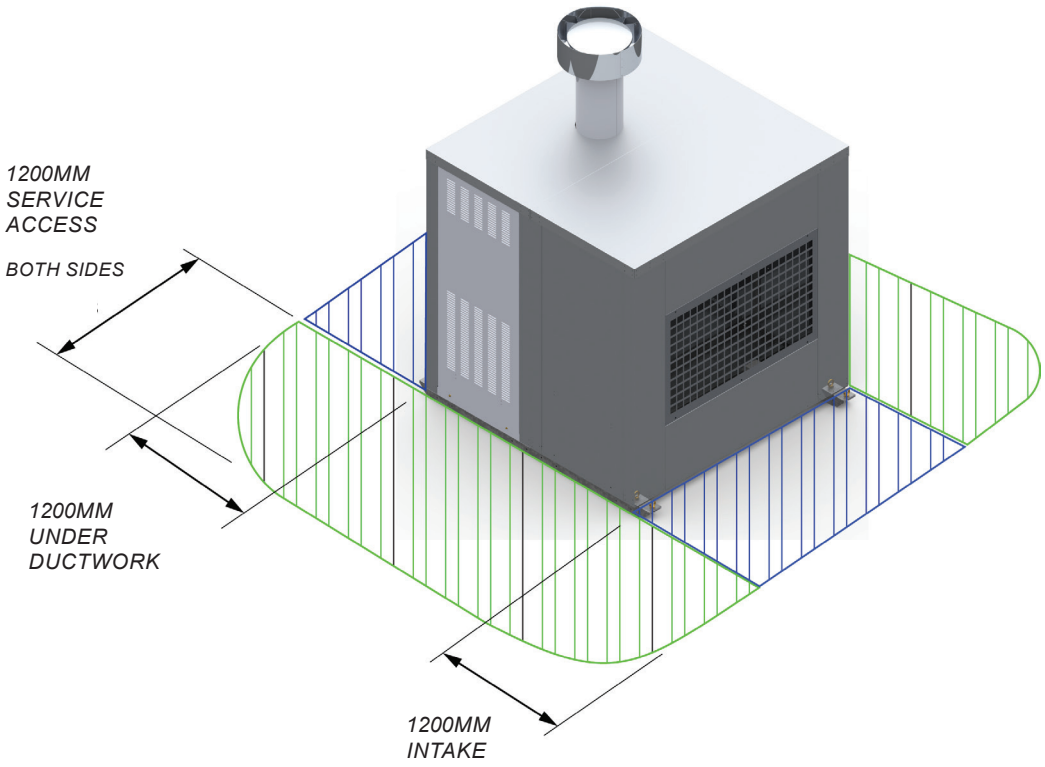


Figure 2: Service Clearance around Unit

3.2.3 Plant Room

Do not locate unit in an enclosed plant room unless sufficient openings are available to ensure air pressure in the plant room **CANNOT** become negative with all items in the plant room operating. Mechanical ventilation may be required. Failure to achieve positive plant room pressure will result in gas combustion gasses being drawn into the room being heated, presenting a health risk to any occupant. A suitably qualified engineer must be consulted when considering this type of installation.

3.2.4 Weight and Location

For roof mounting, the building's roof must be adequately designed to support the unit weight and any service personnel. If in doubt a suitably qualified Civil or Structural Engineer should be engaged to conduct an assessment. The below figures and tables list the corner weights of the units with and without blower.

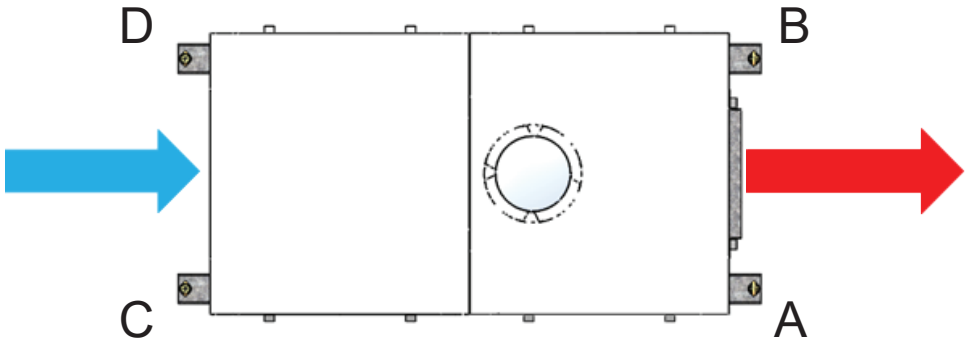


Figure 3: Unit with Blower Corner Weights

MODEL	A	B	C	D
DU12	67kg	83kg	75kg	45kg
DU16	82kg	76kg	56kg	63kg
SD26	133kg	90kg	68kg	89kg
SD30	124kg	112kg	74kg	81kg
SD35	131kg	141kg	122kg	88kg
SD40	133kg	159kg	143kg	77kg

Table 7: Unit with Blower Corner Weights

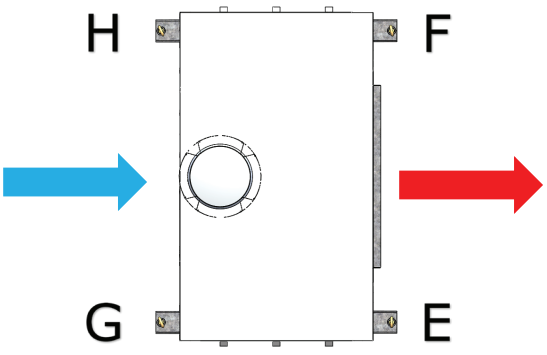


Figure 4: Single Unit Corner Weights

MODEL	A	B	C	D
DU12	47kg	37kg	33kg	37kg
DU16	48kg	42kg	35kg	39kg
SD26	71kg	52kg	43kg	58kg
SD30	51kg	76kg	74kg	43kg
SD35	54kg	95kg	95kg	44kg
SD40	98kg	69kg	63kg	87kg

Table 6: Single Unit Corner Weights

INSTALLATION INFORMATION

3.2.5 Lifting

Units are to be lifted by the points specified and designed to lift only the specific units' dry weight. These lifting points are suitable for either Crane or Helicopter lift with suitable spreader bars. The unit cabinet is lightweight aluminium and at no point should the lifting slings or spreader bar contact the cabinet, failure to comply will permanently damage the case.

Lifting point securing bolts and lifting eyes must be inspected for prior to lifting to ensure all bolts are installed, of correct tensile strength and are correctly tensioned. If any damage is observed, lifting points and/or eyes should be replaced.

Below is a suggested lifting arrangement. Noting that the centre of gravity should be assessed for each unit prior to lifting by suitably qualified crane operator, rigger and dogmen. Certification of the lifting lug assembly may be obtained by contacting Seeley International.

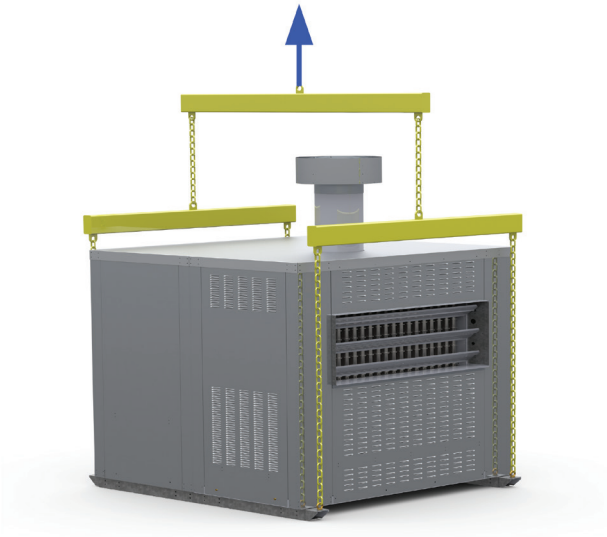


Figure 5: Lifting Example

3.2.6 Positioning and Securing

Small, Medium and Large cabinet units are supplied with under cabinet skids. Units are designed to be supported along the length of the skids. Holes may be drilled into the skids to secure the unit in place. Lifting points may be inverted and used in assisting to secure the unit. Lifting points at either end of the units are NOT to be used for anything other than lifting the unit into place and may be removed once installation has occurred.

It is the responsibility of the installer to ensure that any platform used to support the unit is suitably designed. A suitably qualified Civil or Structural Engineer must be engaged to conduct an assessment.

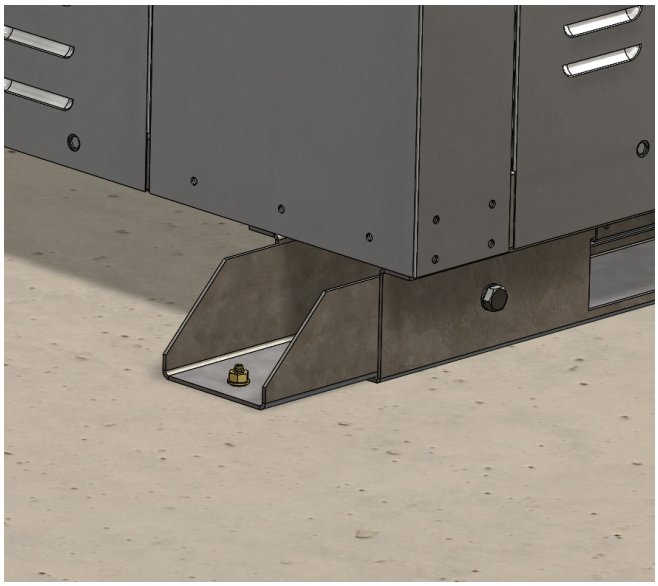


Figure 6: Securing Example

INSTALLATION INFORMATION

3.2.7 Duct Connections

The outlet of the unit is provided with a 40mm flange for Ductmate® or similar ductwork connection. An inspection and service panel is located above and below the duct connection flange. Duct connection should be in a manner which maintains panel operation without the need to remove ductwork.

Refer to the Model Variants and Dimensions section of the document for specific unit details.

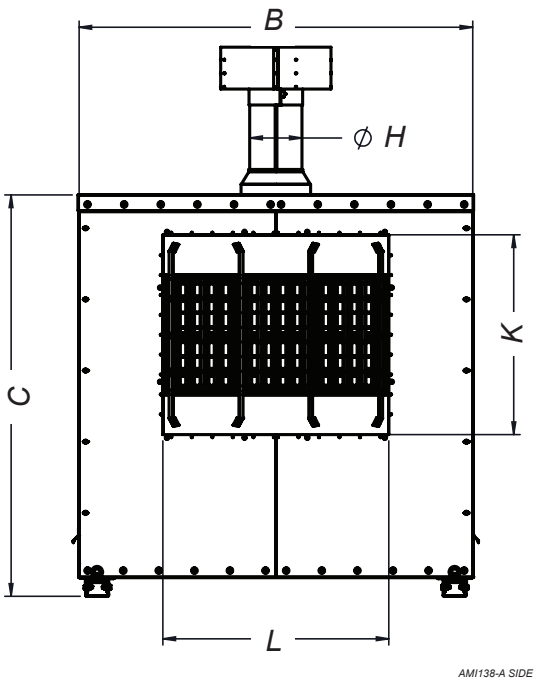


Figure 7: Duct Connections

3.2.8 Flue Connections

Units are proved with a short section of flue which is designed to suit the heat exchanger, draft diverter and rain collar. It is the installers responsibility to provide additional lengths and orentations of flue to ensure that the flue terminates in a location that is compliant with AS5601.1 and local regulations and requirements. Flue cowls supplied are certified by AGA independent of the unit, so may be suitable for use on different length flues in accordance with AS4566-2005 Flue cowls – Gas Appliances.

The flue is to be secured to the spigot with sheet metal TEK type screws. If a different flue design is used the flue up draft must be confirmed after appliance if started to ensure adequate flow. Flue temperatures are expected between 250 to 300 Deg C. and may require additional flue skins especially when penetration through walls, roofs, floors, etc. The flue cowl is designed to go over the external diameter of the flue and the flue may have a crimped end to assist with fitment. The rain collar is to sit over the flue and does notrequire fasteners or to be sealed to the flue or cab top.

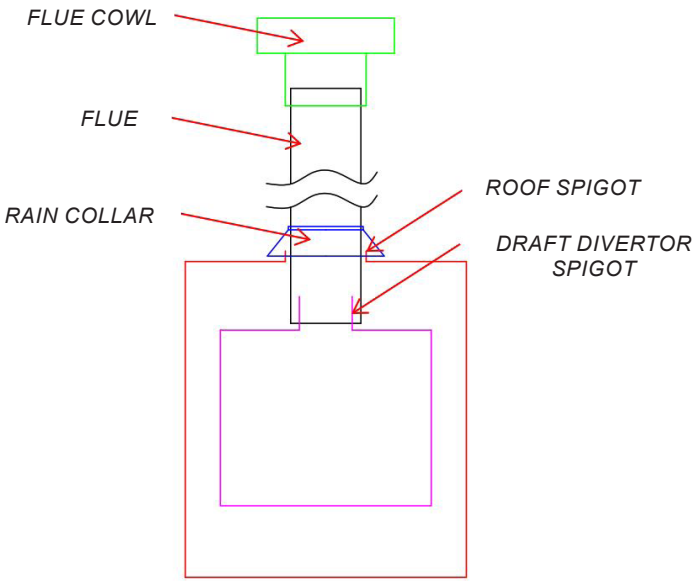


Figure 8: Flue Connections

INSTALLATION INFORMATION

3.3 ELECTRICAL CONNECTIONS

3.3.1 Electrical Supply

All electrical connections are to be as per AS3000. All electrical work shall be performed by a registered electrical contractor. Aira Manual AM006, provides a comprehensive electrical connection guide including wiring configurations for different control setups and wiring diagram package and should be used in conjunction with this manual.

- Electrical circuit breakers must be a minimum of a " D curve" motor start circuit breaker.
- Electrical circuit breakers must be sized according to the total load requirements.

For Weatherproof units, the electrical connection will require a hole saw to drill through a corner panel for conduit entry.

When entering the unit:

- **DO NOT** run cables or conduit across the heater.
- **DO NOT** run the cables on the floor under the heat exchanger.
- **DO NOT** wire directly into the control box except for control wires as per the wiring diagram.

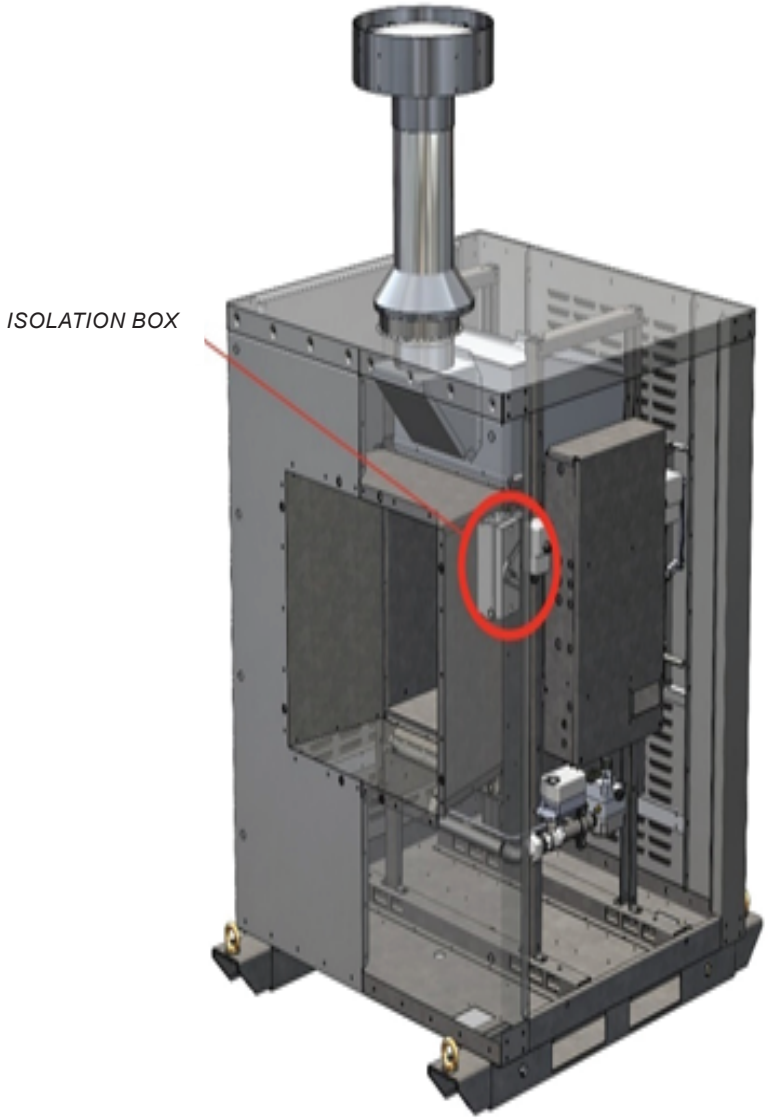


Figure 9: Isolation Box Location

INSTALLATION INFORMATION

3.3.2 User Control Configuration Options

There are 2 primary control options for AIRA DU/SD units, Wall switch and BMS. Units are specified with either a wall switch or capability to be wired for BMS interface. BMS specified units have a different RLU program to those specified with the wall switch. Wall switch units have a Siemens room thermostat supplied. Dual heat exchangers have a different control setup. Refer to Aira Manual AM006.

Figure 10: Thermostat

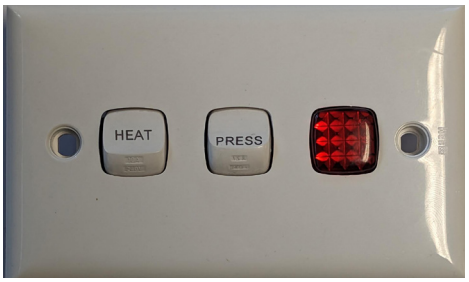


Figure 11: Wall Switch

HEAT	TURN HEAT SWITCH ON, HEATER STARTS THEN FAN COMES ON BY AUTOFAN SWITCH
PRESS	RESETS UNIT. SWITCH WILL FLICK BACK TO ORIGINAL POSITION
RED LED	INDICATES A FAULT. USE PRESS BUTTON TO RESET

Table 9: User Controls

3.3.3 Blower / Fan Setup

Units fitted with a blower are factory fitted and tested. If a 3rd party fan is installed it is the customers responsibility to ensure that it is commissioned and will provide adequate airflow across the heat exchanger.

3.3.4 Electrical Differences for Dual Heat Exchangers

Dual heat exchanger units have two control boxes. One box is the master and the other the slave. Refer to Aira Manual AM006 for dual heat exchangers.

The unit will be supplied with two thermostats. The room thermostat measures temperature in the room the set point thermostat allows for adjustment of the set temperature. Both thermostats are to be installed within the area being heated.

3.4 GAS CONNECTIONS

3.4.1 Gas Supply

This unit must be installed in accordance with AS/NZS 5601.1. Before connecting the unit to the gas line. The gas line must be fully purged and checked to ensure that they are free of dirt and foreign objects.

The gas supply pipe must be of adequate size to the heater and all gas appliances onsite. The screwed inlet connection to the heater **“MUST NOT”** be used as an indication of the gas line’s sizing required. Units are fitted with a ¾” Inch Gas valve this doesn’t indicate the line diameter size. Gas lines must be sized to consider the length of the pipe and any other attached appliances to ensure adequate flow and pressure are supplied to the unit. Gas line size will be dependent upon flow rate required and line length. Refer to AS 5601.1 Appendix F for sizing of supply gas line.

The gas supply line must bear no load and be adequately supported and align with the units gas train. Do not overtighten gas valve connection. A cracked body on inlet side of gas valve will not be covered by warranty. Check all gas connections for leaks using soap solution or suitable gas leak detection fluid.

INSTALLATION INFORMATION

Gas pressure for both Natural Gas and LPG is listed below in Table 2. Note that there is different pressure requirements for NG and LPG. If the pressure is greater than 7kPA an over pressure shut off regulator is required.

GAS PRESSURE	NG	LPG
Maximum kPa	3.5	3.5
Minimum kPa	1.12	2.74

Table 10: Gas Supply Pressures

If the inlet test pressure is not at least 1.12kPa for Natural Gas the following may have occurred;

- Gas pipe to the unit may be under sized and/or restricted
- The Gas meter may be under sized
- The Gas regulator may be set too low

If you suspect that the gas pressure is too low contact the Gas Supply authority.

DO NO Attempt to adjust the main supply regulator where the gas enters the premises

For dual heat exchanger units a separate gas supply shall be provided to each gas train with individual isolation valves provided.

3.4.2 LPG

Adequate sizing and the number of LPG bottles is of high importance when considering an LPG unit. Pressures can dramatically drop as the bottles become empty. This can affect the combustion process within the unit causing light back and poor combustion leading to excessive emissions.

3.4.3 Gas Supply for Dual Heat Exchangers

Dual heat exchanger units have 2 independent gas valves and control systems therefore require 2 separate gas supply connections. Each gas supply requires an isolation valve and shall be individually commissioned. Pipework to the unit shall be sized so that the pressure and gas flow is sufficient so that both heat exchanges may be operated at the maximum output simultaneously.

3.4.4 Gas Train Information

The Gas Train as pictured in Figure 12 is installed as part of the unit. It is the responsibility of the installer to provide the pipework to the gas train and ensure that the supply pipework is of adequate size and pressure.

When connecting the gas pipe, there may be an accumulation of condensates and other deposits in the gas pipe. These must be cleared before connecting the gas pipe to the unit.

Purge all air from the gas pipe and check for leaks using a soap and water solution or approved leak test method. The connections along the gas train should also be checked to ensure that there was no damage caused during transportation and installation of the unit.

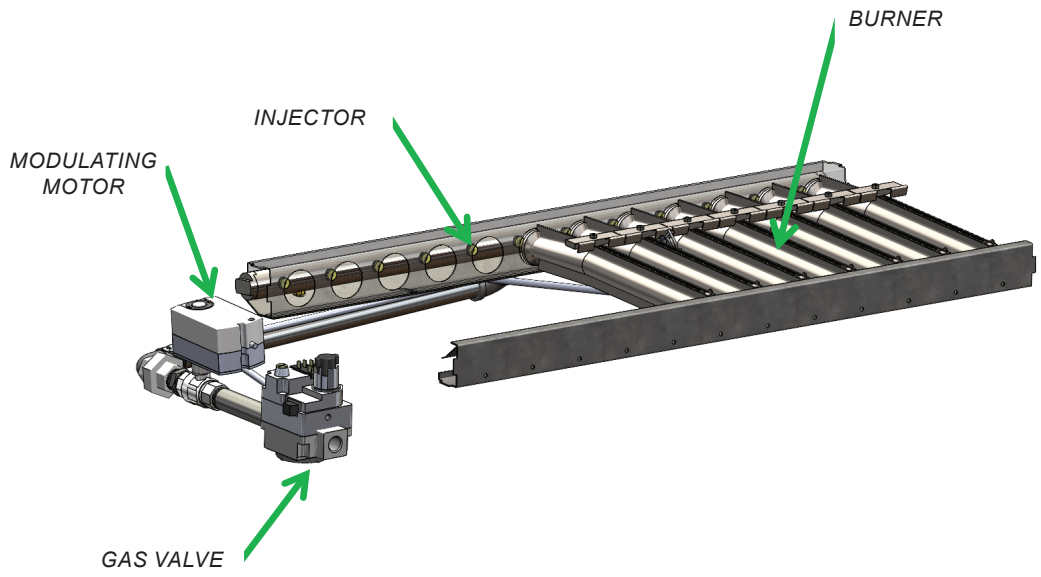


Figure 12: Gas Train Front View

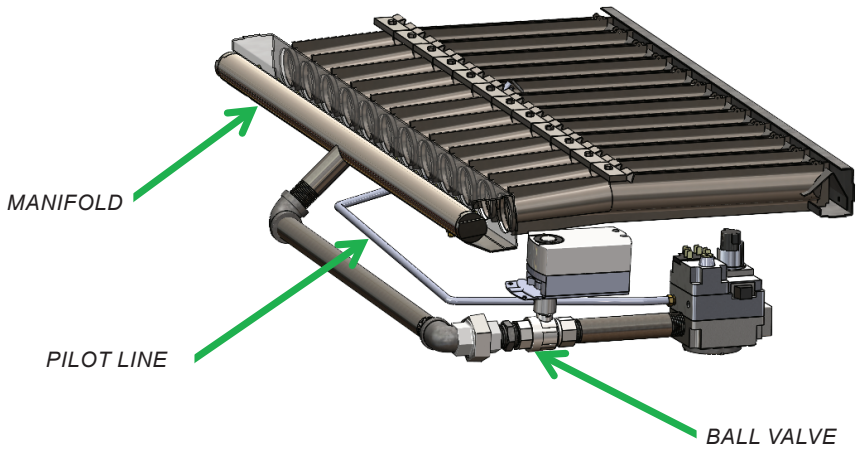


Figure 13: Gas Train Side View

3.4.5 Gas Pressure Valve

Natural gas and LPG have different gas valves. The Natural gas valve may be identified by the on/off rotary knob where the LPG valve has a switch. Figures 14 and 15 depict a typical natural gas valve. Natural gas valves may be converted for use with LPG by using a conversion kit. Valves converted for use with LPG need to have appropriate stickers applied to the valve.

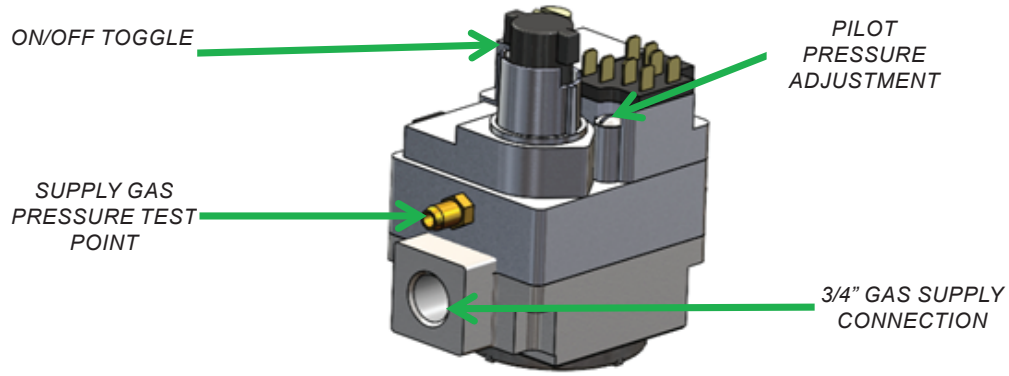


Figure 14: Gas Valve Supply View

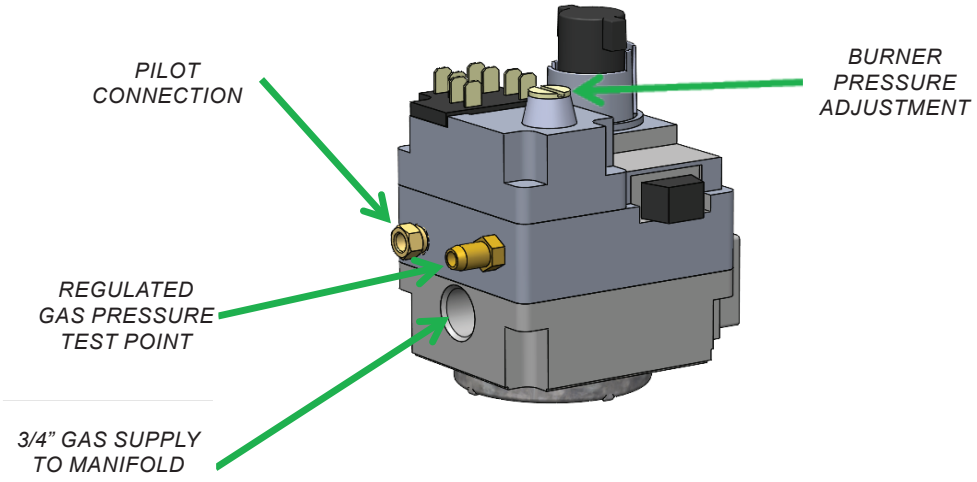


Figure 15: Gas Valve Discharge View

3.4.6 Operating Pressure of the Gas Valve

Unit	Gas Type	High Pressure (kPA)	Low Pressure (kPA)
DU10	Natural Gas	0.875	0.3
	LPG	2.5	0.875
DU12	Natural Gas	0.875	0.3
	LPG	2.5	0.875
DU16	Natural Gas	0.875	0.3
	LPG	2.5	0.875
SD22	Natural Gas	0.72	0.3
	LPG	2.5	0.875
SD26	Natural Gas	0.72	0.3
	LPG	2.5	0.875
SD30	Natural Gas	0.72	0.3
	LPG	2.5	0.875
SD35	Natural Gas	0.72	0.3
	LPG	2.3	0.875
SD40	Natural Gas	0.72	0.3
	LPG	2.5	0.875

Table 11: High and Low Operational Pressures

3.4.7 Setting Gas Valve Pressure

The regulated valve pressure is to be set based of the ranges in Table 11.

To set the regulated pressure follow the steps below.

1. Connect a manometer to the supply pressure test point.
2. Measure the incoming gas pressure to ensure that it less than 3.5kPa. If found to be greater than 3.5kPa the gas valve may be in a locked state. A pressure regulator will need to be installed upstream of the gas valve to provide the correct gas supply pressure in accordance with Table 10. If the gas valve is in a locked state the line will need to be bled between the regulator and the valve to relieve excess pressure.
3. Ensure gas pressure test point has been closed.
4. Check gas train for leaks.

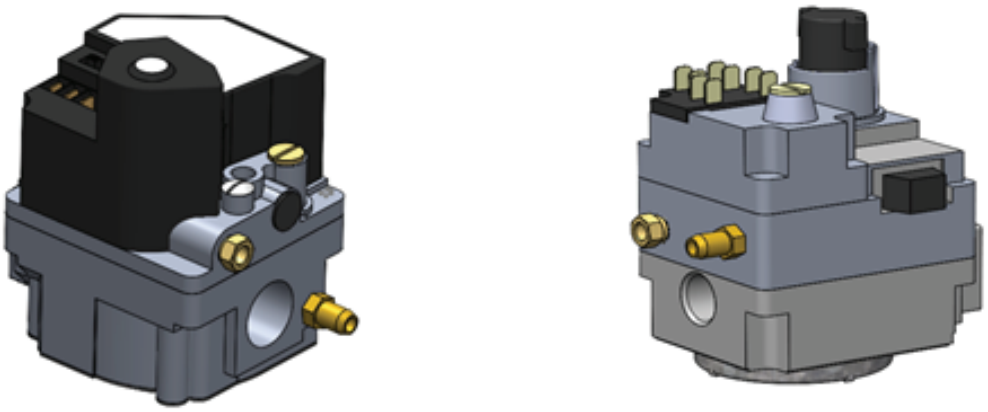


Figure 16: Typical LPG (left) and NG (right) Gas valves

3.4.8 Setting the Modulating Valve Motor

The ball valve to motor alignment and limits are factory preset. Site gas pressure may differ to factory settings therefore requiring modulating motor limit adjustment.

Aligning the Motor and Valve Shaft

1. Open gas valve fully with motor removed. (This is indicated by the valve shaft flat facing outwards) Removal of the adaptor shaft may be required to identify the shaft flat.
2. Reinstall adaptor shaft ensuring grub screws are tight.
3. Set modulating motor to 90° and install over the adaptor shaft. Tighten no.9 SHCS in Figure 17: Modulating Motor onto Adaptor Shaft.

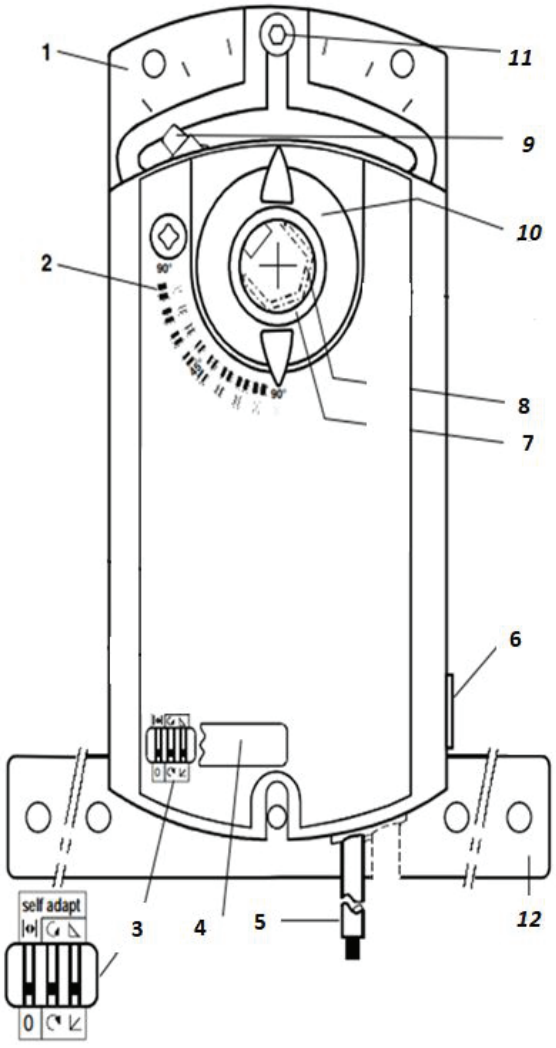
Setting Modulating Motor

The minimum low fire rate must not be less than 59% of full fire rate.

To set the fire rate follow the steps below;

1. Engage the slider (6) to disengage the gear train, set the modulating ball valve to 100% open
2. Check the test point pressure against the full gas setting
3. Low fire may be adjusted by limiting the travel of the modulating valve, utilizing adjusting screw (9) to ensure the gas cuts off before the rate is reduced too far. A rate equal to 59% of full gas rate may be obtained by adjusting the gas flow at the low fire setting, which equates to the correct minimum gas flow rate.

NG: Full Gas = .870kPa, Low Gas = .300kPa, LPG: Full Gas = 2.5kPa, Low Gas = .875kPa



1. *BASE PLATE AND MOUNTING*
2. *ROTATIONAL ANGLE SCALES 0°...90° / 90°...0°*
3. *DIL SWITCHES FOR*
   - *SELF ADAPTION*
   - *ROTATIONAL MOVEMENT DIRECTION*
   - *INVERTED OR NON INVERTED OUTPUT VOLTAGE OPERATING FUNCTION*
4. *COVER FOR DIL SWITCHES*
5. *CONNECTING CABLE FOR POWER, CONTROL SIGNAL, AND POSITION INDICATION*
6. *SLIDER TO DISENGAGE THE GEAR TRAIN*
7. *COUPLING BUSHING*
8. *CENTERING ELEMENT FOR GLB...1E (SHAFT DIAMETER 8....10MM)*
9. *POSITION INDICATOR*
10. *ADJUSTMENT LEVER WITH SHAFT FASTENING SCREW*
11. *ADJUSTING SCREW FOR ROTATIONAL ANGLE LIMITATION*
12. *MOUNTING BRACKET*

Figure 17: Modulating Motor

Correct adjustment MUST be made, too low gas pressure will result in a "light-back" condition, damaging the burner's ports and result in a buildup of soot and replacement of burners.

3.4.9 Pilot Injector Setup

The pilot mounts to a bracket attached to the bottom of a burner. The burner with the pilot attached should be in the centre of the burner chamber.

The Pilot can be removed by removing the retaining clip from the housing, then removing the injector from the housing. Care must be taken when working on the pilot system not to damage the aluminium gas hard line.

Do not modify the position of the pilot in relation to the burner. Altering the pilot can cause explosive ignition. Ensure that the pilot is secured in position with both screw and the injector clip.

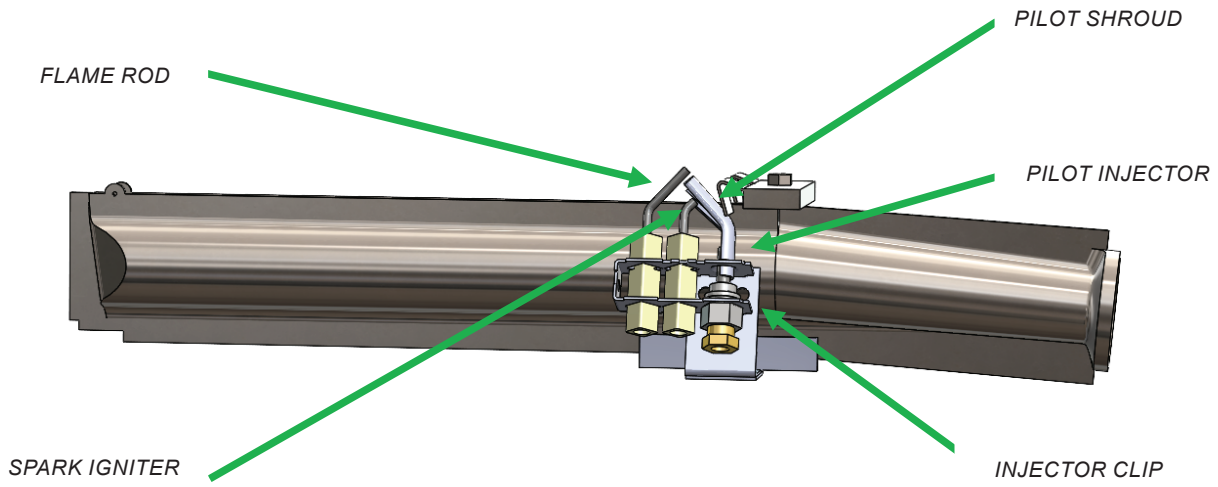


Figure 18: Pilot Assembly

3.4.10 Aeration Plates

All Gas trains require an Aeration Plate installed to achieve proper primary aeration. Ensure that the Aeration plate is installed fully in a fully closed position, with minimal gaps between the manifold and aeration plate. If the unit experiences light back issues, ensure that the aeration plate is fully closed.

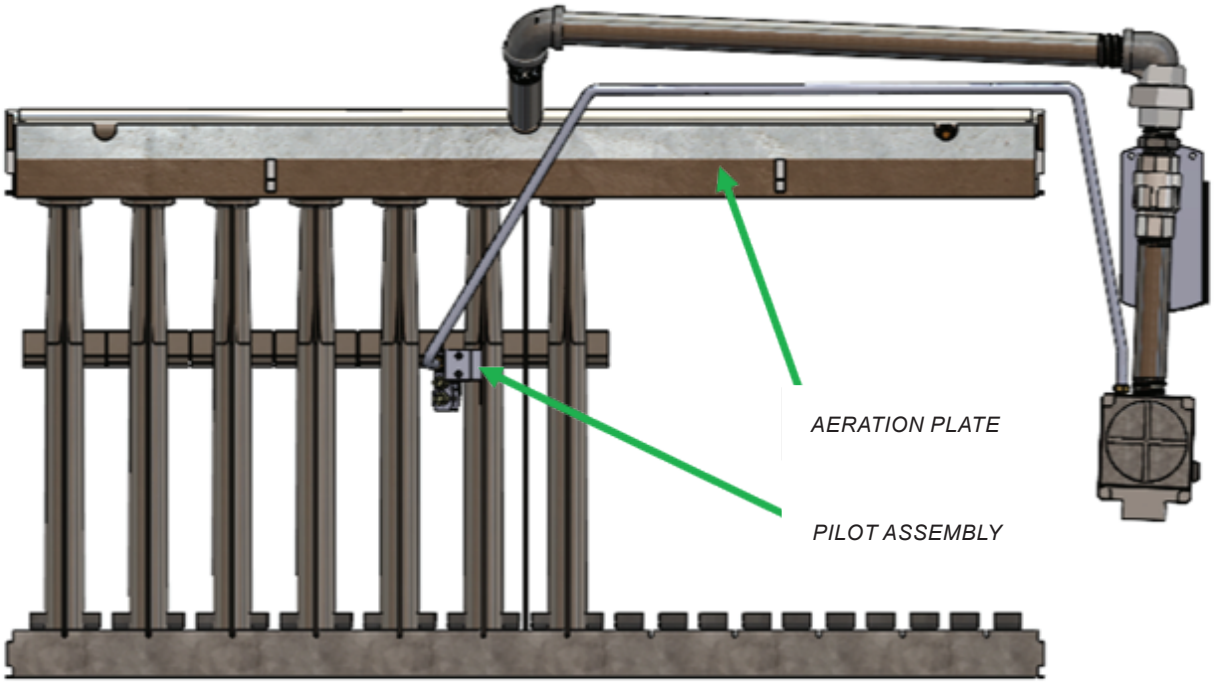


Figure 19: Aeration Plate viewed from below

COMMISSIONING INFORMATION

4.0 COMMISSIONING

Prior to commencement ensure Main Isolator Switch is OFF and correct electrical Lock Out Tag Out (LOTO) procedures are followed. **Failure to do so may result in Injury or Death.**

A commissioning report template is available in Appendix D of this document. AS5601.1 Appendix O provides additional guidelines for commissioning.

WARNING! This unit is fitted with an auto fan switch. If temperatures within the unit match the overtemp set temperature the blower fan will start without warning. Electrical isolation of the unit is the only way to prevent this from occurring.

4.1 UNIT DETAILS

1. Record unit details on the Commissioning Sheet including Model Number and Serial number which can be found on the control box.
2. A copy of the commissioning document should be kept inside the document pocket.

4.2 GENERAL INSTALLATION CHECK

1. Confirm that safe access is available to unit. If the unit is located on a roof, ensure that a certified anchoring system is installed and that the appropriate harness is available for use during commissioning.
2. Confirm the weatherproof casing is in good condition and free from damage.
3. Check that the unit is sufficiently secured and level. If located on a roof stand, ensure that the roof stand is installed as per the designing engineers' specifications.
4. Check that ductwork from the unit is correctly installed and secured by a qualified person.
5. Flue installed and secure.
6. Check that all pads are in position and free of foreign material.

4.3 ELECTRICAL CHECKS

4.3.1 Electrical Installation Checks

1. Turn OFF main isolator and follow LOTO procedures.
2. The electrical connections are to be completed by a licensed and experienced person.
3. Check that the isolator is fitted and operational. If the isolator is damaged the unit must not be commissioned or operated until the issue is resolved.
4. Check that all wiring is secure and terminated. All cable protection is in good condition.
5. Check that the single/3 phase power is connected to the unit. Test supply connection and record voltage.
6. Confirm that the thermostat is connected and operational. Refer to Section 4.5 for further details

4.3.2 Blower Box Checks

1. Check the fan motor is securely fitted and aligned. The motor should be sitting level. Confirm that the motor platform is properly secured and tighten if necessary.
2. Check that pulleys are correctly aligned. Confirm horizontal and vertical angularity as well as axial offset are not present. Confirm that all taper locks are secured.

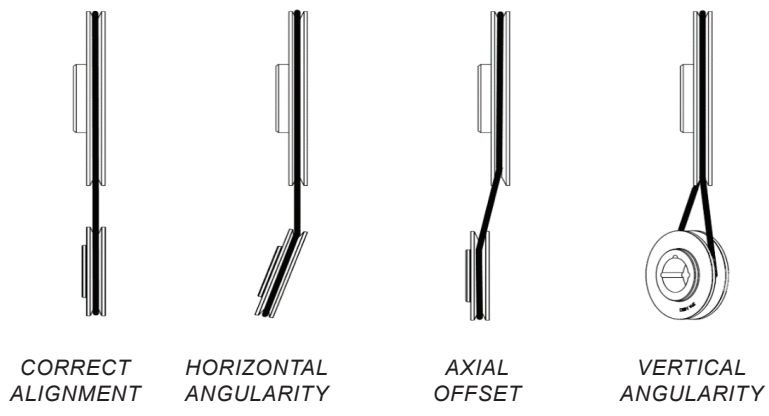


Figure 20: Pulley Alignment

COMMISSIONING INFORMATION

1. Check that the belts are correctly fitted and tensioned. Refer to manufacturer's literature for tensioning methodology and tension requirements.
2. Confirm the fan direction. If the fan is spinning in reverse, check the wiring diagram to ensure that the motor is wired in correctly. Fan direction is to be checked on high and low settings.

4.4 GAS CHECKS

4.4 1 Incoming Gas Supply Checks

1. Turn OFF main isolator and follow LOTO procedures.
2. The gas connections are to be completed by a licensed and experienced person.
3. Confirm that incoming gas lines where purged with all dirt and condensation removed prior to installation.
4. Confirm that the gas train is connected as specified in Section 3.4.4 Gas Train.
5. Check the pilot and ignition are correctly aligned to the pilot burner such that the pilot flame will enter the adjacent main burner gas stream. Refer to Pilot Injector Setup Section
6. Purge all air from the pipeline and check for leaks by using a soap solution or leak detector.
7. Check gas supply pressure before gas valve (Must be less than 3.5 kPa) Gas pressures exceeding 3.5Kpa will cause the units gas valve to "lockup" requiring relief of the line pressure prior to the valve. This is generally done by bleeding the supply line. Record results

4.4.2 Gas Train Check

Once the incoming gas supply is connected to the unit the gas train can be commissioned.

1. Confirm that the gas valve is set up for type of gas being supplied to the unit. If the valve has been converted for LPG use it will have labels attached (Figure 21: LPG Valve Labelling). Record results.

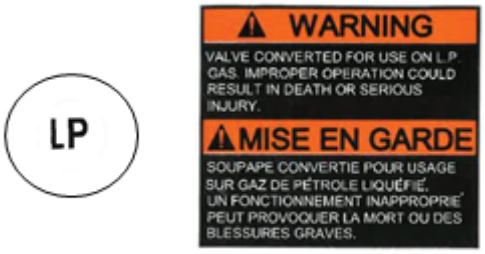


Figure 21: LPG Valve Labelling

2. Confirm that main burner spuds are the correct type for the supply gas and free from obstruction.
3. Visually inspect pipework for damage. Apply a leak detection solution to all connections to confirm that there are no leaks. Confirm that the barrel union has not come lose during transportation or installation.
4. All gas leaks cannot be confirmed until gas has been supplied to the main burner.

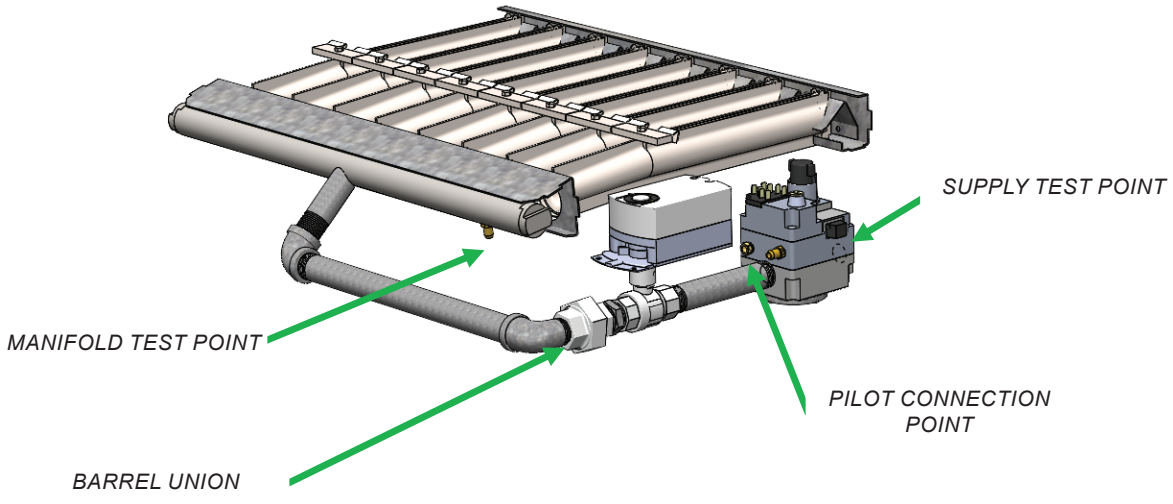


Figure 22: Gas Train Test Point

4.4.3 Setting the Modulating Valve Motor

Valve to motor alignment and limits are factory preset. Site gas pressure may differ to factory requiring modulating motor limit adjustment.

The minimum low fire rate must not be less than 60% of full fire rate.

To set the fire rate follow the steps below;

1. Engage the slider (5) to disengage the gear train, set the modulating ball valve to 100% open.
2. Check the test point pressure against the full gas setting.
3. Low fire may be adjusted by limiting the travel of the modulating valve, utilising adjusting screw (11) to ensure the gas cuts off before the rate is reduced too far. A rate equal to 60% of full gas rate may be obtained by adjusting the gas flow at the low fire setting, which equates to the correct minimum gas flow rate.

4.4.4 Modulating Motor Operational Check

After adjustments are made for site gas pressure. Checking the function of modulating motor is required.

1. Set the modulating motor to the low fire condition by manually manipulating the shaft (9).
2. Set the room temperature to the highest possible set temperature.
3. Turn on the unit.
4. Watch the modulating motor angle indicator dial. The motor should modulate from closed to fully open. A monometer should be connected to the manifold pressure test port to ensure that the correct pressure is achieved at full open.
5. Reduce the room set temperature just below the current room temperature. This operation causes the unit to reduce the gas rate as the set temperature reaches the room temp.
6. The modulating motor should begin to modulate the burner pressure down to the set low gas rate.
7. The unit should then switch off the main burner and pilot.

4.5 SETTING CONTROLS

4.5.1 High Limit Control

All units in the DU/SD range are fitted with a high temperature limiter which will trip once the unit reaches a certain temperature (usually 85°C, 105 or 115°C) that is to be. If the high limit does trip the cause should be sought and rectified as this is not a normal operating function.

The high limit control also contains another switch which functions to allow the fan to run on or restart when unit is turned “OFF” at the selector switch. This occurs to remove residual heat and to prevent the high limits from locking out. The switch will cause the fan to start if the temperature is greater than 60°C and cut it out at 32°C.

If the high limit control does activate it will need to be manually reset before the unit can be operated again.

To reset the overtemp follow the following procedure.

1. Allow for fan to run until the unit is sufficiently cooled.
2. Remove the black cap from the overtemp control.
3. Press and hold the orange button in to return the overtemp control to its initial state.

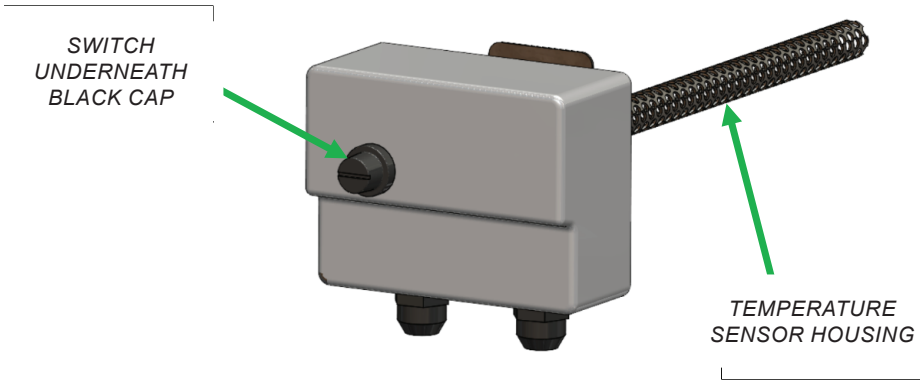


Figure 23: High Limit Control

COMMISSIONING INFORMATION

All units have two high limit controls per heat exchanger. The following steps are to be completed during the commissioning of the unit.

1. Check that the high limit control is securely installed and free from damage.
2. Confirm that the high temperature limit is as per client specification. Confirm that the control is wired into the control box.
3. Using a digital thermometer and heat gun confirm that the switch activates at the required temperature. Record Results.

4.5.2 Thermostat and User Controls

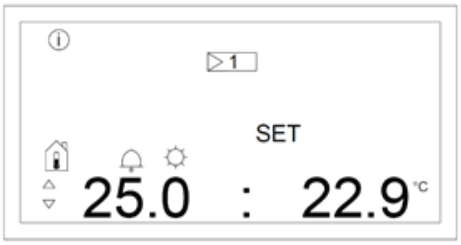
Check that the thermostat and wall switch are installed and wired back to the unit.

If a BMS is installed refer to Aira Manual AM006 for wiring information.

4.5.3 RLU Screens

The modulating valve screen indicates the percentage valve opening. If the valve is positioned less than 10% the burner will turn off. If the Position is greater than 20% the burner will turn on.

The room set temperature is indicated by the RH value. As the room thermostat set value is altered the value will change accordingly. The LH value is the current room temperature as room thermostat. The RLU has an upper limit setting of 29 Deg C.



The leaving air temperature sensor is indicated by the LH value. The leaving air temperature sensor is located on the outlet of the unit. The value indicates the current ambient temperature in the ductwork. The RH value is a calculated minimum set temperature value and is not used so can be ignored.

Figure 24: RLU Screens

The following steps are to be completed.

1. Turn on power to the unit.
2. Check the thermostat set temperature against RLU read out. Test against the entire range of the thermostat.
3. Using a digital thermometer record the temperature and confirm that the leaving air sensor and RLU read out matches.

COMMISSIONING INFORMATION

4.6 FLOW ADJUSTMENT THROUGH LEVER AND DAMPER BLADES

Outlet duct flow can be regulated via the adjustment of the outlet damper blades when installed on DU and SD units.

The dampers can be adjusted via a lock in handle located beside the control box on the duct outlet which will lock the blades in one of three positions; Full Open, 1/2 Open and Fully Closed.

Temperature rise across Heat Exchanger needs to be 11°C to 33°C. Dampers should be fully open for initial testing and gradually closed to achieve the required temperature rise.

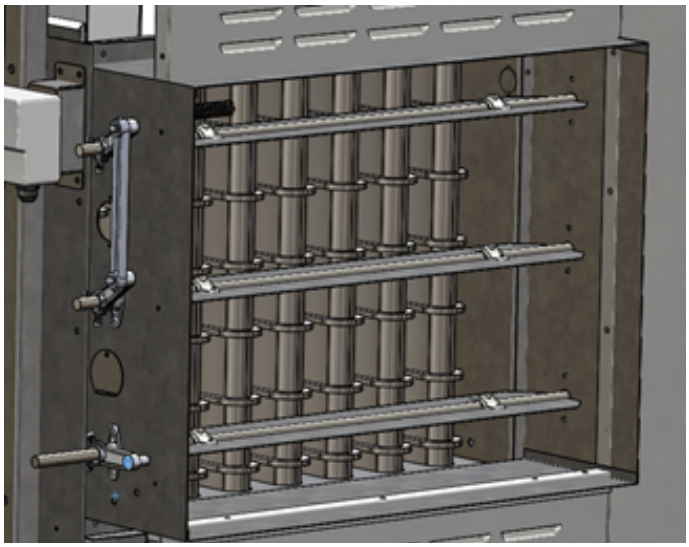


Figure 25: Dampers Full Open

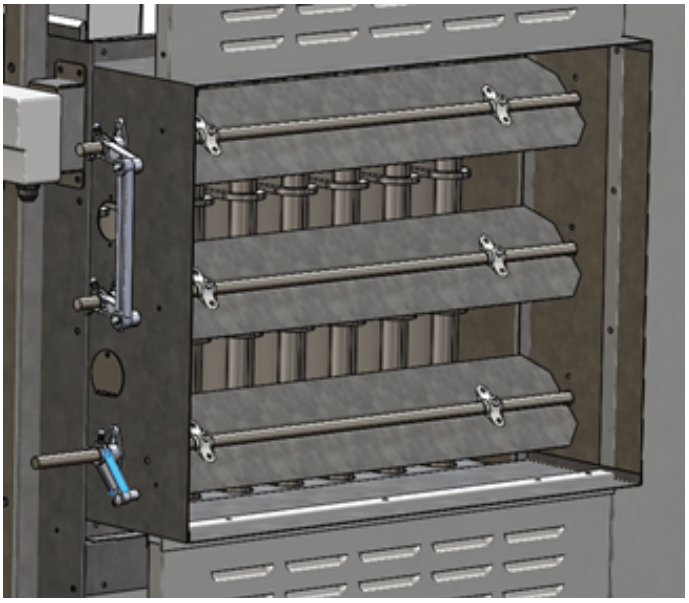


Figure 26: Dampers 1/2 Open

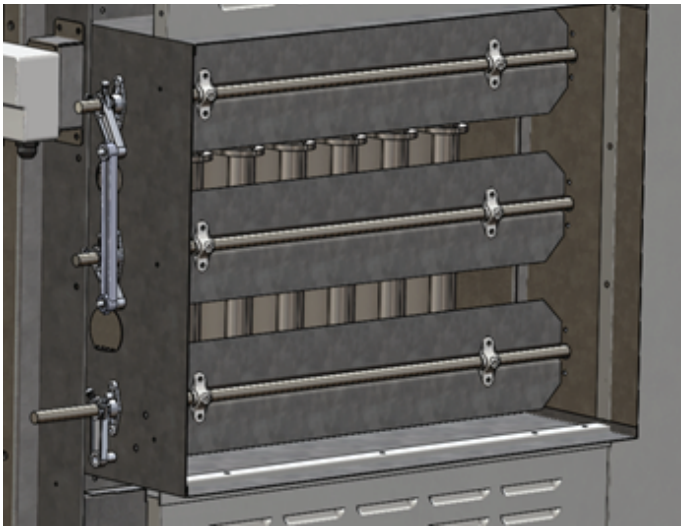


Figure 27: Dampers Fully Closed

COMMISSIONING INFORMATION

4.7 GENERAL OPERATION

1. Remove all foreign objects from blower casing and ensure that all access panels are installed and secured.
2. Connect manometers to confirm the main burner and supply pressures.
3. De-isolate gas and electrical supply to the heater.
4. Set wall switch to “Heat and low fan”. **WARNING!** Blower will begin to rotate. Ensure doors are correctly installed and no tools are present within the blower box section of the unit.
5. With power and gas to the unit and switched to heat and fan the pilot will attempt to ignite. The spark igniter should be heard briefly until the pilot is established. When pilot ignites, check that the flame is licking over the edge of the main burner adjacent. If not the pilot flame may be adjusted by the small adjusting screw located on the top of gas valve marked pilot adj. Note it may take several attempts for the pilot to light especially on LPG unit due to the long pilot gas line and small orifice size. Cold weather commissioning may also increase the pilot light time. If the pilot does not ignite refer to section 6.3 for possible causes.
6. The flame rod will sense the pilot and open the main gas valve. The main burners will ignite. Ensure that all burners are lit. Operate the unit continuously for a minimum of 45min to confirm correct operation.
7. Check operating pilot and manifold pressures against the specified pressures and adjust accordingly. Record results. Refer to Section 3.4.7 Setting Gas Valve Pressure. If correct pressure at the burner cannot be obtained by adjusting the main gas regulator in the unit, check pressure at inlet of unit stop cock. If inlet pressure is less than minimum specified on the label, either gas supply line to the unit is under sized and/or restricted or the meter outlet pressure is too low.
   WARNING: If the gas pressure is lower than specified it may result in burner light back, potentially causing damage to the burners and increased soot buildup in the heat exchanger and flue.
   Contact the local gas authority – DO NOT attempt to adjust main gas regulator where gas enters premises or at meter unless authorized to do so.
8. When the unit is turned to “HEAT” the temperature rise across the heat exchanger must be within the range of 11°C to 33°C on full flame. The RLU will display the leaving air temperature. The rise in temperature can be controlled by changing the airflow with the dampers by altering the position of the dampers. If the temperature rise is not specified it shall be set to 22°C. Once the required temperature rise is achieved the dampers are be locked into position.
9. Perform modulating motor check as per Section 4.4.4. As the room temperature approaches the set temperature the modulating motor should modulate down to low gas fire. Once the modulating motor reaches the lower set limit the main manifold pressure should be the low-pressure value specified in Table 11.
10. Once the room temperature reaches the set limit and modulation has occurred the unit will shut off the gas to the main burner or the modulating motor will perform fine adjustments to maintain a consistent temperature.
11. When the unit is operational cut power to the unit externally at an isolator and note that the flame goes out and that the gas valve shuts. After 1 minute restore power to the unit and confirm that the unit restarts and begins normal operation.

COMMISSIONING INFORMATION

4.8 SETTING UNIT FUNCTIONAL PARAMETERS

Fine tuning of the modulating motor and damper blade position may be required as every installation may have different ducting, supply pressures and heating requirements.

Leaving air dampers are set half closed from the factory but may require adjustment. The below steps are to be followed for adjusting the temperature rise. **Note: Gas rates should not be adjusted outside of unit specifications.**

1. Thermostat to max.
2. Observe RLU temperature rise on screen 2 of Figure 24: RLU Screens as it approaches the set temperature.
3. Periodically check screen 3 of Figure 24 noting the leaving air temp will rise.

These steps will lead to one of three outcomes. The unit cannot reach the set temperature, the unit reaches the set temperature and the modulating motor controls the temperature or the leaving air temperature reaches 50°C causing the unit to shut down. Examples are provided in Appendix E.

Table 9: Temperature Rise Over Heat Exchanger provides a starting point for airflows over the heat exchanger to achieve the desired temperature rise.

Model	ΔT 11°C	ΔT 28°C
DU12	2098 L/s	840L/s
DU16	2800 L/s	1118 L/s
SD26	4460 L/s	1784 L/s
SD30	5240 L/s	2100 L/s
SD35	6316 L/s	2454 L/s
SD40	6985 L/s	2785 L/s

Table 11: Temperature Rise Over Heat Exchanger

For the best result the modulation of the gas flow should keep the unit in operation rather than turning on and off. This helps reduce the inrush or cold air from cool duct work.

The modulating motor is to be adjusted by following steps in 4.4.3 Setting the Modulating Valve Motor. Continue balancing the airflow and the gas modulation until continual operation is achieved at the desired temperature rise.

4.9 COMMISSIONING RESULTS

All commissioning results should be recorded with a copy to be stored in the control box for reference during maintenance.

OPERATING INSTRUCTIONS

5.1 STARTUP - WALL SWITCH UNITS TO PROVIDE HEAT

1. Set Thermostat to desired temperature.
2. Switch the Heat switch to ON.

5.2 SHUTDOWN - WALL SWITCH UNITS PROVIDING HEAT

1.Switch the Heat switch to OFF.

5.3 BMS STARTUP AND SHUTDOWN

It is the responsibility of the BMS installer to provide instruction and training on the operation of the interface.

Note:

1. BMS wiring should be done in accordance with Aira Manual AM006. No changes should be made to the internal control box wiring.
2. For High Temperature Blower Units the RLU programming will differ to a standard unit. This can only be supplied by Seeley.International.
3. For initial startup, or for startup after a long break, the pilot may take several attempts to light due to the pilot gas line needing to prime.

5.4 OPERATIONAL FLOWCHART

5.4.1 Heating Flowchart

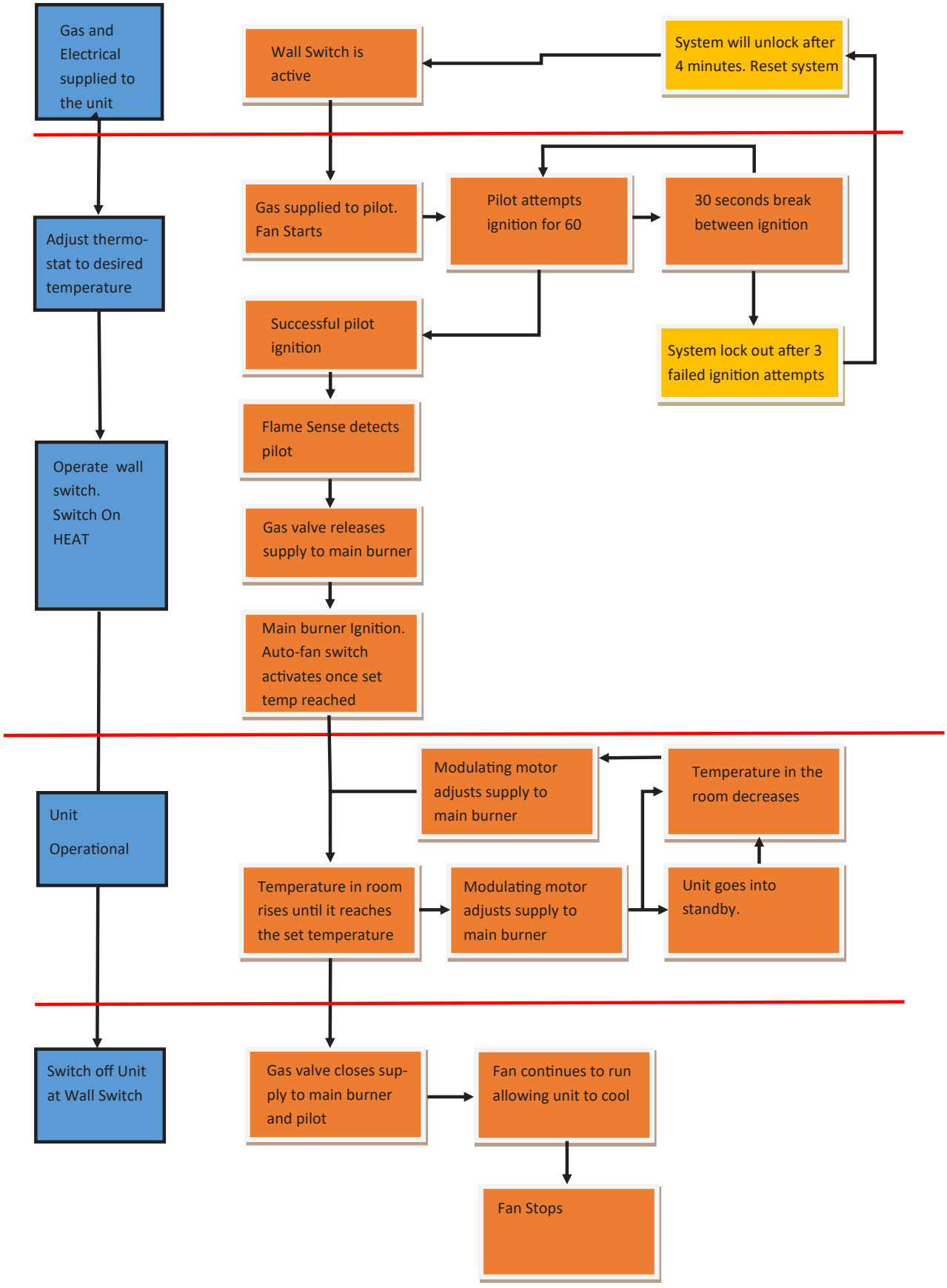


Figure 28: Operational Flow Chart

UNIT MAINTENANCE

6.0 SERVICE AND MAINTENANCE

WARNING! This unit is fitted with an auto fan switch. If temperatures within the unit match or exceed the overtemp set temperature the blower fan will start without warning. Electrical isolation of the unit is the only way to prevent this from occurring. This unit must be isolated before commencing any service or maintenance activities.

Aira DU/SD units require electrical, gas fitting and plumbing trades to service all aspects of the unit. Servicing should be carried out by a qualified Seeley International Service Technician, appointed Aira service agent or appropriately qualified trades persons. If unsure about any servicing or maintenance aspect of the unit, immediately stop work and contact Seeley International for assistance.

Aira units are often manufactured to exact customer specifications. When ordering spare parts, the unit serial number must be used to ensure the correct components are supplied.

When working on the heat exchanger section care must be taken to ensure all parts have sufficiently cooled before commencing any service or maintenance activities.

Appropriate PPE should always be worn which includes but is not limited to safety glasses, hearing protection and gloves. Additional site requirements may require additional PPE, especially when working on roof tops or in commercial/industrial facilities.

Any maintenance required by Australian Standards shall be carried out at required intervals.

Table 12 is the minimum recommended inspection and service schedule. A detailed service schedule and Maintenance checklist can be found in Appendix D. Appendix D also contains a monthly checklist for the owner

Component	Minimum Inspection and Service Schedule
Belts	Quarterly visual inspection/ 6 monthly thorough inspection
Pulleys	Quarterly visual inspection/ 6 monthly thorough inspection
Heater Maintenance	Every 6 Months
Motor	In accordance with manufacturers' specifications
Gas Controls	Pre-season

Table 12: Inspection and Service of Major Components

6.1 HEATER MAINTENANCE

6.1.1 Heater Maintenance

The frequency with which maintenance must be carried out will depend upon installation conditions and heater usage. To ensure maximum efficiency and reliability from the installation it is recommended that the instructions below be carried out at least twice a year.

Soot and dirt will prevent proper combustion. Clean flue tubes and burners before they become badly fouled. Inspect flames for irregular shape before carrying out maintenance work to determine which, if any, require attention. Switch off electricity supply at isolator and isolate Gas.

1. Drop bottom tray to give clear access to burner chamber. (if fitted)
2. Remove the pilot assembly and burner bars (refer to specific instructions below).
3. Replace bottom tray to collect dirt when cleaning tubes.
4. Disconnect flue pipe.
5. Remove draft hood assembly as follows:
   Remove sheet metal screw at rear and lift rear about 50mm, then slide slightly towards the rear to remove from offset at front.
6. Lift internal baffle assemblies from flue tubes.
7. Clean baffle and inner surface of flue thoroughly, a 40 or 45mm diameter wire brush with a long handle is recommended.
8. Remove dirt from bottom pan.

UNIT MAINTENANCE

6.2 MAJOR SERVICE/COMPONENT REPLACEMENT PROCESS

6.2.1 Electrical Components

6.2.1.1 Electrical Wiring

The electrical wiring of the unit should be visually inspected every 6 months and pre-season to ensure that it is free from damage. If visible damage is noted, all damaged wiring should be replaced with reference to the wiring diagrams found in Appendix B.

The following are the recommended steps for replacing damaged electrical wiring.

1. Electrically isolate unit
2. Remove control box cover
3. Inspect electrical wiring for damage
4. Remove damaged wiring and replace.
5. Replace control box cover and test unit operation

6.2.1.2 Isolator Fitted and Operational

Check that the isolator is present and free from damage. Isolate unit and confirm that power is not available at the unit.

6.2.1.3 Single or 3 Phase Power Test

A qualified electrician is to test the incoming power supply to the unit. The supply is to be tagged with available voltage and date of test.

6.2.1.4 Overtemp Control Switch

Check that the overtemp control switches are fitted properly and free from damage. If there is no physical (damage) evident the overtemp switches are to be tested pre-season.

The following are the recommended steps to test the overtemp control switches.

1. Electrically isolate the unit and remove the switch from the unit.
2. De-isolate the electrical supply and turn on the unit.
3. Using a heat gun and a digital thermometer heat the overtemp control switch until the switch activates.
4. Turn off unit. The fan should continue to run until the overtemp control switch reaches 32.
5. Refit the overtemp control switch.

The following are the recommended steps for removing the overtemp control switches

1. Turn OFF main isolator and follow LOTO procedures. **Failure to do so may result in Injury or Death!**
2. Disconnect from control box.
3. Remove single screw located on top of the plastic enclosure.
4. Carefully extract sensor.
5. To Refit sensor complete sequence in reverse order

6.2.1.5 Thermostat Fitted and Operational

Check that the thermostat is fitted and free from damage. Refer to BMS manual or manufacturers' literature to confirm calibration of thermostat.

6.2.1.6 Fan and Motor (When fitted as part of Appliance)

Motors range in weight from approximately 20 to 270Kg's. Generally the larger the unit the larger the motor. Refer to technical data sheet or contact Seeley International with the units serial number to identify which motor you have. The use of a lifting apparatus and/or several service personnel may be required for heaver motors.

Tools Required: Metric open end ring spanner set, Drive belt tensioning gauge, Pry bar or lever bar, ½" Socket set, metric hex key set, nylon hammer

1. Electrically isolate unit.
2. Disconnect Blower motor.
3. Loosen motor platform and jacking bolts if fitted.
4. Slacken and remove drive belt/s.
5. Extend motor platform fully to gain access to motor mount bolts.
6. Removed motor mount nuts/bolts (The rear bolts may remain in place).
7. Check motor weight on name plate and use appropriate lifting equipment if necessary.
8. Remove motor.

9. Replace motor in reverse order.
10. To tighten belts, use prybar to assist in lifting motor into place whist tightening locking bolts. Larger motors will have jacking bolts in the motor platform to hold the weight of the motor. Adjust these to the required length to achieve correct belt tension.

Note:

a). Bolt tensions should be in accordance with bolt manufacturer's recommendations for the bolt diameter, thread type and material. All mount bolts should be high tensile and a minimum grade of 8.8. Anti-seize should be used on all stainless steel bolts.

b). Belt Tensioner recommended when replacing/re-installing belts.

6.2.1.7 Belts

Replacement of drive belts needs to be conducted routinely. The frequency of replacement will be determined by hours of operation, operational environment and previous maintenance schedule. Belts should be visually inspected monthly with a thorough inspection every 3rd month.

Tools Required: Metric open-end ring spanner set, Drive belt tensioning gauge, Pry bar or lever bar and ½" Socket set.

The following are the recommended steps to replace the drive belts. Before works commence ensure all spare parts ordered match that of the unit they are replacing. Aira units are often custom specified for each application and may have components which differ from the standard product offering.

1. Electrically isolate unit.
2. Remove Blower Box access panels.
3. Loosen motor platform bolts.
4. Slacken and remove drive belt/s.
5. Check Pulleys for excess wear, replace if necessary.
6. Replace Belt/s. For multiple drive belt units ensure that they are a matched set. Belts from different suppliers and different batch lots will differ in length.

6.2.1.8 Pulleys

Pulleys are manufactured from steel or aluminium and will generally require replacement less than the drive belts. Any wear on the pulleys will shorten the drive belt life, therefore should be replaced if there are any signs of wear.

Tools Required: Metric open end ring spanner set, Drive belt tensioning gauge, Pry bar or lever bar, ½" Socket set, metric hex key set, nylon hammer.

1. Electrically isolate unit.
2. Remove Blower Box access panels.
3. Loosen motor platform to scroll nuts.
4. Slacken and remove drive belt/s.
5. Remove Pulley/s from Taperlock bush. A taper lock bush is used to secure the pulleys to the drive shaft. If unsure on how to remove the taper lock bushes refer to the Fenner brand bush guide. Alternately contact Seeley International for Service assistance.

6.2.1.9 Fan Direction

Check that the fan is blowing in the right direction. If the fan is running in reverse change check the wiring diagram and swap the power to the motor.

6.2.2 Gas Components

6.2.2.1 Gas Controls

Gas controls and gas valve shall not be dismantled or serviced in the field. If necessary, faulty units should be replaced with reconditioned or new units. Check before re-assembly that gas lines are clean and free from dirt and deposits.

After maintenance work has been carried out and the gas burner and gas controls have been re-assembled, check all gas lines for leaks and check that all electrical terminals are secure.

NOTE: All wiring must be done in accordance with applicable local codes. If any of the original wiring as supplied with the appliance requires replacement, it must be replaced with wire with a temperature rating of at least 105°C.

6.2.2.2 Gas Connection Visual inspection

The incoming gas supply is to be visually inspected for damage and leaks. If visual damage is evident or gas can be smelt, the supply is to be isolated and location of the leak to be identified and fixed. If any corrosion is present the gas line is to be replaced.

6.2.2.3 Gas Isolation Fitted and in Good Working Condition

The gas isolation valve is to be examined to make sure that it is present and in good working condition.

6.2.2.4 Gas Supply Pressure

The gas supply pressure is to be read at the unit gas valve and checked against table 4 to ensure that it falls within the required range.

6.2.2.5 Gas Burner Pressure (High/Low)

The regulated gas pressure is to be checked at both the high and low points of the operating ranges. If the main burner is not lighting or back burning check that the following.

1. The pilot is lit and in the correct position.
2. The correct gas injectors are installed for the type of gas (#44 for Natural Gas, #55 for LPG).
3. Sufficient supply pressure is available.

6.2.2.6 Gas Injectors

Check that the correct injectors are installed and that they are free of debris.

6.2.2.7 Draft Diverters

Check the draft diverter for signs of damage and rust. If rust has cause loss of structural integrity the diverter is to be replaced.

6.2.2.8 Pilot Assembly

Check that the pilot is free from damage and clear of obstructions. Ignite the heater and examine the colour and consistency of the pilot and main burner. The pilot should be a consistent blue flame with the main burner providing a consistent flame across all burners after ignition.

The following are the recommended steps to service the pilot assembly and main burners.

1. Uncouple pilot union at valve.
    a). Uncouple thermocouple union at valve.
    b). If electronic ignition – remove flame rod and ignition leads.
2. Remove screws holding pilot burner to pilot mounting bar and remove pilot burner assembly.
3. Remove burner tubes one at a time by sliding bars sufficiently towards the front of the heater (against the spring resistance) to disengage the rear end of the burner tube from the manifold plate; lower end of burner tube and remove from front location plate.
4. CLEANING MAIN BURNER BARS: Lightly brush away any deposit from the burner bars and inspect for damage or blocked ports.
5. Replace burners, making certain that they seat properly in place.
6. Check the flame sense and igniter cabling for damage, replacing if damaged.
7. Secure the pilot assembly to the burner.

6.2.2.8.1 CLEANING PILOT BURNER:

1. THERMOCOUPLE FITTED UNITS: Wipe off any carbon deposits on end of thermocouple and ensure that pilot burner is free from deposits.
   Remove orifice spud fitting and using a small wire brush, clean pilot body, orifice and burner parts. Blow off loose particles.
   Assemble and install in original position.
   On relighting, adjust pilot flame to surround thermocouple for about 10mm. Flame must be soft and blue – not hard, noisy or yellow.
2. FLAME ROD FITTED UNITS: Wipe off any carbon deposits on flame rod, ignition electrode or ground fins and ensure that pilot burner is free of deposits.
   Remove orifice spud fitting (if fitted) and using a small wire brush, clean pilot body, orifice, electrodes and burner parts. Blow off loose particles.
   Assemble and install in original position. Adjust electrode gap between ignition electrode and pilot burner tip. This gap MUST be 2mm to 3mm.
   Flame rod gap must be adjusted to give 2 microamperes (pa) or more for stable performance. Adjust the flame rod to produce maximum output by bending the rod to left and/or right and raising slightly if necessary. Size of pilot flame may also require adjustment. Pilot flame must be soft and blue – not hard, noisy or yellow. Aeration shutter (if fitted) may require adjustment.

6.2.2.9 Leaving Air Sensor

Remove Sensor

1. Turn OFF main isolator and follow LOTO procedures. **Failure to do so may result in Injury or Death!**
2. Disconnect from control box.
3. Remove screws holing sensor support bracket.
4. Extract from unit.
5. Remove sensor from bracket.
6. To refit sensor, complete sequence in reverse order.

6.2.3 Casing Components

6.2.3.1 Weatherproof Casing Condition

Check the weatherproof casing for signs of damage, rust and leaks.

6.2.3.2 Duct Condition

Visually inspect the ductwork connection into the unit for damage. When the unit is operating inspect the ductwork for leaks where visible.

6.2.3.3 General Installation

Visually inspect the mounting and how the unit is secured to the roof/ground. Ensure that the unit is stable and correctly aligned with the ductwork.

6.2.3.4 Access to Unit

Check that access to the unit is free of obstructions. If the unit is located on a roof and an anchor system and harness are certified and maintained by an appropriately qualified individual.

6.2.3.5 Maintenance Records

Ensure that maintenance records are up to date and stored in a location where they are protected from the weather and other possible causes of damage.

UNIT MAINTENANCE

6.3 FAULT FINDING

6.3.1 Fault Finding Heater

FAULT	POSSIBLE CAUSE	REMEDY
Pilot Flame Goes Out	1. Flame too small. 2. Down drafts or negative pressure in room. 3. Dirt in pilot line or orifice. 4. Gas pressure fluctuates widely. 5. Pilot flame “lifts”. 6. Low gas pressure at unit.	1. Defective thermocouple or gas valve. 2. Exhaust fans will cause trouble unless adequate “make-up” air is supplied. Correct any defective venting. 3. See cleaning instructions. 4. Install a pilot regulator. 5. Adjust pilot gas regulator and/or adjust pilot burner aeration shutter (if fitted). 6. Increase line pressure or incoming pipe size.
Pilot Flame Lights but Will Not Hold In	1. Thermocouple not yet heated. 2. Pilot flame too small or yellow. 3. Defective thermocouple.	1. Allow at least 15 seconds to heat up. 2. Clean pilot line, primary air opening orifice Adjust flame to surround thermocouple about 10mm. Flame must be soft, quiet and blue. 3. To check, use a Voltmeter and adaptor. Volt readings on a closed circuit using an adaptor must be at least 10 mV. If reading is lower replace the thermocouple. If reading is higher, the gas valve is defective and requires replacement. If a Voltmeter is not available, replace the thermocouple with a new one. If the unit still fails to operate the valve must be defective.
Pilot flame does not ignite, or, no ignition spark	1. Unit not calling for heat 2. Modulating Valve in Fully Closed Position 3. Fuse Blown 4. Remote Reset not working 5. Gas Line not primed	1. Check thermostat is calling for heat. 2. Check that end switch in modulating valve (if fitted) is “made”. 3. Check 2 Amp fuse in low voltage circuit. 4. Check that remote reset button (if fitted) is in “made” position 5. Purge and prime gas line
Burners Do Not Come On When Pilot Flame is Alight and Room Thermostat is “MADE”	1. Loose electrical connection or gas valve not in circuit. 2. Limit switch defective or stuck in “open” position. 3. Gas valve defective – stuck in close position.	1. See wiring diagram – check for electrical supply at valve terminals in junction box with test lamp or Multimeter. 2. Bridge across limit switch terminals. If burners light, replace switch. 3. Replace gas valve.
Unit Overheats and Locks Out on Limit Switch	1. Gas valve stuck in open position. 2. Inadequate air delivery from blower. 3. Poor air flow patterns through heater. 4. Defective fan switch. 5. Dirt on fan blades or clogged filters. 6. Defective fan switch. 7. System fan motor cutting out on overload.	1. Replace gas valve. 2. Check blower speed and for obstructions, check for excessive system static pressure. 3. Ensure that air flow across heat exchanger is uniform. Adjust to give maximum velocity across bottom section of heat exchanger. 4. Fan control must start blowers within 3 minutes after burners go on (ON/OFF units only). Replace fan switch. 5. Clean fan and/or replace filters. 6. Replace switch. 7. Check for high or low voltage. Check for defective motor or motor overload.
System Fan Motor Fails to Operate Within 3 Minutes	1. Fan control set too high. 2. Loose wiring connection.	1. Adjust setting (adjustable type). Replace if fixed type. 2. Make sure all wiring connections are tight. Connect line voltage directly to motor. 3. Replace fan control.
Burner Flames are Yellow or Tend to Float	1. Gas input too high due to oversized injectors. 2. Incorrect injectors installed. 3. Gas line pressure over 3.5 kPa. 4. Exhaust fans causing faulty draft. 5. Improper flueing. 6. Dirty flue tubes (Draft OK at relief opening). 7. Inadequate combustion air.	1. Refer to “Venting” in Australian Standard (AS 5601)”. 2. Consult manufacturer for proper orifice size. 3. Install high-pressure regulator if line pressure cannot be reduced. 4. Provide opening to admit adequate fresh air to room to eliminate negative pressure. Provide ‘make-up’ air if necessary. 5. See “Flues” Australian Standards, “AS5601”. 6. See burner cleaning instructions. 7. *NOTE: Faulty draft can be determined by holding a lighted match at the top of the front relief opening. Flame will be pulled in if draft is OK or pushed out if draft is poor.

FAULT	POSSIBLE CAUSE	REMEDY
Heater Not Delivering Proper Amount of Heat	1. Under sized orifices or gas pressure too low 2. Limited air delivery 3. Dirty flue tubes	1. Check with gas-company or manufacturer before changing injectors or adjusting regulator. Be sure that gas pipe sizing is adequate 2. Clean filters (if fitted) and check fan speed. Clean blower blades 3. See cleaning instructions
Flame Light Back And / Or Burning at Orifices	1. Incorrect manifold position 2. Gas input too low at full fire 3. Defective burner ribbon 4. Excessive primary air 5. Low fire rate set too low 6. Incorrect burner ribbons 7. Out of Spec Burner	1. Contact Service agent for investigation 2. Increase gas pressure (by regulator if possible) 3. Replace burner 4. Adjust primary air shutter for correct primary air. Applies LPG and Towns gas units only 5. Adjust bypass rate screw (high/low units) or reset auxiliary switch cam (modulating units
Delayed or Rough Ignition	1. Dirt in main orifices 2. Burners covered with scale or other foreign matter 3. Poor pilot flame or position 4. Check high and low gas fire rates are correct 5. Burner cross light bars not positioned correctly	1. Remove and clean 2. Remove and clean 3. Realign Pilot to Burner 4. As per Commissioning 5. Remove burners and align
Burners do not light	1. Exceed 3.5kPa inlet causing gas valve to lock.	1. Isolate Gas Supply 2. Remove inlet gas fitting to depressurize valve 3. Reduce Gas pressure at regulator to below 3.5kPa 4. Reconnect gas supply and test at test point

Table 13: Heater Fault Finding

6.4 REPLACEMENT PARTS LIST

Contact Seeley Spare Parts for comprehensive spare parts list, Model and Serial Number will be required.

Part No	Description	No
PB823	Burner	See Technical Specification
PB203	LPG Gas Injector #55	See Technical Specification
PB213	Burner Spud #44 – Natural Gas	See Technical Specification
PI004	Injector Pilot LPG	See Technical Specification
PB772	Pilot Injector NG 0.57mm	See Technical Specification
PC332	WR Gas Valve ¾" 24V	1
PV051	Ball Valve ¾" ITAO ART 066	1
PC353	Modulating Motor	1
9656325	Modulating Coupling Shaft	1
WD-D3033	Control Box	1
PC816	HI LIMIT/MANUAL RESET 85 DEG C	1
PC817	HI LIMIT/MANUAL RESET 85C T/S	1
PZ076	FLAME ROD CLIP WITH PZ077	1
PB509	Damper Blade Bearing	6
N/A	Taper lock Pulley	Contact Seeley Service
N/A	Taper lock Bush	Contact Seeley Service
N/A	Fan Belt	Contact Seeley Service
N/A	Motor	Contact Seeley Service

Table 14: Spare Parts List

APPENDIX A: AGA TYPE B INFORMATION

Contact Seeley International for further details

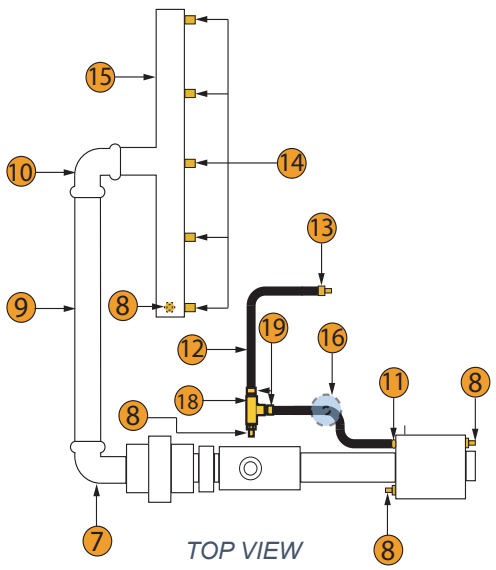
APPENDIX B: ELECTRICAL INFORMATION

Please refer to

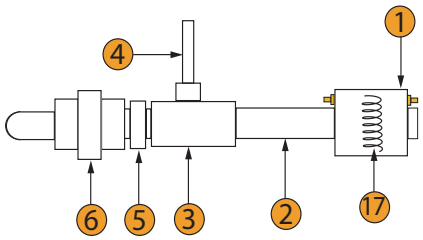
- **AM006 Aira Control Configuration Options DU/SD**
- **WD-CH641 DU SD Control Box Wiring Diagrams**

APPENDIX C: GAS TRAIN INFORMATION

MODULATING GAS VALVE – NATURAL GAS										
Item Number	**Part Number**	**Description**	**DU10**	**DU12**	**DU16**	**SD22**	**SD26**	**SD30**	**SD35**	**SD40**
1	PC332 PV326	WR GAS VALVE ¾ 24V 36C68C or 36H32409	1	1	1	1	1	1	1	1
2	648613	PIPE ¾" MEDIUM GAL (mm)	150	150	150	150	150	150	150	150
3	PV051	BALL VALVE ¾" ITAP ART 066	1	1	1	1	1	1	1	1
4	9656325	MODULATING COUPLING SHAFT SML	1	1	1	1	1	1	1	1
5	PN037	NIPPLE GAL HEX ¾"	1	1	1	1	1	1	1	1
6	PU009	UNION BARREL GAL BS 3*4" F/F	1	1	1	1	1	1	1	1
7	PB419	BEND GAL ¾" M & F"	1	1	1	1	1	1	1	1
8	PP238	PRESSURE TEST POINT 1/8" G09	3	3	3	3	3	3	3	3
9	648613	PIPE ¾"MEDIUM GAL (mm)	160	240	320	400	480	560	680	760
10	PE071	ELBOW GAL ¾" F&F"	1	1	1	1	1	1	1	1
11	PZ643	1/8NPT X ¼ NUT & OLIVE	1	1	1	1	1	1	1	1
12	PT032	TUBE ALUMINIMUM 6.35mmODX1.42	330	410	490	570	650	730	850	930
13	PB773	PILOT INJECTOR NG 0.57mm	1	1	1	1	1	1	1	1
14	PB213	BURNER SPUD #44 – NATURAL GAS	5	6	8	10	12	14	17	19
15	VARIOUS	NG MANIFOLD INJECTOR	PM300	PM301	PM302	PM303	PM304	PM305	PM306	PM307
16	NOT REQUIRED	-	-	-	-	-	-	-	-	-
17	NOT REQUIRED	-	-	-	-	-	-	-	-	-
MODULATING GAS VALVE – LPG										
Item Number	**Part Number**	**Description**	**DU10**	**DU12**	**DU16**	**SD22**	**SD26**	**SD30**	**SD35**	**SD40**
1	PV326	WR GAS VALVE 36H32-409 24V	1	1	1	1	1	1	1	1
2	648613	PIPE ¾" MEDIUM GAL	150	150	150	150	150	150	150	150
3	PV051	BALL VALVE ¾" ITAP ART 066	1	1	1	1	1	1	1	1
4	9656325	MODULATING COUPLING SHAFT SML	1	1	1	1	1	1	1	1
5	PN037	NIPPLE GAL HEX ¾"	1	1	1	1	1	1	1	1
6	PU009	UNION BARREL GAL BS 3*4" F/F	1	1	1	1	1	1	1	1
7	PB419	BEND GAL ¾" M & F"	1	1	1	1	1	1	1	1
8	PP238	PRESSURE TEST POINT 1/8" G09	3	3	3	3	3	3	3	3
9	648613	PIPE ¾"MEDIUM GAL	160	240	320	400	480	560	680	760
10	PE071	ELBOW GAL ¾" F&F"	1	1	1	1	1	1	1	1
11	PZ643	1/8NPT X ¼ NUT & OLIVE	1	1	1	1	1	1	1	1
12	PT032	TUBE ALUMINIMUM 6.35mmODX1.42	330	410	490	570	650	730	850	930
13	PB774	PILOT INJECTOR LPG SUITS PB772	1	1	1	1	1	1	1	1
14	PB209	LPG MANIFOLD INJECTOR	5	6	8	10	12	14	17	19
15	VARIOUS	MANIFOLD	PM300	PM301	PM302	PM303	PM304	PM305	PM306	PM307
16	PG149	REGULATOR; MAXITROL RV12 1/8" Optional	1	1	1	1	1	1	1	1
17	PC394	LPG CONVERSION KIT WHITE ROGER	1	1	1	1	1	1	1	1



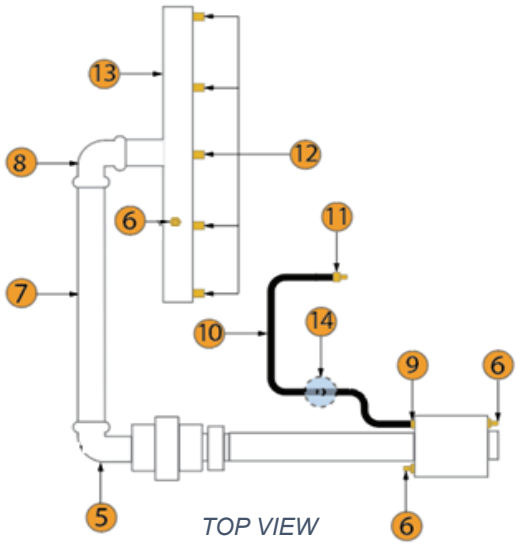
TOP VIEW



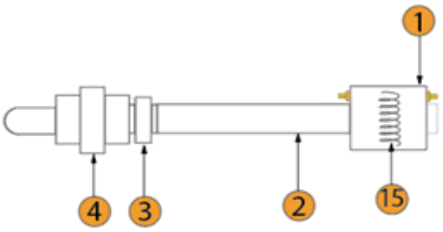
SIDE VIEW

APPENDIX C: GAS TRAIN INFORMATION

GAS TRAIN ON/OFF – NATURAL GAS										
Item Number	**Part Number**	**Description**	**DU10**	**DU12**	**DU16**	**SD22**	**SD26**	**SD30**	**SD35**	**SD40**
1	PC332	WR GAS VALVE ¾ 24V 36C68C-	1	1	1	1	1	1	1	1
2	648613	PIPE ¾" MEDIUM GAL (mm)	150	150	150	150	150	150	150	150
3	PN037	NIPPLE GAL HEX ¾"	1	1	1	1	1	1	1	1
4	PU009	UNION BARREL GAL BS 3*4" F/F	1	1	1	1	1	1	1	1
5	PB419	BEND GAL ¾" M & F"	1	1	1	1	1	1	1	1
6	PP238	PRESSURE TEST POINT 1/8" G09	3	3	3	3	3	3	3	3
7	648613	PIPE ¾"MEDIUM GAL (mm)	160	240	320	400	480	560	680	760
8	PE071	ELBOW GAL ¾" F&F"	1	1	1	1	1	1	1	1
9	PZ643	1/8NPT X ¼ NUT & OLIVE	1	1	1	1	1	1	1	1
10	PT032	TUBE ALUMINIMUM 6.35mmODX1.42	330	410	490	570	650	730	850	930
11	PB773	PILOT INJECTOR NG 0.57mm	1	1	1	1	1	1	1	1
12	PB213	NG MANIFOLD INJECTOR	5	6	8	10	12	14	17	19
13	VARIOUS	MANIFOLD	PM300	PM301	PM302	PM303	PM304	PM305	PM306	PM307
14	NOT REQUIRED	-	-	-	-	-	-	-	-	-
15	NOT REQUIRED	-	-	-	-	-	-	-	-	-
GAS TRAIN ON/OFF – LPG										
Item Number	**Part Number**	**Description**	**DU10**	**DU12**	**DU16**	**SD22**	**SD26**	**SD30**	**SD35**	**SD40**
1	PV326	WR GAS VALVE 36H32-409 24V	1	1	1	1	1	1	1	1
2	648613	PIPE ¾" MEDIUM GAL	150	150	150	150	150	150	150	150
3	PN037	NIPPLE GAL HEX ¾"	1	1	1	1	1	1	1	1
4	PU009	UNION BARREL GAL BS 3*4" F/F	1	1	1	1	1	1	1	1
5	PB419	BEND GAL ¾" M & F"	1	1	1	1	1	1	1	1
6	PP238	PRESSURE TEST POINT 1/8" G09	3	3	3	3	3	3	3	3
7	648613	PIPE ¾"MEDIUM GAL	160	240	320	400	480	560	680	760
8	PE071	ELBOW GAL ¾" F&F"	1	1	1	1	1	1	1	1
9	PZ643	1/8NPT X ¼ NUT & OLIVE	1	1	1	1	1	1	1	1
10	PT032	TUBE ALUMINIMUM 6.35mmODX1.42	330	410	490	570	650	730	850	930
11	PB774	PILOT INJECTOR LPG SUITS PB772	1	1	1	1	1	1	1	1
12	PB209	LPG MANIFOLD INJECTOR	5	6	8	10	12	14	17	19
13	VARIOUS	MANIFOLD	PM300	PM301	PM302	PM303	PM304	PM305	PM306	PM307
14	PG149	REGULATOR; MAXITROL RV12 1/8" Optional	1	1	1	1	1	1	1	1
15	PC394	LPG CONVERSION KIT WHITE ROGER	1	1	1	1	1	1	1	1



TOP VIEW



SIDE VIEW

APPENDIX D: COMMISSIONING REPORT

		Pass = ✓ Adjust = A Attention Req. = X
Unit Details	Model Number	
	Serial Number	
	Installer	
	Installation Date	
	Site Address	
	Unit Condition	
General Installation	Access to the Unit	
	Condition of Casing	
	Unit is adequately secured	
	Structural bolts and grub screws tight	
	Roof Stand Installation	
	Duct Work to unit connected	
	Flue Installation	
Electrical Commissioning	Have Electrical connections been completed by a licensed, experienced person	
	Isolator fitted and operating	
	Single or 3 phase power (test)	V
	Fan Motor / Alignment (if fitted)	
	Pulleys/ Alignment (if fitted)	
	Fan Belts properly tensioned (if fitted)	
	Fan direction correct (if fitted)	
	Thermostat Connected/Operational	
Gas Commissioning	Have Gas connections been completed by a licensed, experienced person?	
	Gas Isolation Fitted	
	Gas Supply free of condensate and deposits	
	Gas Train Connections	
	Pilot Connection	
	Incoming Line Purge	
	Incoming Gas Pressure	kPa
	Gas Valve Converted for LPG	
	Correct Spuds Installed and Free of Obstructions	
	Visual Inspection of pipe work with leak detector	
	Modulating Motor Set and Operational Check	
Controls	High Limit Control securely installed and free of damage	
	High Limit Temp as specified	
	High Limit Control Wired In	
	High Limit Control Trips when Heat Applied	
	Thermostat and Rotary Switch connected	
	BMS connection (if fitted)	
	Thermostat Range confirmed on RLU	
	Leaving Air Temp confirmed on RLU	
	Damper Blade Movement	
General Operation	All Foreign Objects Removed from unit	
	All Access Panels Installed and Secure	
	De-isolate Gas Supply	
	De-isolate Electrical Supply	
	Heat on and Fan Low on Wall Switch begins ignition sequence	
	Pilot Ignition	
	Main Burner Ignition	
	Pilot Pressure	kPa
	Main Burner Pressure	kPa
	Temperature Rise Across Heat Exchanger	°C
	Damper Position	
	Dampers Locked	
	Secure Location for Results communicated with owner	

APPENDIX D: COMMISSIONING REPORT

Electrical Commissioners Details	Name:	Date:
	License number:	Signature:
Gas Commissioners Details	Name:	Date:
	License number:	Signature:
Water Commissioners Details	Name:	Date:
	License number:	Signature:

Commissioning Notes:

APPENDIX E: TEMPERATURE RISE OVER HEAT EXCHANGER

APPENDIX E1 - LEAVING AIR TEMP EXCEEDS 50°C

HCV12 with an airflow of 840 L/s over the heat exchanger to achieve a 28°C rise in temperature. The outside air temperature is 25°C. Thermostat is set to 29°C .

As the leaving air temperature is greater than 50°C the unit will shut down. To stop the unit from shutting down the dampers need to be opened further to allow for greater airflow across the heat exchanger.

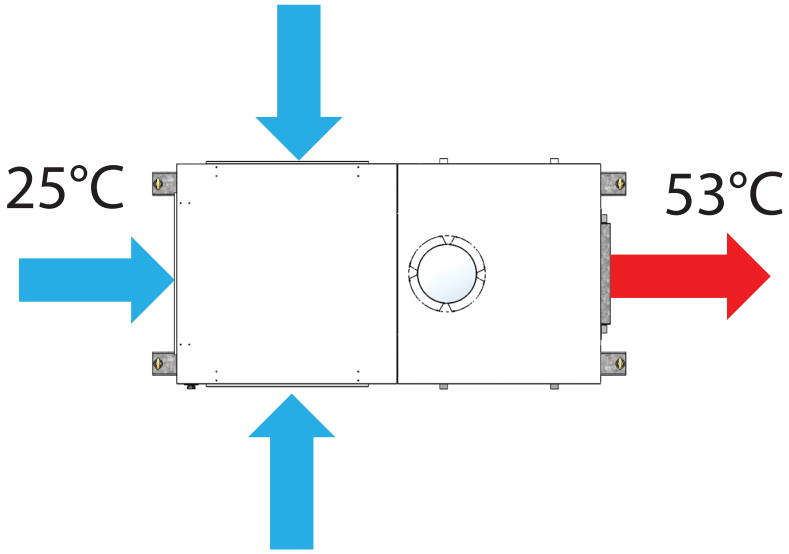


Figure 29: Leaving Air Exceeds 50C

APPENDIX E2 - SET TEMPERATURE CANNOT BE REACHED

HCV12 with an airflow of 2098 L/s over the heat exchanger to achieve a 11°C rise in temperature. The outside air temperature is 15°C. Thermostat is set to 29°C.

The airflow over the heat exchanger is too high to allow for the temperature to increase sufficiently to heat the room to the set temperature.

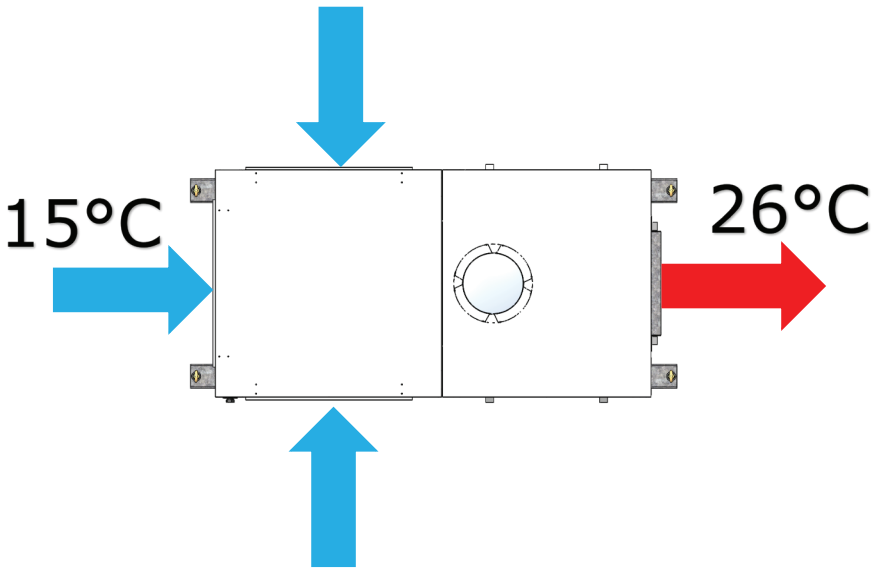


Figure 30: Set Temperature Not Reached

APPENDIX E: TEMPERATURE RISE OVER HEAT EXCHANGER

APPENDIX E3 - SET TEMPERATURE IS ACHIEVED AND MODULATING MOTOR CONTROLS TEMPERATURE

HCV12 with the dampers set to achieve an airflow between 804L/s and 2098 L/s over the heat exchanger that achieves a temperature rise 22°C rise in temperature. The outside air temperature is 15°C. Thermostat is set to 29°C.

The leaving air temperature sensor does not exceed 50°C so the unit continues to operate. As the room temperature reaches the set temperature of 29°C the modulating motor begins to modulate the gas flow to maintain a steady temperature. If the modulation does not lower the temperature sufficiently the unit will shut off.

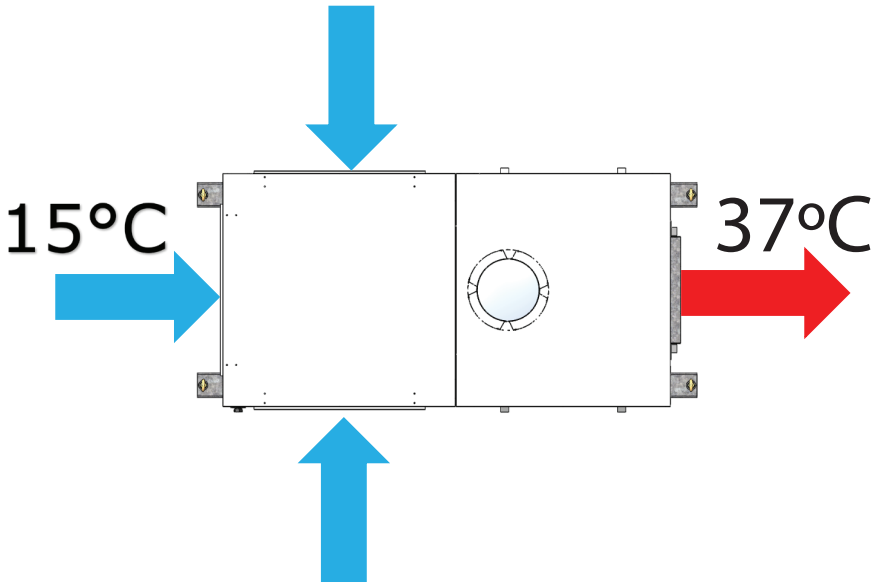


Figure 31: Set Temperature Achieved and Modulating Controls Temp

APPENDIX F: MAINTENANCE

APPENDIX F1: MAINTENANCE SCHEDULE

DESCRIPTION	COMPONENT	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Pre-Season
Electrical	Incoming Electrical Supply	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Electrical Wiring	✓						✓						✓
	Isolator Fitted and Operating	✓						✓						✓
	Single or 3 Phase Power Test	✓						✓						✓
	Overtemp Control	✓												✓
	Thermostat Connected and Operational	✓						✓						✓
	Fan Motor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Belts & Pulleys Visual Inspection	✓			✓			✓			✓			
	Belts & Pulleys Thorough Inspection	✓						✓						✓
	Fan Obstructions Direction	✓												✓
	Damper Operation	✓												✓
Gas	Incoming Gas Supply	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Gas Connections Visual Inspection	✓												
	Gas Isolation Fitted and in Good Condition	✓			✓			✓			✓			
	Gas Supply Pressure	✓												✓
	Gas Burner Pressure (High/Low)	✓												✓
	Gas Injectors	✓												✓
	Draft Diverter	✓												✓
	Pilot Assembly	✓												✓
	Burner Operation and Combustion	✓												✓
	Flue Operation	✓												✓
	Leaving Air Sensor	✓												✓
Installation	Weatherproof Casing Condition	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Duct Condition	✓												✓
	General Installation	✓			✓			✓			✓			
	Access to Unit	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Maintenance Records	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Operation	Start Up and Run Sequence	✓						✓						✓
	Control Operations	✓						✓						✓
	Motor Amps High and Low Speed	✓						✓						✓
	Safety Features	✓						✓						✓

APPENDIX F: MAINTENANCE

APPENDIX F2: MONTHLY MAINTENANCE CHECK

Owner Monthly Checklist

Unit Type: _____

Description	Component	Check For	C=Clean R= Replace A= Adjust ✓= Check
Electrical	Incoming Electrical Supply	Visually inspect incoming electrical supply and isolation for signs of damage.	
Gas	Incoming Gas Supply	Visually inspect incoming gas connection for signs of damage	
Casing	Access to unit	Access to unit is clear of obstructions	
	Weatherproof casing	Case is secure, not damaged and	
	Maintenance records	Previous maintenance records are in a safe location and any required maintenance items have been actioned	

ONLY A QUALIFIED TECHNICIAN SHALL ADJUST SETTINGS

Checked By: _____

Signature: _____ **Date:_____**

APPENDIX F: MAINTENANCE

APPENDIX F3: MAINTENANCE CHECKLIST

Maintenance Check List

Unit Type: _____ **Date of Maintenance: _____**

Description	Component	Check For	C=Clean R= Replace A= Adjust ✓= Check N/A= Not Required
Electrical	Incoming electrical supply	Visually inspect incoming electrical supply and isolation for signs of damage. If any major upgrades have been installed to the site confirm that there is sufficient power for unit operation.	
	Electrical wiring	Check wiring in control box. Replacing any damaged or loose wires.	
	Isolator fitted and operating	Check isolator switch for signs of damage. Confirm that switch isolates unit.	
	Single or 3 phase power test	Test and record incoming voltage to unit.	
	Overtemp Control	Check that overtemp control is correctly fitted and secure. Check that overtemp activate at the specified temperature and that the fan continues to run at to sufficiently cool the unit.	
	Thermostat connected and operational	Changing temperature on the thermostat it reflected on the control box RLU.	
	Fan Motor	Refer to manufactures specifications	
	Belts and pulleys visual inspection	Check belts and pulleys for signs of wear and damage. Check for rubber deposits and if belts have a glazed or slick look. Replace if required	
	Belts and pulleys thorough inspection	Check alignment of pulleys. Check tension of belts. Replace if required	
	Fan obstructions and direction	Check fan is clear of any foreign objects. Confirm fan is operating in correct direction	
	Damper Operation	Check temperature rise across the heat exchanger. Check that dampers are locked in correct position.	
Gas	Incoming Gas Supply	Visually inspect incoming gas connection for signs of damage. Check that the site gas shut off valve is in good working condition and easily accessible. If any new gas appliances have been installed confirm that there is sufficient gas for unit operation.	
	Gas connections visual inspection	Visually inspect the gas piping to and within the unit. A leak detection solution should be used on gas fittings.	
	Gas isolation fitted and in good condition	Check gas isolation valve successfully isolates the unit.	
	Gas Supply Pressure	Check incoming supply pressure against unit label	
	Gas Burner Pressure (High/Low)	Check burner operation with the gas valve set to the high and low operating pressures.	
	Gas Injectors	Check that the correct injectors are installed and free of debris. Clean or replace if required.	
	Draft Diverter	Check for damage, rust and debris.	
	Pilot Assembly	Check that the assembly is secure. Check that flame sense sparker wiring is free of damage and terminated correctly. Check that the pilot line is free of damage. Clean pilot injector	
	Burner operation and combustion	Clean burners. Check that the pilot lights. Check that the all burners light. Check the burners produce a consistent flame.	
	Flue Operation	Check flue for debris. Check that the rain collar is securely fitted.	
	Leaving Air Sensor	Check the leaving air temp reading on the RLU vs temperature measured with a digital thermometer.	

APPENDIX F: MAINTENANCE

Installation	Access to unit	Access to unit is clear of obstructions. Roof anchor system is compliant and certified if required.	
	Weatherproof casing	Check that the case is free of damage. Check that all access panels are secure. Check the internal of the cases for signs of water build up. Remove any foreign objects.	
	Duct Condition	Check duct connection to unit.	
	Internal Condition	Check for signs of water carry over. Check that the internal reservoir is not leaking.	
	General Installation	Check the condition of all fixings securing the unit. If a roof stand is installed check condition of the stand. Confirm that the unit is level.	
	Maintenance records	Check that previous maintenance records are in a safe location and any required maintenance items have been actioned	
Operation	Start up and run sequence	Check that unit operates as expected with no visual, sound or smell abnormalities.	
	Control Operations	Check that thermostat and wall switch/BMS controls operate as expected	
	Motor Amps High and Low Speed	Check motor amps on high and low speeds to ensure the motor is not over-amping.	
	Pad saturation	Check that pads are sufficiently saturated. Under saturation will limit cooling. Over saturation will lead to water carry over.	
	Safety Features	Allow the unit to run for 45 minutes to an hour to ensure the units run as expected. To pass no safety features may trip.	

Checked By: _____

Signature: _____ **Date:_____**

APPENDIX G: WARRANTY INFORMATION

HOW TO REGISTER YOUR PRODUCT WARRANTY (Australia and New Zealand only)

Please register your warranty online by visiting seeleyinternational.com

Step 1 - select **"Support"** then **"Register for Warranty"**

Step 2 Enter your product serial number and **"Submit"**

Step 3 Enter the required information and **"Submit"**

Important Note: You need to have the following information to complete your registration:

- your unit model and size
- serial number
- date your system was installed
- name of the dealer you purchased it from

Please complete this section. You will also need to retain your purchase receipt, and proof of any warranty period extension.

Brand: _____

Model: _____

Serial No: _____

Customer Name: _____

Installation Address:_____

Installation Type: Residential / Non Residential / Commercial

Date of installation: _____

Installer / Dealer: _____

As with any product that has moving parts or is subject to wear and tear, it is **VERY IMPORTANT** that you maintain your Cooler / Heater and have it regularly serviced. It is a condition of warranty cover for your Cooler / Heater that you comply with all of the maintenance and service requirements set out in the Owner's / Operation / Service Manual. Compliance with these requirements will prolong the life of your Cooler / Heater. Further, it is also a condition of warranty cover that each item in the Maintenance Schedule in the Owner's / Operation / Service Manual is performed with the frequency indicated, by a qualified, licensed technician, and that the Maintenance Schedule is properly filled out (i.e. names, signature, date, and action taken) when the item is completed.

ANY FAILURE TO CARRY OUT THE REQUIRED MAINTENANCE AND SERVICING REQUIREMENTS, AND ANY FAILURE TO PROPERLY FILL OUT THE MAINTENANCE SCHEDULE, WILL VOID YOUR WARRANTY.

APPENDIX G: WARRANTY INFORMATION

WARRANTY TERMS AND INFORMATION (Australia and New Zealand Only)

In this warranty:

We or ***us*** means Seeley International Pty Ltd (Seeley) ABN 23 054 687 035, and our contact details are set out at the end of this warranty;

You means you, the original end-user purchaser of the Goods;

Supplier means the authorised distributor or retailer of the Goods that sold you the Goods in Australia or New Zealand;

Goods means the product, unit, appliance or equipment which was accompanied by this warranty and purchased in Australia for installation and use only in Australia, or purchased in New Zealand for installation and use only in New Zealand; and

Relevant Warranty Period means the various warranty periods as described in clause 1 and clause 3 below, as appropriate.

For Australian customers: Our Goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the Goods repaired or replaced if the Goods fail to be of acceptable quality and the failure does not amount to a major failure.

In addition to any rights and remedies that You may have under the Australian Consumer Law, the Customer Guarantee Act 1993 (New Zealand) or any other law, subject to the terms of this warranty, We provide the following warranty:

1. If during the first one (1) years from the date of purchase, the Goods upon examination prove defective by reason of improper workmanship or material, We will repair or replace, at our option, the Goods or any part thereof without charge for either parts or labour, during normal working hours.
2. The warranty granted under clause 1 applies to all components which form part of the original cooler / heater, but does not cover:
   a) fair or normal wear and tear;
   b) damage, loss or claims caused by, resulting from, or arising out of any utilities that service or are connected to the Goods. This includes but it is not limited to electrical surges, and inadequacies, failure, or other problems in or with any electricity, power, or water supply to the Goods;
   c) after the first year: (i) the replacement, supply, or servicing of consumable items (including without limitation cooler pads, washers, seals, drive belts) and (ii) maintenance adjustments to the cooler / heater; and
   d) despite clause 2.c. above, air filters;
   e) installation (including without limitation ductwork, fittings, and other related installation components) which is excluded.
   f) batteries (including damage caused by leaking or faulty batteries), cracking or breaking of display screens in controllers, physical damage caused by the user or third parties, and accidental breakage.
3. Seeley also warrants the Fan Motor for the first two (2) years from the date of the Goods purchase, if upon examination prove defective by reason of improper workmanship or material, We will repair or replace at our option, the Fan Motor or any part thereof without charge for parts, during normal working hours.
4. During the period to which any expressed warranty applies, all defective part(s) shall be replaced or repaired (at the discretion of Seeley) without charge for either parts or labour, during normal working hours. Should we deem in our absolute discretion to replace the Goods pursuant to clause 1 or clause 3, we may substitute any similar good even if it is not on our current price/ equipment list. Further, Goods presented for repair may be replaced by refurbished goods of the same type rather than being repaired. Refurbished parts may be used to repair the Goods.
5. We are under no obligation to repair or replace the Goods or Parts under clause 1 and 3 above if (i) the Goods have not been installed and commissioned in accordance with the Installation Manual (ii) the Goods have not been installed and commissioned properly or competently, (iii) the Goods have not been operated, serviced and maintained in accordance with the instructions provided in the Owner's Manual, or (iv) if any such service or maintenance has not been properly or competently performed. It is a condition of warranty cover that each item in the Maintenance Schedule in the Owner's / Operation / Service Manual (if it was published with such a Schedule) is performed with the frequency indicated, by a qualified, licensed technician, and that the Maintenance Schedule is properly filled out (ie names, signature, date, and action taken) when the item is completed. Any failure to carry out the required maintenance and servicing requirements, and any failure to properly fill out a Maintenance Schedule in the Manual, will void your warranty. The addition of any third party device, (except where it is required by the installation instructions and complies with those instructions), or the removal or alteration of any Seeley component, or damage due to misuse of the unit, or faulty installation or commissioning, will void this warranty.
6. As far as the law permits, We will not be liable for any consequential loss suffered through, or resulting from, the non-operation, or ineffective operation of the cooler / heater. The warranties granted under clause 1 and clause 3 do not cover damage to the cooler / heater or other loss resulting from acts of God.
7. No other person, company or corporation is authorised to offer, or give on our behalf, any other warranty. The benefits conferred are in favour of You and any person deriving title to the cooler / heater whilst in its original place of installation. Nothing in this warranty shall be construed as affecting any rights You may have under all the relevant laws, or Commonwealth or State Legislation which give You rights which cannot be modified or excluded by agreement.
8. In order to claim under the warranties granted under clause 1 or clause 3 You must:

APPENDIX G: WARRANTY INFORMATION

a) either:
   - contact us within the Relevant Warranty Period on Australia 1300 650 644, New Zealand 0800 589 151; or
   - log a warranty claim on our website (website address below) within the Relevant Warranty Period; and

b) make available for inspection by the service agent who will come to the location of the Goods or send to us at the address below within the Relevant Warranty Period: (i) the legible and unmodified original proof of purchase, which clearly indicates the name and address of the original retailer, the date and place of purchase, the product name or other product serial number, (ii) all of your records of all service and maintenance carried out to the Goods, plus the Maintenance Schedule in the Owner's Manual (if it was published with such a Schedule), (iii) a copy of the completed Warranty Information section above, and (iv) if an extended warranty period was provided by Seeley International for the Goods, then the relevant document provided by Seeley International confirming that extended warranty period. If you choose to send the documents described in (i) to (iv) to Seeley International, then they must be accompanied by a covering letter which states your name and address and daytime telephone number, the address at which the Goods are installed, and the model and serial number of the Goods.

9. The warranty granted in clause 1 and clause 3 covers the costs of parts and labour but you will be responsible for:
   a) the cost of travel incurred for a Seeley International service agent to get to and from the location of the Goods if the location of the Goods is either: (i) outside the metropolitan areas of the capital cities; or (ii) more than 35 kilometres from an authorised Seeley International branch or service representative; and
   b) any costs for additional labour or equipment associated with gaining acceptable and safe service access to the Goods installed in restricted, high or unsafe locations, and/ or the removal and replacement of any barrier, walls, roofs, fences etc; and
   c) any costs incurred by the Seeley International service agent in gaining access to the Goods which is necessary to comply with any safety or workplace safety requirements and/or any other relevant regulations. For the avoidance of doubt, the reference to any costs incurred also includes the cost of any necessary site inductions.
10. We are not responsible in any way for any failure and/or inadequate performance of the Goods which arises from or is connected to the use in the Goods of non-genuine spare parts. Seeley International strongly recommends that only spare parts supplied or approved by it are used in the Goods.
11. The employees and Executive of Seeley International are not responsible for the installation of the Goods and expressly disclaim all liability resulting from incorrect installations or installations that do not conform to local electrical codes, local plumbing codes, Occupational Health and Safety requirements, and by laws which are legislated or in effect at the time of installation.
12. This warranty is only valid and enforceable in Australia or New Zealand.

Note: It is important that the safety and privacy of our service technicians is protected at all times. Accordingly, We and our Seeley International service agents reserve the right to refuse service if (i) safety and accessibility to the unit cannot be guaranteed or (ii) the owner of the unit, occupant of the site where the Goods are located, or any other third party seeks to take photographs, or make a video or audio recording, of the service technician(s) while they are on the site or carrying out service to the unit. If a service technician attends the site but subsequently leaves for any of these reasons then a service charge will be made for the call which charge shall be a debt immediately due and payable by the person or entity that has made the claim under this Warranty. If a service call reveals no warranty fault found with the Goods, a charge will be made for the call.

Our liability under this warranty is limited to the extent permitted by law. That is, to the extent that it is fair and reasonable, if the Goods are not of a kind ordinarily acquired for personal, domestic or household use or consumption, your remedies associated with any failure or defect of the Product will be limited to:

a) the replacement of the Goods or the supply of equivalent goods;
b) the repair of the Goods;
c) the payment of the cost of replacing the Goods or of acquiring equivalent goods; or
d) the payment of the cost of having the Goods repaired

and subject to the terms and conditions included in this warranty.

SERVICE DEPARTMENT

Seeley International Pty Ltd
112 O'Sullivan Beach Road
Lonsdale, South Australia 5160
Customer Service Centre 08 8328 3844
Website: www.seeleyinternational.com

APPENDIX G: WARRANTY INFORMATION

FOR SERVICE

To book a Service on your Seeley International product:
Visit www.seeleyinternational.com the select **"Support"** and **"Find Agent / Book Service"** then enter the required information.
or Phone Australia 1300 650 644 or New Zealand 0800 589 151 to be directed to your closest authorised Service Agent.

PRIVACY NOTICE

Seeley International Pty Ltd ABN 23 054 687 035 will use the personal information you provide us with to provide warranty support for the product you have purchased and to inform you about other products and services. If you choose not to supply us with the information requested, we may be unable to provide you with warranty support. We may also disclose your information to third parties, such as related entities; retailers, distributors, service agents and contractors who are affiliated with us; or marketing or market research companies. If you would prefer not to receive direct marketing communications from us, please follow the instructions to "unsubscribe" which will be included in the direct marketing communications we send you, or contact our Privacy Officer using the details set out below. While we do not currently transfer personal information to recipients who are outside of Australia or New Zealand or store personal information outside of Australia, if we transfer your information to third parties who do so, we will take reasonable steps to ensure that the overseas recipients do not breach the Australian Privacy Principles or if you are a New Zealand customer, the New Zealand Privacy Principles. By registering your warranty, you consent to having your personal information used in this way. Please read our Privacy Policy on our website www.seeleyinternational.com for further explanation of how we collect, use, hold and disclose personal information, and how you may access and seek correction of your information. It also sets out how you may complain about a breach of the Australian Privacy Principles, or if you are a New Zealand customer, a breach of the New Zealand Privacy Principles, and how we will deal with your complaint. You may contact us at: Privacy Officer, Seeley International Pty Ltd, 112 O'Sullivan Beach Road, Lonsdale, South Australia 5160.

APPENDIX H: RELEASE INFORMATION

Ver	Revision	Date	Amendment	Author	Approved
1.0	A	04.06.2021	Initial Release	D. Wall	C. Arnel
1.1	B	12.08.2021	SD30 Type A update	D. Wall	C. Arnel
1.2	C	27.09.2021	Tabel and Dimension update	D. Wall	C.Arnel
1.3	D	25.01.2022	SD26 and SD40 Type A update	D.Wall	C.Arnel
1.4	E	23.05.2022	SD40 LPG update	D.Wall	C.Arnel
1.5	F	22.07.2022	Leaving Air Temp Update	D.Wall	C.Arnel
1.6	G	24.01.2023	Wall Switch Update	D.Wall	C.Arnel
1.7	H	10.03.2023	Flue Drawing Update	D.Wall	C.Arnel
1.8	I	20.09.2023	Updated Rear Page	D.Wall	M.Gay
1.9	J	03.11.2023	Dual HX update	D.Wall	M.Gay
1.10	K	26.02.24	ECN-00969	D.Wall	M.Gay

Warranty Service
Australia: 1300 650 644
New Zealand: 0800 589 151

Seeley International Technical Support
Australia: 1300 650 399
New Zealand: 0800 589 152

For all other regions, contact your local distributor.
seeleyinternational.com

Online Support Portal (AUS/NZ)
Scan or Click QR

It is the policy of Seeley International to introduce continuous product improvement.
Accordingly, specifications are subject to change without notice.
Please consult with your dealer to confirm the specifications of the model selected.