



45-DVFS28N-2

OPTIMA 45

SN 5170 AND UP

FOR USE WITH NATURAL GAS OR PROPANE*

USERS' INSTALLATION OPERATION AND MAINTENANCE MANUAL

WARNING: If the information in this manual is not followed exactly, fire or explosion may result causing property damage, personal injury or loss of life.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS:

- * Do not try to light any appliance.
- * Do not touch any electrical switch; do not use any phone in your building.
- * Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- * If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

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We recommend that our gas hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Gas Specialists.

This appliance may be installed in an after-market, permanently located, manufactured home (USA only) or mobile home, where not prohibited by local codes.

This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases, unless a certified kit is used.

*Conversion Kit Required for Propane Use

Installer: Please leave this manual with the appliance owner for future reference

STATE OF MASSACHUSETTS REQUIREMENTS

5.08: Modifications to NFPA-54, Chapter 10

(2) Revise 10.8.3 by adding the following additional requirements:

(a) For all side wall horizontally vented gas fueled equipment installed in every dwelling, building or structure used in whole or in part for residential purposes, including those owned or operated by the Commonwealth and where the side wall exhaust vent termination is less than seven (7) feet above finished grade in the area of the venting, including but not limited to decks and porches, the following requirements shall be satisfied:

1. **INSTALLATION OF CARBON MONOXIDE DETECTORS.** At the time of installation of the side wall horizontal vented gas fueled equipment, the installing plumber or gasfitter shall observe that a hard wired carbon monoxide detector with an alarm and battery back-up is installed on the floor level where the gas equipment is to be installed. In addition, the installing plumber or gasfitter shall observe that a battery operated or hard wired carbon monoxide detector with an alarm is installed on each additional level of the dwelling, building or structure served by the side wall horizontal vented gas fueled equipment. It shall be the responsibility of the property owner to secure the services of qualified licensed professionals for the installation of hard wired carbon monoxide detectors

a. In the event that the side wall horizontally vented gas fueled equipment is installed in a crawl space or an attic, the hard wired carbon monoxide detector with alarm and battery back-up may be installed on the next adjacent floor level.

b. In the event that the requirements of this subdivision can not be met at the time of completion of installation, the owner shall have a period of thirty (30) days to comply with the above requirements; provided, however, that during said thirty (30) day period, a battery operated carbon monoxide detector with an alarm shall be installed.

2. **APPROVED CARBON MONOXIDE DETECTORS.** Each carbon monoxide detector as required in accordance with the above provisions shall comply with NFPA 720 and be ANSI/UL 2034 listed and IAS certified.

3. **SIGNAGE.** A metal or plastic identification plate shall be permanently mounted to the exterior of the building at a minimum height of eight (8) feet above grade directly in line with the exhaust vent terminal for the horizontally vented gas fueled heating appliance or equipment. The sign shall read, in print size no less than one-half (1/2) inch in size, **"GAS VENT DIRECTLY BELOW. KEEP CLEAR OF ALL OBSTRUCTIONS"**.

4. **INSPECTION.** The state or local gas inspector of the side wall horizontally vented gas fueled equipment shall not approve the installation unless, upon inspection, the inspector observes carbon monoxide detectors and signage installed in accordance with the provisions of 248 CMR 5.08(2)(a)1 through 4.

(b) **EXEMPTIONS:** The following equipment is exempt from 248 CMR 5.08(2)(a)1 through 4:

1. The equipment listed in Chapter 10 entitled "Equipment Not Required To Be Vented" in the most current edition of NFPA 54 as adopted by the Board; and

2. Product Approved side wall horizontally vented gas fueled equipment installed in a room or structure separate from the dwelling, building or structure used in whole or in part for residential purposes.

(c) **MANUFACTURER REQUIREMENTS - GAS EQUIPMENT VENTING SYSTEM PROVIDED.** When the manufacturer of Product Approved side wall horizontally vented gas equipment provides a venting system design or venting system components with the equipment, the instructions provided by the manufacturer for installation of the equipment and the venting system shall include:

1. Detailed instructions for the installation of the venting system design or the venting system components; and

2. A complete parts list for the venting system design or venting system.

(d) **MANUFACTURER REQUIREMENTS - GAS EQUIPMENT VENTING SYSTEM NOT PROVIDED.** When the manufacturer of a Product Approved side wall horizontally vented gas fueled equipment does not provide the parts for venting the flue gases, but identifies "special venting systems", the following requirements shall be satisfied by the manufacturer:

1. The referenced "special venting system" instructions shall be included with the appliance or equipment installation instructions; and

2. The "special venting systems" shall be Product Approved by the Board, and the instructions for that system shall include a parts list and detailed installation instructions.

(e) A copy of all installation instructions for all Product Approved side wall horizontally vented gas fueled equipment, all venting instructions, all parts lists for venting instructions, and/or all venting design instructions shall remain with the appliance or equipment at the completion of the installation.

For the State of Massachusetts, installation and repair must be done by a plumber or gasfitter licensed in the Commonwealth of Massachusetts.

For the State of Massachusetts, flexible connectors shall not exceed 36 inches in length.

The State of Massachusetts requires the installation of a carbon monoxide alarm in accordance with NFPA 720 and a CO alarm with battery back up in the same room where the gas appliance is installed.

INTRODUCTION

Congratulations on choosing an Archgard fireplace!

The Optima 45 is one of the most advanced direct vent fireplace heaters available. It is solidly designed using the latest technology and manufactured to the highest quality. It is our aim to provide you with an appliance for many trouble-free years of reliable service.

The following are just some of the many features within your new gas fireplace:

Heater Classification	The Optima 45 is classified as a heating appliance. In conjunction with an optional thermostat, the Optima 45 can be operated continuously for zone heating.
High Efficiency	The Optima 45 has one of the highest efficiencies of any gas fireplace, which means that it is less expensive to operate.
Adjustable Fan Speed	Heat circulation fan can be fully adjusted from high, medium or low speeds to suit your comfort level.
Adjustable Flame	The flame aesthetics and heat output can be adjusted to suit your heating needs.
Solid Construction	The Optima 45 is constructed mainly of 14 and 18 gauge galvanized and aluminized steel for long life and durability.
Millivolt Control System	The gas control system is "thermostat-ready" for any optional millivolt wall thermostat or wireless remote control.

Please read this manual carefully prior to installation and operation of the appliance. Proper installation, operation and maintenance of the appliance will provide you with many years of enjoyment.

We recommend you record the following information:

Fireplace Model Number: 45-DVFS28N-2 Serial Number: _____

Date of Installation: _____

Type of Gas Used by the Fireplace: ☐ Natural Gas ☐ Propane

Dealer's Name & Address: _____

Dealer's Phone Number: _____

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CAUTION

FOR YOUR SAFETY - Do not install or operate your Archgard Optima 45 Direct Vent Gas Fireplace without reading and understanding this manual. Any installation or operational deviation from this instruction manual voids the Archgard Industries Warranty and may prove hazardous.

This appliance must be installed by a qualified gas installer and the installation must conform to the installation codes.

Provide adequate clearance around air openings of the appliance.

Never obstruct front openings.

Provide adequate clearances for proper operation and servicing of the appliance.

This appliance must be properly connected to an approved venting system and must not be connected to a chimney flue serving a separate solid fuel burning appliance.

SAFETY

Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.

Children and adults should be alerted to the hazards of high surface temperature and stay away to avoid burns or clothing ignition.

Young children should be carefully supervised when they are in the same room as the appliance.

Clothing or other flammable material should not be placed on or near the appliance.

Do not operate with cracked or broken glass. Be careful not to strike or slam the glass.

Any safety screen or guard removed for servicing an appliance must be replaced prior to operating.

Installation and Repair should be done by a qualified service person. The appliance should be inspected before use and at least annually by a professional service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding materials, et cetera. It is imperative that the control compartments, burners and circulating air passageways of the appliance are kept clean.

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We recommend that our gas hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Gas Specialists.

APPLIANCE CERTIFICATION

This appliance is tested and safety approved under the following US and Canadian gas appliance standards:

- ANSI Z21.88b-2003 / CSA 2.33b-2003, Vented Gas Fireplace Heaters
- CAN/CGA-2.17-M91, Gas-Fired Appliances for Use at High Altitudes

Please contact Archgard Industries Ltd., if you have any questions regarding the certification of this appliance.

INSTALLATION CODES

This appliance must be installed by a qualified gas appliance installer. The installation must conform with the local codes or, in the absence of local codes, with the current National Fuel Gas Code, ANSI Z223.1/ NFPA 54, in the US or Installation Code, CAN/CGA-B149, in Canada. Electrical connections and grounding must conform with local code, or current National Electrical code, ANSI/NFPA No. 70-1987, in the US and in Canada, the current Canadian Electrical Code, CSA C22.1.

We recommend that our gas hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute®(NFI) as NFI Gas Specialists

SPECIFICATIONS

	Natural Gas (NG)	Propane (LP)
Manifold Pressure	1.6 - 3.5 in. W.C. (0.4 - 0.9 kPa)	6.3 - 10.0 in. W.C. (1.6 - 2.5 kPa)
Minimum Supply Pressure for Purpose of Input Adjustment	4.5 in. w.c. (1.2 kPa)	11.0 in. w.c. (2.8 kPa)
Nominal Input Rating	18,750 - 28,000 BTU/hr (5.5 - 8.2 kW)	19,600 - 28,000 BTU/hr (5.7 - 8.2 kW)
Orifice Size	#38 DMS (2.64 mm dia.)	#52 DMS (1.60 mm dia.)
Altitude	0-4500 ft (0 - 1372 M)	0 - 4500 ft (0 - 1372 M)
Primary Air Opening	3/16" (5 mm)	3/8" (9 mm)

HIGH ALTITUDE INSTALLATION

When installing this appliance beyond 4500 ft. (1372 M) above sea level, the appliance must be properly de-rated and installed according to local codes, in the absence of local codes, with the current National Fuel Gas Code, ANSI Z223.1/ NFPA 54, in the US or Installation Code, CAN/CGA-B149, in Canada.

GAS CONNECTIONS

Before connecting the appliance to the gas supply line, double check that the appliance you have purchased is designed for the gas type you are using. The gas type markings are located on the certification label and also on the appliance’s gas valve.

Adequate clearance for proper installation and checking of the gas connections must be provided. **All gas connections must be checked for gas leaks.**

Have your gas supplier or a qualified gas fitter run a gas supply line into the heater. The line must be properly sized and fitted according to the installation codes. Immediately upstream of the supply connection, the fitter shall provide an accessible manual shut-off valve and a 1/8” (3 mm) NPT plugged tapping accessible for connection to a test gauge. When connecting the supply line to the gas valve, the installer shall brace the gas valve to ensure that gas valve is not moved from its bracket. If the valve is not braced when the supply line is connected, the valve may be moved and cause a “break” in the main burner supply line. Such damage is not covered by the manufacturer’s warranty.

CAUTION: The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure-testing of that system at test pressures in excess of 1/2 psig (3.5 kPa). The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure-testing of the gas supply piping system at test pressures equal to or less than 1/2 psig (3.5 kPa). Failure to do so will damage the appliance’s gas valve. Such damage is not covered by the manufacturer’s warranty.

Natural Gas Pressure Settings:

The inlet supply or line pressure must be a minimum of 4.5” w.c. (1.1 kPa) and a maximum of 8” w.c. (2 kPa). The orifice is a #38 DMS (2.64 mm) drill size.

ELEVATION	INPUT RATING
0-4500 ft (0-1372 M)	28,000 BTU/hr (8.2 kW)
4500 ft (1372 M) and above	28,000 BTU/hr (8.2 kW) less 4% per 1000 ft. (305 M)

Please contact your local utility company or distributor for the appropriate orifice size you require.

Propane Pressure Settings:

The inlet supply or line pressure must be a minimum of 11” w.c. (2.8 kPa) and a maximum of 14” w.c. (3.5 kPa). The orifice is a #52 DMS (1.60 mm) drill size.

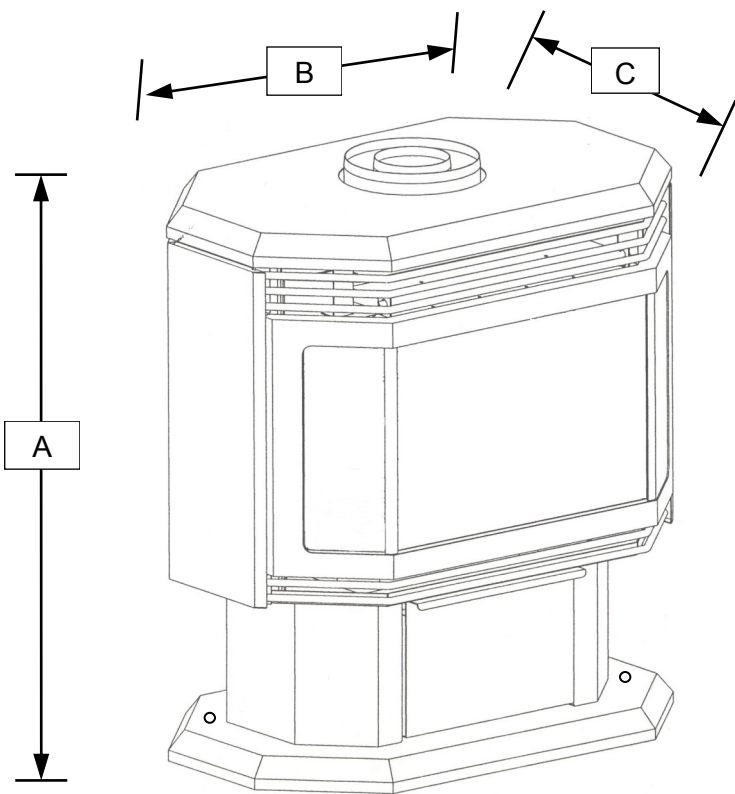
ELEVATION	INPUT RATING
0-4500 ft. (0-1372 M)	28,000 BTU/hr (8.8 kW)
4500 ft. (1372 M) and above.	28,000 BTU/hr (8.8 kW) less 4% per 1000 ft. (305 M)

Please contact your local utility company or distributor for the appropriate orifice size you require

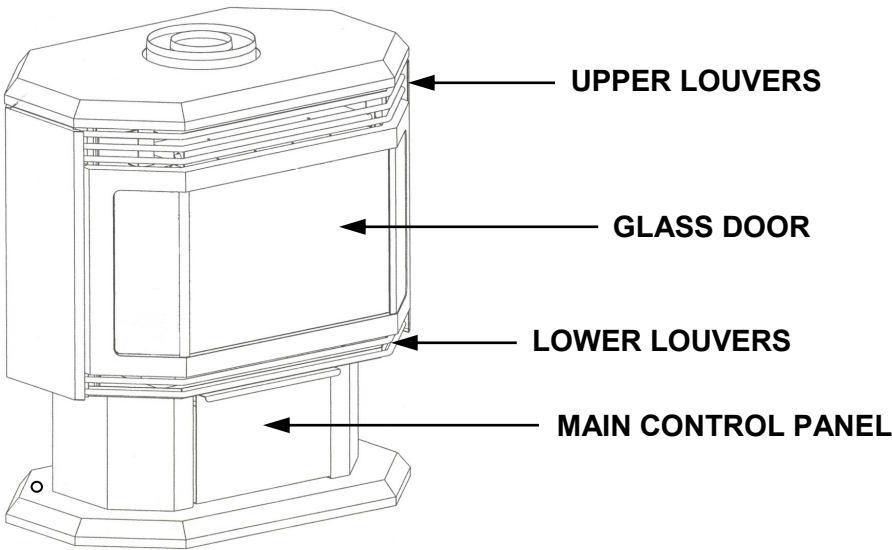
NOTE: THE INPUT RATING SHOULD ALWAYS BE CHECKED WHEN FIRST RUNNING THIS APPLIANCE. To do this, reduce the background flow rate, time the meter, light the fireplace and take another reading after 15 minutes of operation. Check with your gas supplier for the gas BTU content at your elevation. Input is the rate of flow multiplied by the heating value of the gas (cubic feet/hour x BTU per cubic feet). Adjust the manifold pressure so that the unit does not operate above the rated input.

APPLIANCE DIMENSIONS

		DIMENSIONS
A	HEIGHT	30" (762 mm)
B	WIDTH	27" (685 mm)
C	DEPTH	17 ½" (444 mm)

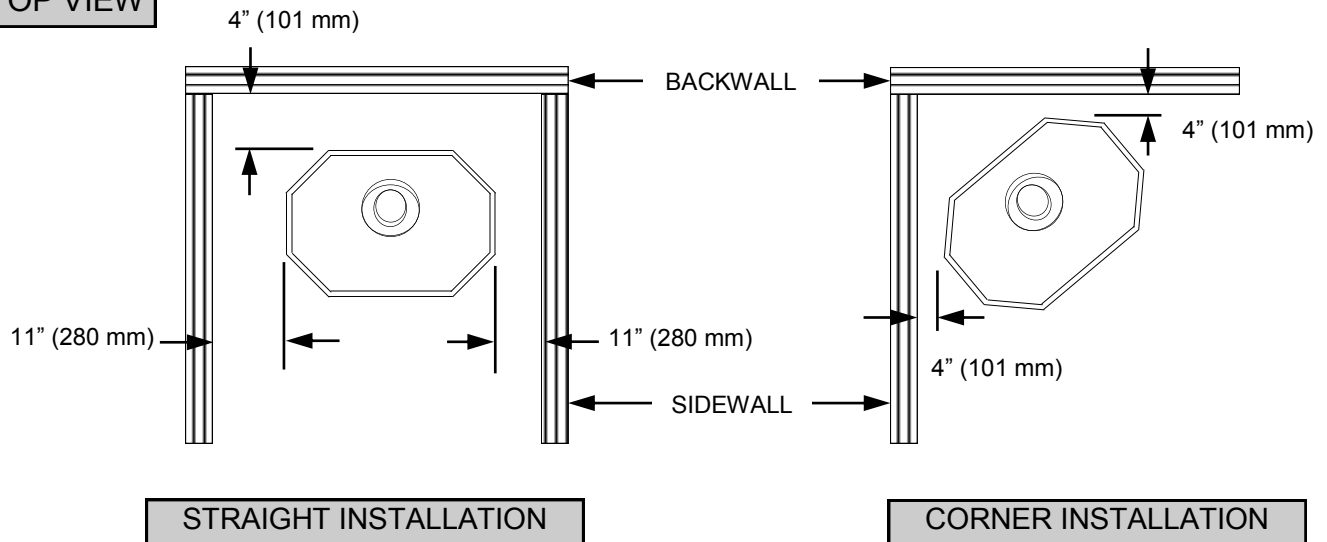


APPLIANCE DESCRIPTION



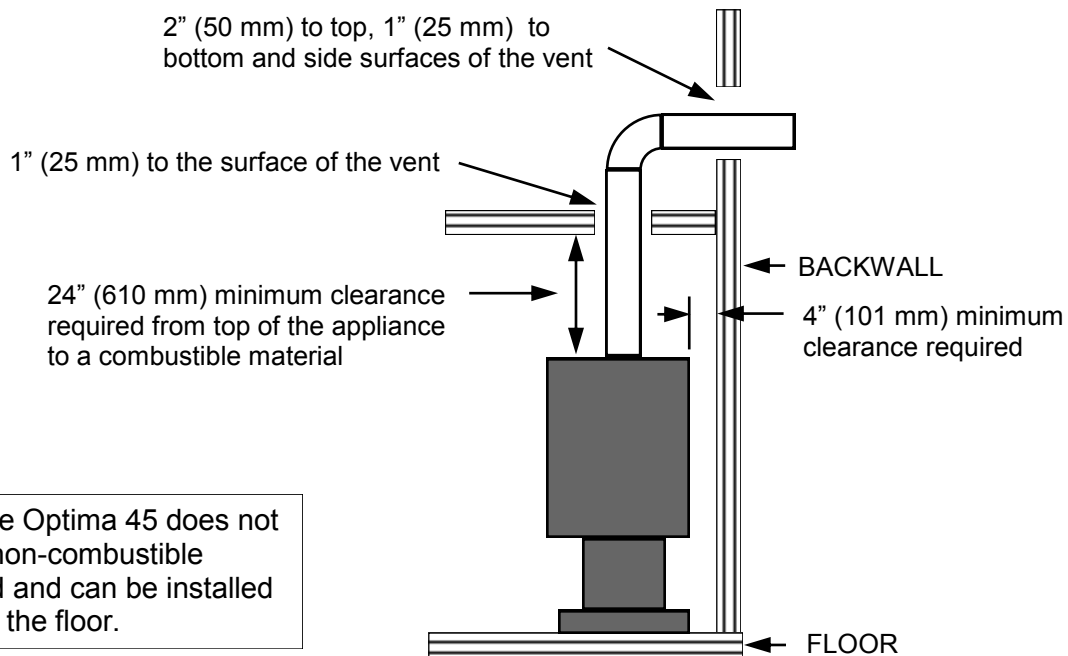
DIMENSIONS AND CLEARANCES

TOP VIEW



ALCOVE INSTALLATION

SIDE VIEW



NOTE: The Optima 45 does not require a non-combustible hearth pad and can be installed directly on the floor.

* Side and back clearances for the alcove installation is the same as the straight and the corner installations

LOCATING GAS HEATER

This appliance must be installed in a location that is free of plumbing, electrical wiring and heating or air conditioning ducts. Select a location that is accessible for venting.

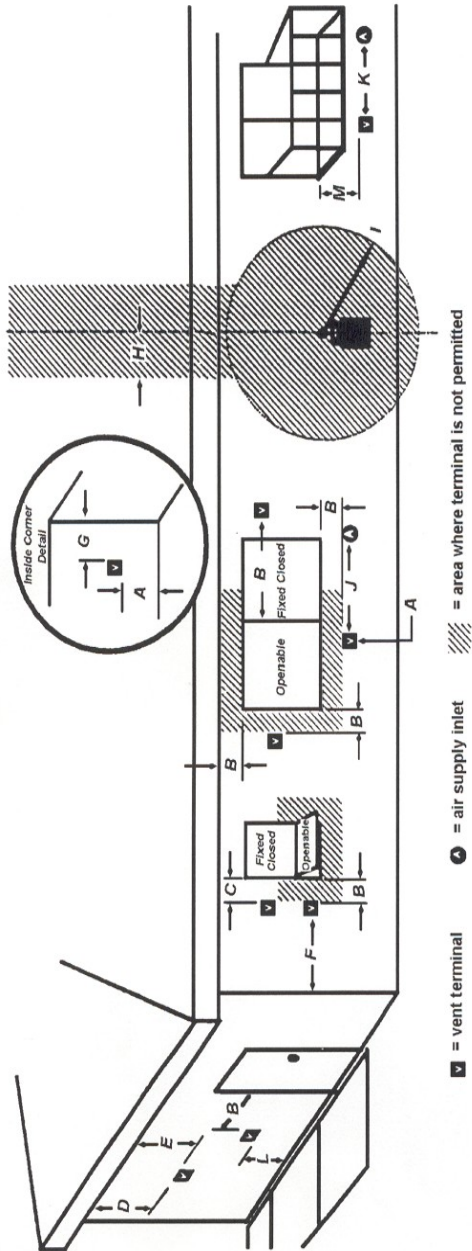
See ALLOWABLE TERMINATION LOCATIONS listed in this manual.

NOTE: See venting chart for maximum and minimum vertical/horizontal venting configurations.

VENT TERMINATION LOCATIONS

1. See ALLOWABLE TERMINATION LOCATIONS and establish a suitable vent termination location.
2. In heavy snowfall areas make sure the vent termination is located where it can not be blocked by snow and from snowfall or snow removal equipment.
3. Locate the vent termination away from plants, bushes or any other object near the vent termination that will interfere or obstruct the air flow around it.
4. DO NOT recess vent termination into walls, sidings or planters.
5. Vent terminations located below 7ft (2.13 M) from grade level or anywhere that it can be a burn hazard to the public, such as patios and balconies, must be protected with an approved termination cage. If using Archgard Venting System order (Part # 999-DV-SC).

ALLOWABLE TERMINATION LOCATIONS



	Canadian Installations (1)		US Installations (2)		Canadian Installations (1)	US Installations (2)
A= Clearance above grade, veranda, porch, deck, or balcony	12 inches (30 cm)	12 inches (30 cm)	12 inches (30 cm)	J= Clearance to non-mechanical air supply inlet to building or the combustion air inlet of any other appliance	12 inches (30 cm)	9 inches (23 cm)
B= Clearance to window or door that may be opened	12 inches (30 cm)	12 inches (30 cm)	12 inches (30 cm)	K= Clearance to a mechanical air supply inlet	6 feet (1.83 m)	3 feet (91 cm) above if within 10 feet (3 m) horizontally
C= Clearance to permanently closed window	*	*	*	L= Clearance above paved sidewalk or paved driveway located on public property	7 feet (2.13 m) +	*
D= Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2 feet (61 cm) from the center line of the terminal	*	*	*	M= Clearance under veranda, porch, deck, or balcony	12 inches (30 cm) ++	*
E= Clearance to unventilated soffit	*	*	*	(1) In accordance with the current CSA B149.1, National Gas and Propane Installation Code		
F= Clearance to outside corner	*	*	*	(2) In accordance with the current ANSI Z223.1/NFPA 54, National Fuel Gas Code		
G= Clearance to inside corner	9" (22.5cm)	9" (22.5cm)	9" (22.5cm)	A vent shall not terminate directly above a side walk or paved driveway that is located between two single family dwellings and serves both dwellings		
H= Clearance to each side of center line extended above meter/regulator assembly	3 feet (91 cm) within a height 15 feet (4.5 m) above the meter/regulator assembly	*	*	Permitted only if veranda, porch, deck, or balcony is fully open on a minimum of two sides beneath the floor.		
L= Clearance to service regulator vent outlet	3 feet (91 cm)	*	*	For clearances not specified in ANSI Z223.1/NFPA 54 or CSA B149.1, "Clearances shall be in accordance with local installation codes and the requirements of the gas supplier."		

APPROVED VENT COMPONENTS

The appliance will not function without being connected to a proper venting system. This appliance may only use direct vent system supplied by Archgard, or Simpson Dura-Vent direct vent systems with the appropriate Adaptor dependent upon the venting guidelines within this manual.

NOTE: Only venting components listed below are approved for the Optima 45-3	
PART #	DESCRIPTION
45-TVKFS	Archgard Top Vent Kit. Kit includes 9 ft (2.74 M) of 4" (101 mm) gas flex liner, 36" (914 mm) of 7" (178 mm) black stove pipe, 24" (610 mm) of 7" (914 mm) black stove pipe, 90° deg. black elbow, wall sleeve, firestop and horizontal termination cap (TK-1)
999-DV-HTC	Archgard Horizontal termination head only
999-DV-SC	Archgard Safety Cage for Horizontal termination head
999-DV-VSD	Archgard Vinyl siding deflector
999-DV-STC	Archgard Snorkel termination head only
999-DV-SDA	Adapter, Appliance to Simpson Dura-Vent

VENTING CONNECTION

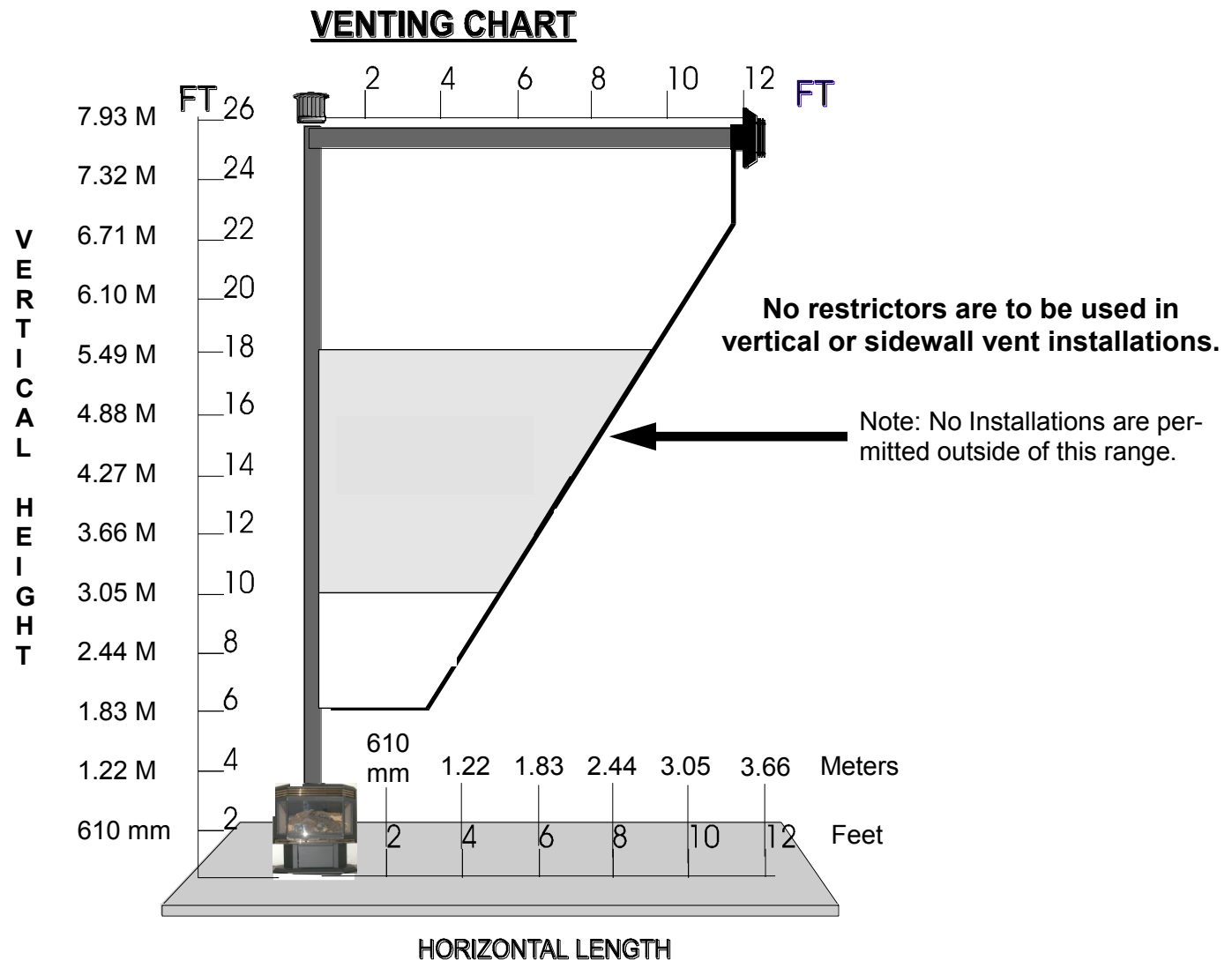
For best and safe venting performance, here are some general venting rules:

- Use only Archgard or Simpson Dura-Vent direct vent systems and components.
- Maintain a minimum of 1" (25 mm) clearance to combustibles from the outside surfaces of vertical vents and minimum of 1" (25 mm) sides and bottom, and 2" (50 mm) from top surfaces of horizontal vents.
- Observe local code restrictions, if any, regarding the installation of this type of gas appliance.
- Observe the venting charts given in this manual
- Use vent spacers between the inside 4" (101 mm) and outside 7" (178 mm) vents at 3 ft (915 mm) intervals (Archgard Direct Vent System ONLY).
- Never slope horizontal vents downwards, towards the vent termination.
- Maintain a minimum ¼" rise (6mm) for every linear foot (305 mm) of horizontal vent.
- Terminate (Horizontally) the vent only with an approved vent termination supplied by Archgard Part # 999-DV-HTC or Simpson Dura-Vent Termination Cap.
- Terminate (Vertically) the vent only with Simpson Dura-Vent Vertical Termination Cap.
- Support horizontal vents every 3 ft (915 mm) to prevent sagging.

Please, strictly follow the venting instructions for optimum performance from the appliance, and to avoid sooting and/or service calls.

VENTING CHART

The appliance will not function without being connected to a proper venting system. This appliance may only use direct vent system supplied by Archgard, or Simpson Dura-Vent direct vent systems with Archgard SDA-U adapter.



- A minimum of 3' (914 mm) of vertical vent to center of elbow is required for a maximum horizontal run of 3' (914 mm).
- Chart is for one 90° bend, with ¼" (7 mm) vertical raise minimum per foot of horizontal length.
- For each additional 90° or two 45°, add one foot of vertical height.
- Maximum three 90° bends, or equivalent.
- Minimum 2 ft (610 mm) straight length between bends.

VENTING ABOVE ROOF OF THE HOUSE USING A VERTICAL TERMINATION

Use Simpson Dura-Vent listed direct vent system caps for all vertical vent termination applications (through the roof).

Please strictly follow the venting instructions for optimum performance from the appliance and to avoid sooting and/or service calls.

VENTING - VERTICAL TERMINATION USING SIMPSON DURA-VENT PIPE

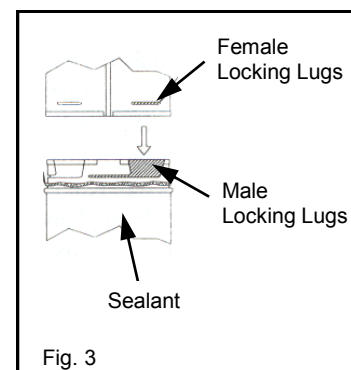
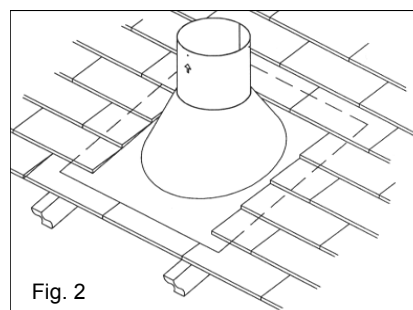
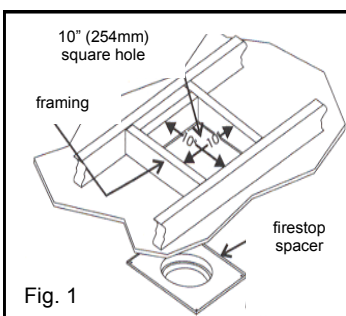
The Optima 45 can be vented vertically using Simpson Dura-Vent Direct Vent System. To vent using Simpson Dura-Vent exclusively, you must use the Archgard 999-DV-SDA Adaptor and connect the adaptor to the top of flue outlet on the Optima 45 gas fireplace.

1. Maintain 1" (25 mm) clearance (air space) to combustibles when passing through ceilings, walls, roof, enclosures, attic rafter, or other nearby combustible surfaces. Do not pack air spaces with insulation. Check page 13 (Venting Chart) for the maximum vertical rise of the venting system.
2. Set the gas appliance in its desired location. Drop a plum bob down from the ceiling to the position of the appliance flue exit, and mark the location where the vent will penetrate the ceiling. Drill a small hole at this point. Next, drop a plumb bob from the roof to the hole previously drilled in the ceiling, and mark the spot where the vent will penetrate the roof.

NOTE: you may wish to relocate the appliance to avoid cutting load-bearing members.

3. A Firestop spacer must be installed in the floor or ceiling of every level. To install the Firestop spacer in a flat ceiling cut a 10" (254 mm) square hole. Frame the hole as shown Fig. 1 and install the firestop.
4. Assemble the desired lengths of pipe and elbows as outlined in the Venting Chart, necessary to reach from the Appliance adaptor (999-DV-SDA), if using Simpson Dura-Vent from the appliance up through the roof. Ensure that all Simpson Dura-Vent and/or flexible is connected and sealed accordingly.
5. Cut a hole in the roof centered on the small drill hole placed in the roof as outlined in Step 2.
6. The hole should be of sufficient size to meet the minimum requirements for each combustibles of 1" (25 mm). Slip the flashing under the shingles (shingles should overlap half of the flashing) as per Fig.2.
7. Continue to assemble pipe lengths and/or flexible gas venting.
8. Ensure vent is vertical and secure the base of the flashing to the roof with roofing nails, slide storm collar over the section and seal with a mastic.
9. Install the vertical termination cap by twist-locking it.

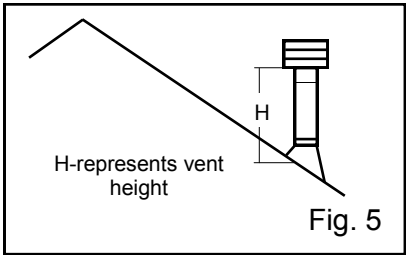
NOTE: Apply high temperature sealant to inner and outer pipe on every Simpson Dura-Vent twist-lock joint. See Fig. 3



VENTING - VERTICAL TERMINATION USING SIMPSON DURA-VENT PIPE

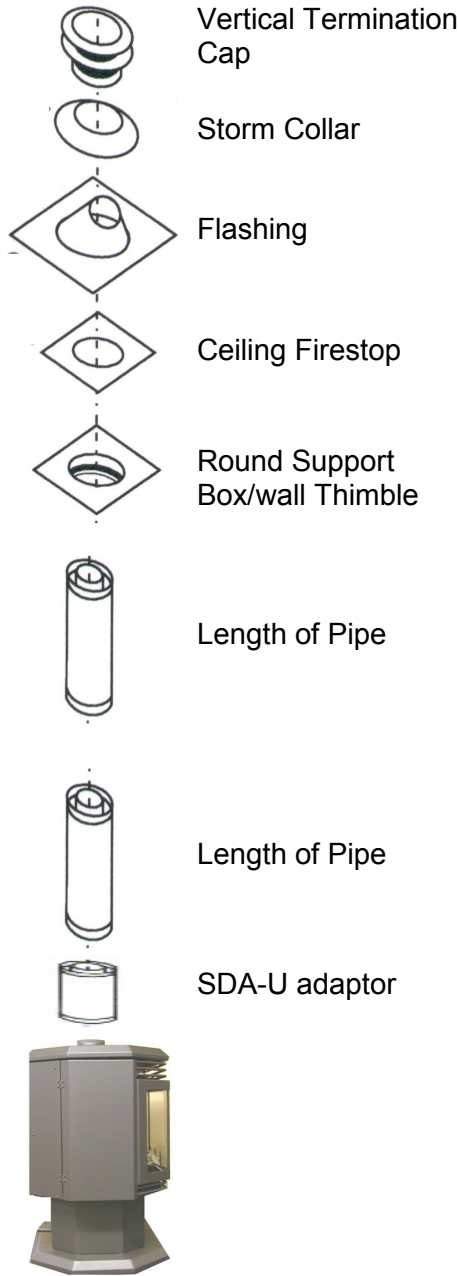
NOTE:

- Galvanized pipe is desirable above the roofline due to its higher corrosion resistance. Continue to add pipe sections throughout the flashing until the height of the vent cap meets the minimum height requirements specified in Fig. 5 or local codes.
- For steep roof pitches, the vertical height must be increased. A poor draft, or down drafting can result in high wind conditions, trees or neighbor's roof lines. In these cases increasing the height may solve a drafting problem.
- Any storage spaces or closets which the vent must pass through must be enclosed.



Roof Pitch	Minimum Vent Height	
Flat to 7/12	2 Feet	0.61 Meters
Over 7/12-8/12	2 Feet	0.61 Meters
Over 8/12-9/12	2 feet	0.61 Meters
Over 9/12-10/12	2.5 Feet	0.76 Meters
Over 10/12-11/12	3.25 Feet	1.00 Meters
Over 11/12-12/12	4 Feet	1.22 Meters
Over 12/12-14/12	5 Feet	1.52 Meters
Over 14/12-16/12	6 Feet	1.83 Meters
Over 16/12-18/12	7 Feet	2.13 Meters
Over 18/12-20/12	7.5 Feet	2.29 Meters
Over 20/12-21/12	8 Feet	2.44 Meters

Typical Vertical venting configuration using Simpson Dura-Vent Direct Vent System



Simpson Dura-Vent venting components are listed on page 21

VENTING - HORIZONTALLY USING ARCHGARD TVK-FSU VENT KIT

NOTES: This Vent Kit must be installed directly onto the flue outlet of the heater. Maintain a minimum of 1" (25mm) sides and bottom, and 2" (50 mm) from the top surfaces of the horizontal vent. Use the vent spring spacers (Fig. 1) between the inner and outer vents at 3 ft (900 mm) intervals. Maintain at least a ¼" (6 mm) rise for every 12" (305 mm) horizontal vent. Use the included pipe joint compound and 3 self tapping screws at every vent connection.

1. Locate where the vent will pass through the wall, and cut and frame an 10" (25 mm) wide x 11" (279 mm) high hole.
2. Apply pipe joint compound on the 4" (101 mm) crimp end of the vent cap and slip on one end of the flex vent. Fasten with 3 self-tapping screws.
3. Place the horizontal section of the 7" (179 mm) diameter rigid pipe over the flex vent so that the non-crimped end fits over the corresponding crimped end on the vent cap, and screw it in place.
4. Check the thickness of the wall and cut the 10" (25 mm) dia. x 12" (305 mm) pipe to the thickness of the wall.
5. Place the 10" (25 mm) diameter pipe (thimble) over the other two, and screw it onto the standoffs of the termination.
6. From the outside, pass the vents and the thimble through the hole so that the 2" (50 mm) standoff is on the top.
7. Screw the vent cap to the wall using the 2" (50 mm) screws.
8. From the inside, place the firestop over the pipes, so that the standoffs fit into the hole and screw it in place using the 1 ¼" (32 mm) screws. Seal with silicone sealer around pipe.
9. Similarly place the decorative trim collar over the firestop and screw it in place with 1 ¼" (32 mm) screws.
10. Install the 1" (25 mm) diameter spring spacers, elbow, and vertical rigid pipe as shown.
11. Move the heater into place and screw the flex, then the rigid pipe onto its collars.

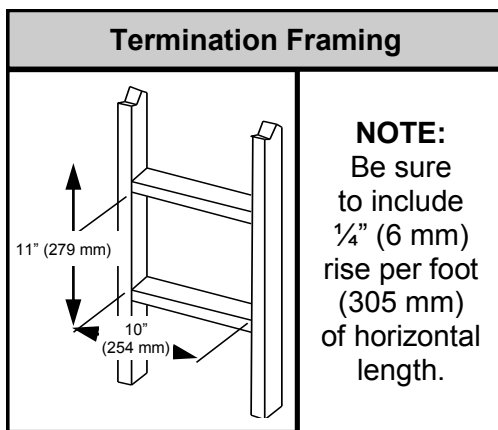
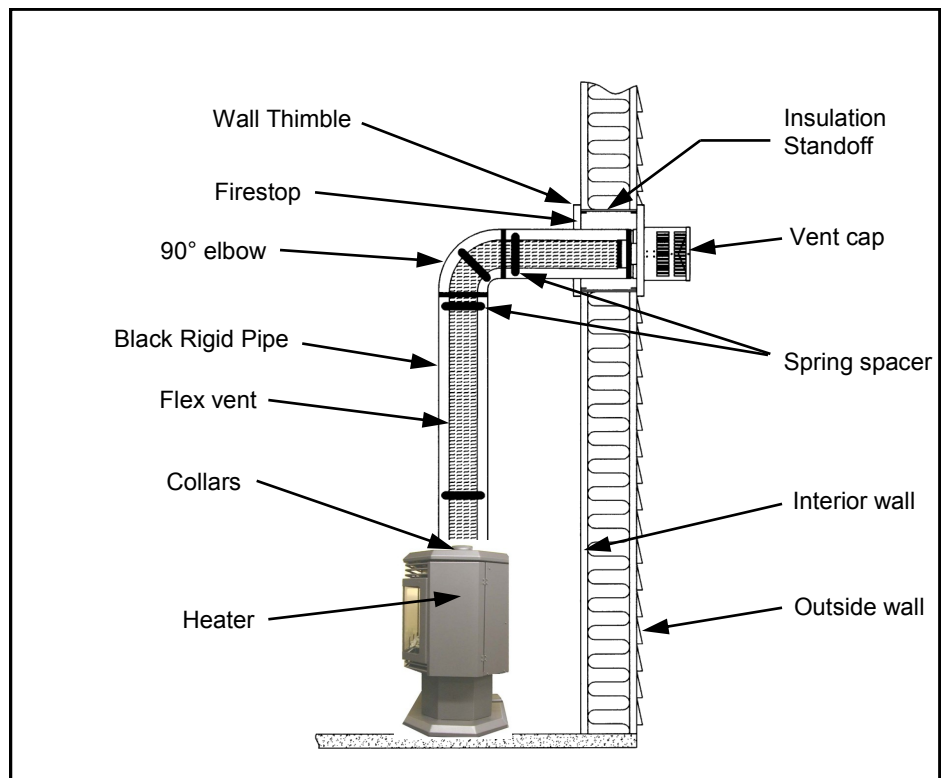
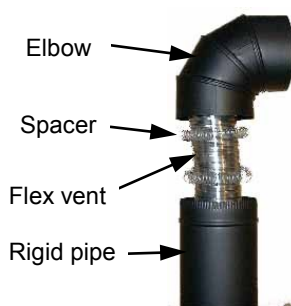


Fig. 1

Spring Spacers



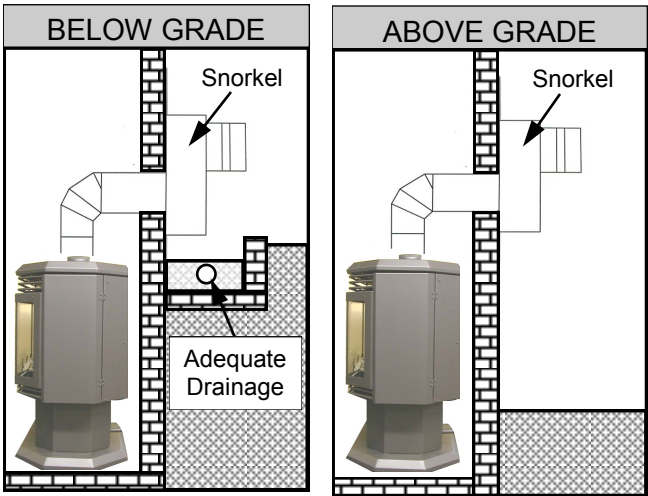
VENTING - BELOW GRADE USING FLEXIBLE DIRECT VENT SYSTEMS

INSTALLATION PROCEDURES FOR ARCHGARD SNORKEL KIT (999-DV-STC)

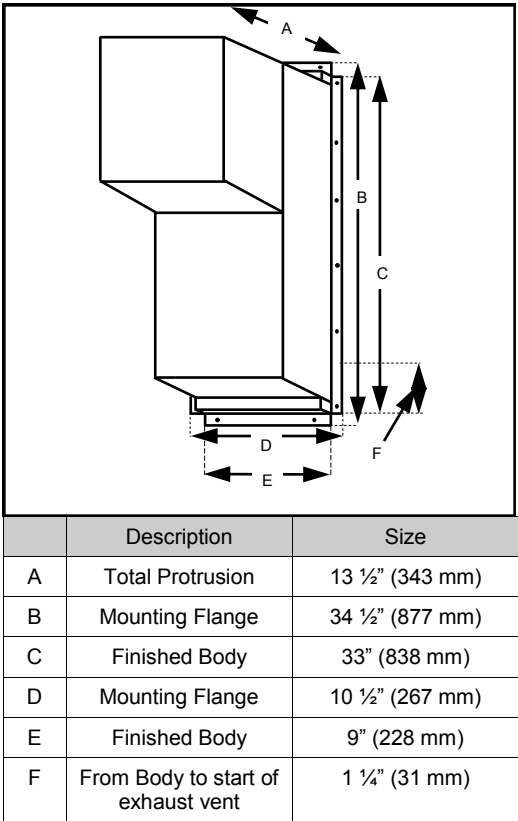
NOTE: The Archgard Snorkel kit is designed for 4" x 7" (101 mm x 178 mm) flexible gas liners that are NOT supplied with the Snorkel Termination Head and MUST be ordered separately.

- If the Snorkel Termination is installed BELOW GRADE, (I.E. basement application) proper drainage must be provided to prevent water from entering the Snorkel Termination.
- Do not attempt to enclose the Snorkel in the wall or any other type of enclosure.
- For Snorkel Terminations ABOVE GRADE installations follow national or local code requirements.

1. Follow all other venting instructions in the manual regarding minimum vertical rise to horizontal runs, recommended pitch, and clearances to combustible materials.
2. Locate the centerline of the termination and mark the wall. Cut an 11" x 10" (279mm x 254mm) hole in the wall. NOTE: a 2" (50mm) x 1 1/2" (13mm) around the 7" (178mm) liner is required. See Fig. 1 for termination framing.
3. Drill holes and insert the anchors as required.
4. Gently pull the coaxial vent through the hole. Apply a small bead of high temperature furnace cement around the 4" (101mm) collar on the snorkel and secure the 4" (101mm) flex vent with a stainless steel hose clamp and at least 3 screws. **Make certain you have not pulled the vent too hard and accidentally disconnected it from the appliance.**
5. Securely attach the 7" (178 mm) air intake pipe to the 7" (178 mm) collar on the snorkel kit with a 7" (178 mm) stainless steel hose clamp and three screws.
6. Apply a thick bead of all weather caulking all around the outside edges of the snorkel assembly and flanges.
7. Gently feed the vent back into the opening and push the snorkel up against the wall. Line up the holes previously drilled and lag the vent assembly to the wall.
8. Wipe off any excess caulking that squeezes out or add more to any areas that you may suspect will allow water to seep in.



IMPORTANT: Do not locate termination head where excessive snow or ice build up may occur. Check termination head area after every snow fall, and clear if necessary to prevent blockage. If using snow blowers, make sure snow is not directed at the termination head.



VENTING - HORIZONTALLY USING SIMPSON DURA-VENT DIRECT VENT SYSTEMS

The Optima 45 can be vented horizontally using Simpson Dura-Vent Direct Vent System. To vent using Simpson Dura-Vent exclusively, you must use the Archgard 999-DV-SDA Adaptor and connect the adaptor to the top of the Optima 45 as shown in Fig. 1.

NOTE: Apply high temperature sealant to the adaptor and the flue connection on the Optima 45. Seal all pipe joints and follow all venting instructions within this manual.

NOTE: Call your local Authorized Archgard Dealer to purchase Simpson Dura-Vent Direct Vent Kits and/or venting components.

Minimum components required for horizontal termination using Simpson Dura-Vent:

1 999-DV-SDA (Appliance adaptor)	1 90 Deg. Elbow
1 Horizontal Termination Cap	1 Wall Thimble
1 Length of pipe for top of appliance	1 Length of pipe to suit wall thickness

Measure wall thickness from the back of the fireplace standoffs to inside mounting surface of the termination cap. If a Vinyl siding standoff is required, measure to the outside surface of the wall without siding and add 2" (50 mm).

NOTE: The Termination cap must NOT be recessed into siding. Measure wall thickness including finishing straps.

Flat Wall Installation			
Wall Thickness (inches)	Vent Length Required (inches)	Wall Thickness (mm)	Vent Length Required (mm)
4" - 5 ½"	6"	101 mm - 140 mm	152 mm
7" - 8 ½"	9"	178 mm - 216 mm	228 mm
10" - 11 ½"	12"	254 mm - 292 mm	305 mm
9" - 14 ½"	11" - 14 ¾" Adj. Pipe	228 mm - 368 mm	228 mm - 371 mm
15" - 23 ½"	17" - 24" Adj. Pipe	381 mm - 597 mm	432 mm - 610 mm

Corner Installations			
Wall Thickness (inches)	Vent Length Required (inches)	Wall Thickness (mm)	Vent Length Required (mm)
3 ¼" - 6 ¾"	11" - 14 ¾" Adj. Pipe	82 mm - 171 mm	228 mm - 371 mm
7 ¾" - 16 ¼"	17" - 24" Adj. Pipe.	197 mm - 412 mm	432 mm - 610 mm
7 ¼" - 8 ¾"	6" + 12" Or 9" + 9"	184 mm - 222 mm	101 mm + 305 mm Or 228 mm + 228 mm
4 ¼" - 5 ¾"	6" + 9"	108 mm - 146 mm	152 mm - 228 mm

SIMPSON DURA-VENT DIRECT VENT PARTS LIST 6 5/8" x 4" (168 mm x 101 mm)

See your Authorized Archgard Dealer for price and availability.

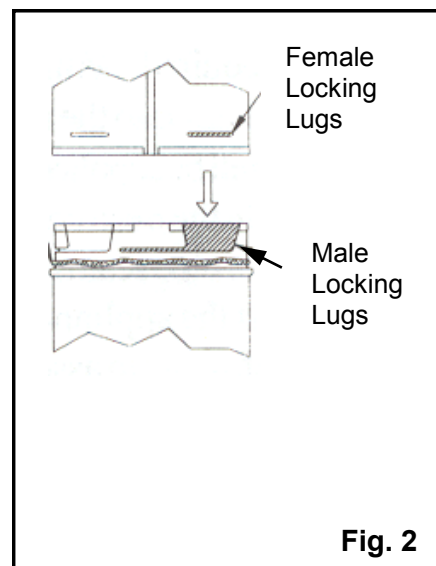
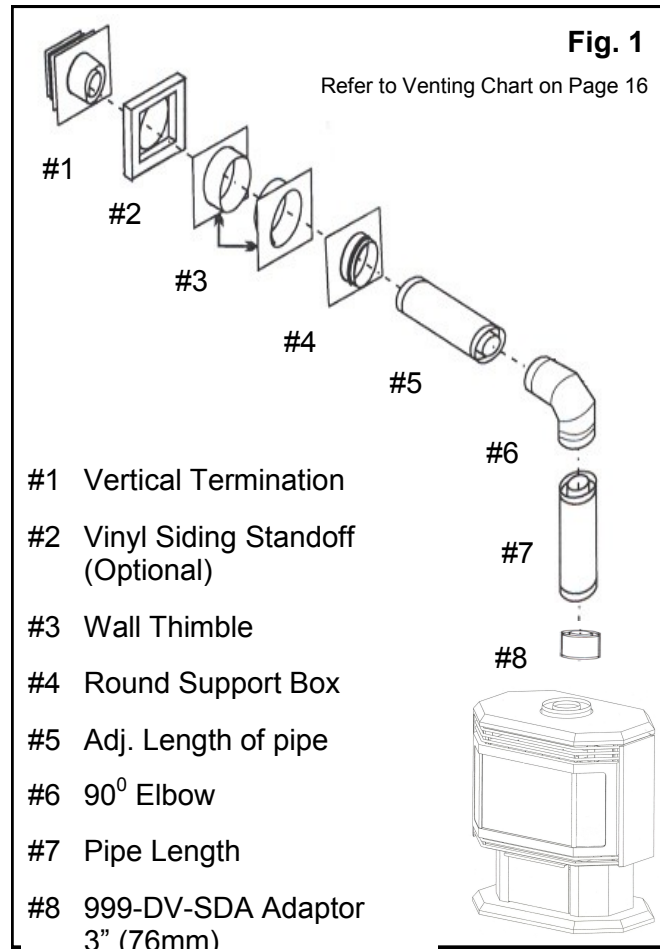
Part #	Description	Part #	Description	Part #	Description
971	Horiz. Term. Kit Includes; 90°. Blk elbow, wall thimble cover, Horiz. square term. Cap, 24" (610 mm) blk pipe and 11"-14" (279 mm x 356 mm) adj. blk pipe.	902	48" (1.22 M) Pipe Length - Galv.	984	Horizontal (Square) Termination Cap
970	Basic Horiz. Term. Kit Includes; 90°. blk elbow, wall thimble cover, Horiz. square term. cap.	902B	48" (1.22 M) Pipe Length - Black	985	Horiz. (SQ) Term. Cap. High Wind.
987	Vertical Termination Kit Includes; 0/12- 6/12 pitch adj. flashing, storm collar, low profile term. cap.	911B	11" - 14 ¾" (228 mm x 371 mm) Adj. Pipe Length - Black	982	Snorkel - 14" (356 mm) Rise Term. Cap
908B	6" (152 mm) Pipe Length - Black	917B	17" - 24" (432 mm) x (610mm) Adj. Pipe Length - Black	981	Snorkel - 36" (914 mm) Rise Term. Cap
907B	9" (228 mm) Pipe Length - Black	945	45° Elbow - Galv.	940	Wall Thimble - Support Box
906	12" (305 mm) Pipe Length - Galv.	945B	45° Elbow - Black	941	Cathedral/Ceiling - Support Box
906B	12" (305 mm) Pipe Length - Black	945G	45° Elbow - Swivel - Galv.	3951	Brass Trim for Wall Thimble/Ceiling Sup.
904	24" (610 mm) Pipe Length - Galv.	945BG	45° Elbow - Swivel - Black	963	Firestop Spacer
904B	24" (610 mm) Pipe Length - Black	990	90° Elbow - Galv.	943	Flashing 0/12 - 6/12
903	36" (914 mm) Pipe Length - Galv.	990B	90° Elbow - Black	943S	Flashing 7/12 - 12/12
903B	36" (914 mm) Pipe Length - Black	990G	90° Elbow - Swivel - Galv.	953	Storm Collar
		990BG	90° Elbow - Swivel - Black	950	Vinyl Siding Standoff
		991	Vertical Termination Cap High Wind	988	Wall Strap
		980	Vertical Termination Cap	942	Wall Thimble

VENTING - HORIZONTALLY USING SIMPSON DURA-VENT DIRECT VENT SYSTEMS

INSTALLATION PROCEDURES FOR SIMPSON DURA-VENT DIRECT VENT SYSTEM

1. Set the Optima 45 in its desired location. Determine if wall studs or roof rafters are in the way the when venting system is attached. You may want to adjust the location of the unit to compensate.
2. Simpson Dura-Vent Venting System is designed with special twist-lock connections to connect to the appliance. An Archgard adaptor (999-DV-SDA) is required. The adaptor will allow Simpson Dura-Vent System to be used.
3. Apply a bead of silicone inside the outer section of the adaptor (crimped side). Slip the adaptor over the existing inner and outer flue collar and fasten it to the outer collar only with 3 screws (drill pilot holes first). Level the appliance and fasten it to the framing using nails or screws through the nailing strips.
4. Assemble the desired combination of pipe and elbows to the appliance adaptor and twist lock the pipe.

NOTE: Twist-lock procedure: Four indentations, located on the female ends of the pipes and fittings, are designed to slide straight onto the male ends of adjacent pipes and fittings by orientating the four pipe indentations so they match and slide in to the four entry slots on the male ends (Fig. 2). Push the pipe sections completely together, then twist-lock one section clockwise approximately one quarter turn, until the two sections are fully locked. The female locking lugs will not be visible from the outside, on the pipe or fittings. They may be located by examining the inside of the female ends. Horizontal vent runs **MUST** be supported every three feet (76 mm). Wall straps are available for this purpose.



VENTING - HORIZONTALLY USING SIMPSON DURA-VENT DIRECT VENT SYSTEMS

INSTALLATION PROCEDURES FOR SIMPSON DURA-VENT DIRECT VENT SYSTEM

5. Mark the wall with an 11" (279 mm) x 10" (254 mm) hole. See termination framing on page 22. The center of the hole should line up with the centerline of the horizontal pipe. Cut and frame the 11" (279 mm) x 10" (254 mm) hole in the exterior wall where the vent will be terminated. If the wall being penetrated is constructed of non-combustible material, (I.E. a masonry block, or concrete) a hole with zero clearance is acceptable. **NOTE:** The horizontal run of vent must be level, or have a $\frac{1}{4}$ " (6 mm) rise for every 12" (305 mm) of run towards the termination. Never allow the vent to run downward. This could cause high temperatures and may present the possibility of a fire. **ALSO:** The location of the horizontal vent termination on an exterior wall must meet local and national building codes, and must not be blocked or obstructed. For Allowable Termination Locations see page 11 in this manual.
6. Position the Horizontal Vent Termination in the center of the square hole (arrow on the vent cap should be facing UP), and run a bead of non-hardening sealant around the outside edges of the termination, so as to make a seal between the termination and the wall. Finish attaching the termination cap to the wall with the four wood screws provided with the termination cap. **NOTE:** The four wood screws provided should be replaced with the appropriate fasteners for stucco, brick, concrete or other types of siding. For buildings with VINYL SIDING, a Vinyl Siding Standoff should be installed between the vent cap and the exterior wall. Attach the Vinyl Siding Standoff to the Horizontal Termination Cap by bolting the flat portion of the Vinyl Siding Standoff (Fig.1) so that an air space will exist between the wall and the Vent Termination.
7. Locate and slide the Wall Thimble Cover over the vent pipe.
8. Slide the appliance and vent assembly towards the wall, carefully inserting the vent pipe into the vent cap assembly. It is important that the vent pipe extend into the vent cap sufficient distance so as to result in a minimum pipe overlap of 1 $\frac{1}{4}$ " (31 mm). Secure the connection between the vent pipe and the vent cap by attaching the two sheet metal strips extending from the vent cap assembly into the outer all of the vent pipe. Use the two sheet metal screws provided to connect the strips to the pipe section. Bend any remaining portion of the sheet metal strip back towards the vent cap, so it will be concealed by the Wall Thimble Cover. (Fig. 2)
9. Slide the Wall Thimble Cover up to the wall surface and attach to the wall with wood screws. (Fig. 3)

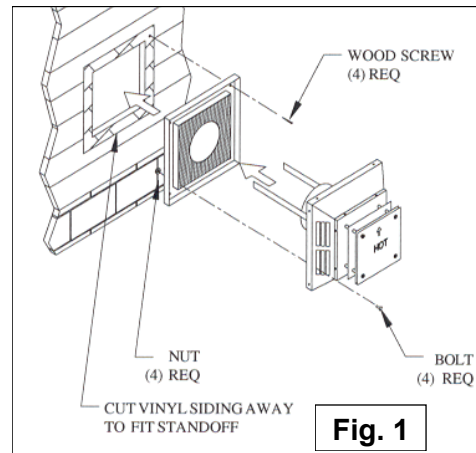


Fig. 1

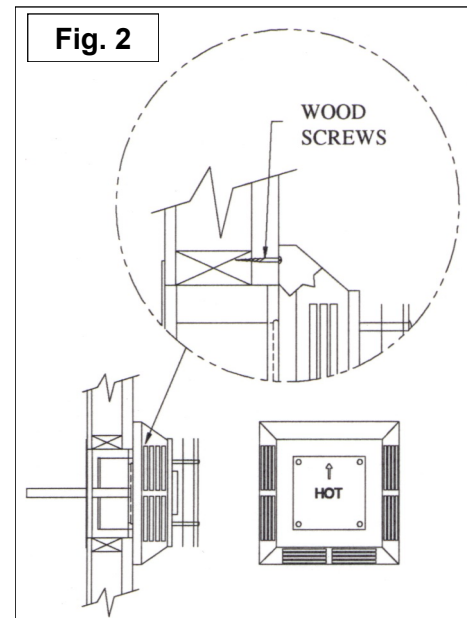


Fig. 2

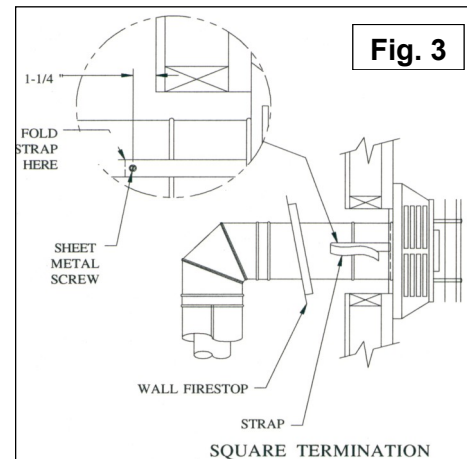


Fig. 3

VENTING - BELOW GRADE USING SIMPSON DURA-VENT DIRECT VENT SYSTEMS**INSTALLATION PROCEDURES FOR SIMPSON DURA-VENT DIRECT VENT SYSTEM**

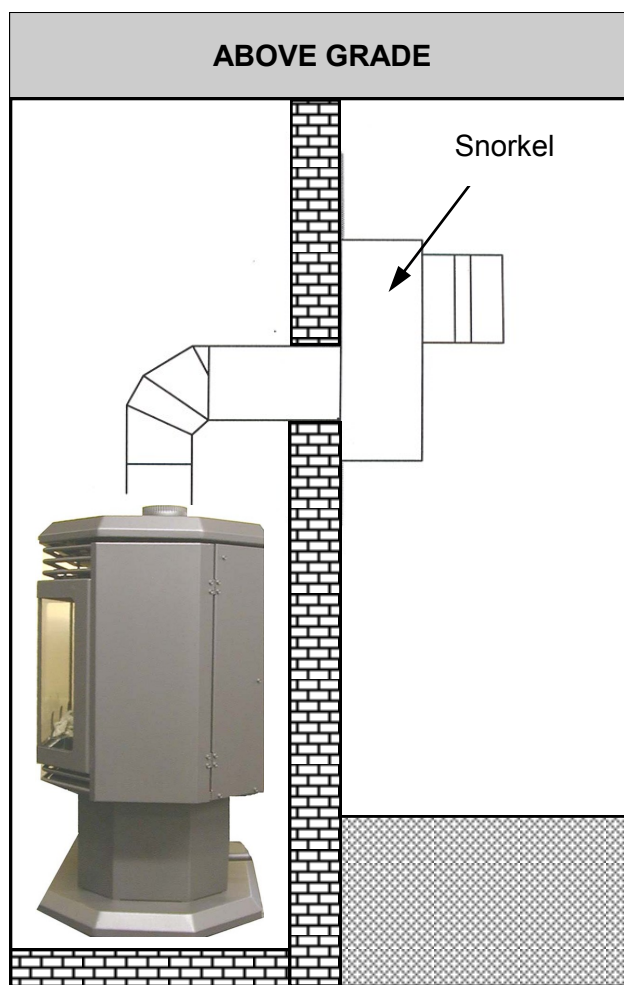
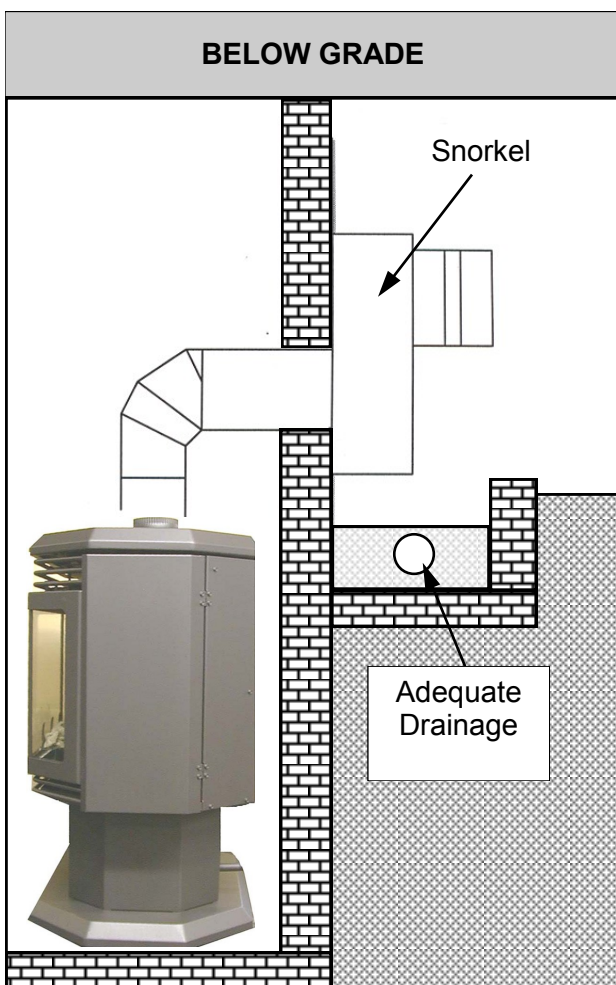
SNORKEL TERMINATIONS: For installations requiring a vertical rise on the exterior of the building, 14" (355mm) and a 36" (914mm) tall Snorkel Termination Caps are available.

Follow the same installation procedures as used for Horizontal Termination.

NEVER install the snorkel upside down. **IMPORTANT:** Proper drainage must be provided to prevent water from entering the Snorkel Termination Cap.

NOTES:

- If the Snorkel Termination is installed **BELOW GRADE**, IE basement application, proper drainage must be provided to prevent water from entering the Snorkel Termination.
- Do not attempt to enclose the Snorkel in the wall or any other type of enclosure.
- For Snorkel Terminations **ABOVE GRADE** installations follow national or local code requirements.



LOG PLACEMENT

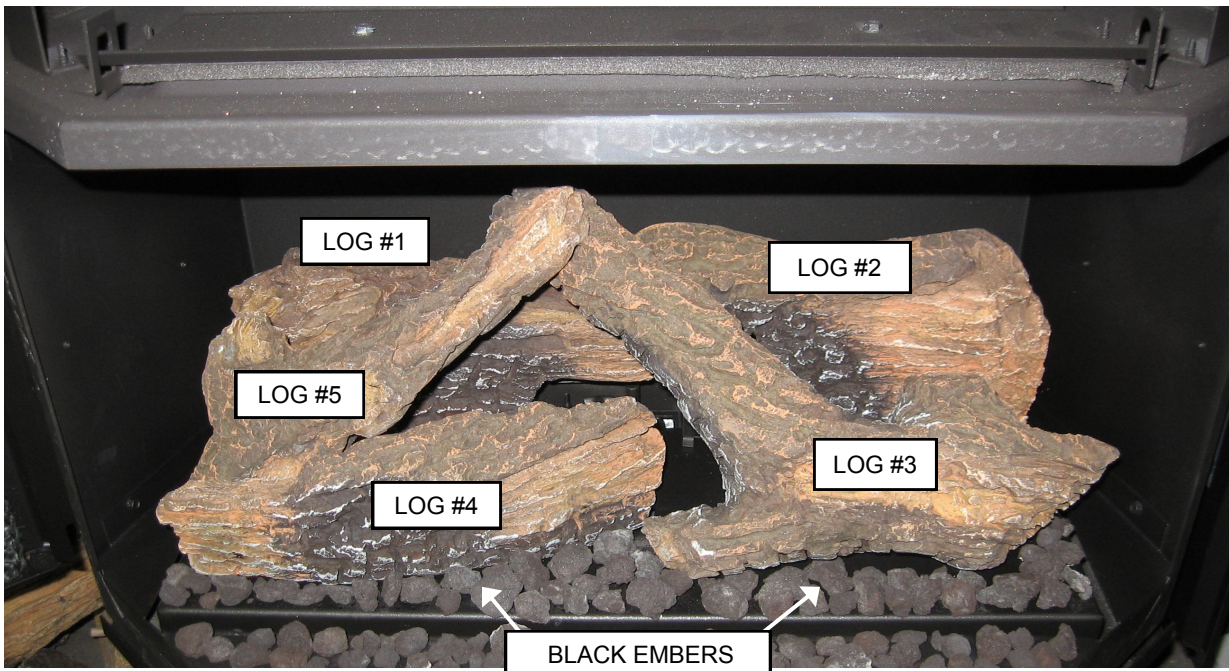
Archgard chooses ceramic fiber logs for use in the Optima 45. The logs are designed to give a realistic fire package, and are created for long life, to give you the same beautiful look as the day they were originally installed. Care must be given when first installing the logs and if removed for servicing, as they can be damaged or broken if not handled properly. Please note that logs may vary slightly in size and shape but does not affect performance.

Gas and vent connection must be made before installing the ceramic fiber logs on the burner.

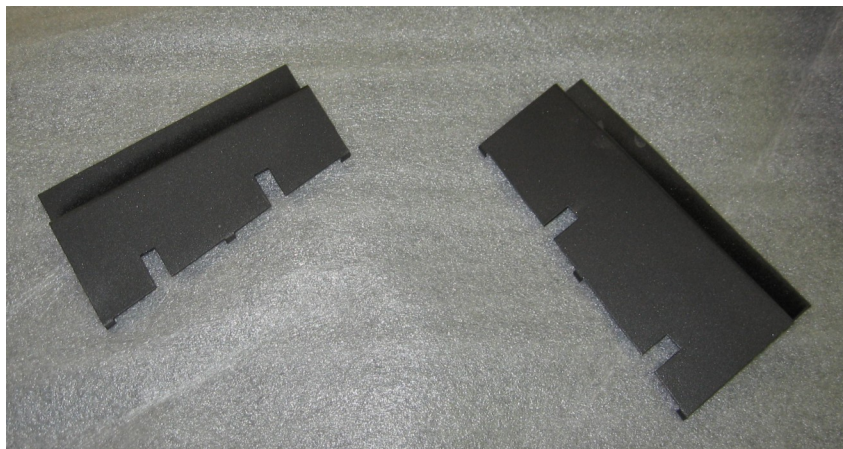
NOTE: Improper placement of logs may cause sooting on the internal parts and glass, and will not be covered under warranty. Do not use broken or damaged logs.

WARNING: Failure to position the parts in accordance with these diagrams or failure to use only parts specifically approved with this appliance may result in property damage or personal injury.

**5-piece log set and embers shown below.
The following pages will identify the installation positions.**



NOTE: Installing the ceramic logs in any other position other than shown will result in flame impingement causing sooting of the logs, brick liner and ceramic glass viewing area.

LOG PLACEMENT - Continued**REAR LOG RESTS**

The rear logs must be placed on top of the log rests shown above. Make sure they are placed on the back left and right behind the burner so the log pins come up through the notches as shown below. Be sure the rests are pushed all the way to the rear of the stove.



LOG PLACEMENT - Continued**LOG #1**

Place log number 1 on top of the left rear log rest with the two pins aligned with the holes in the bottom of the log.

LOG #2

Place log #3 on top of the right rear log rest with the two pins aligned with the holes in the bottom of the log.

LOG PLACEMENT - Continued**LOG #3**

Place log number 3 on the two right pins so they align with the holes in the bottom of the log as shown. The top of the log should rest against log number 2.

LOG #4

Place log number 4 on the two left pins so they align with the holes in the bottom of the log as shown.

LOG PLACEMENT - Continued**LOG #5**

Place log number 5 so the bottom left of the log sits on the burner directly behind log number 4. Pull the log forward so it just touches log 4. Make sure the log is set far enough to the right so as not to block any of the burner ports. Set the top of the log so it rests against log number 3 as shown.

EMBERS

Place the embers on the burner and along the front edge of the burner surround. Make sure to place the embers so as not to completely block burner ports. It is OK to place the embers over the burner ports as long as they are not laying flat on the burner port preventing gas from flowing out.

OPTIONAL CERAMIC BRICK PANELS

The Optima 45 has optional Ceramic Brick Panels or Reflective Glass Panels available. They can be purchased through your local authorized Archgard Dealer.

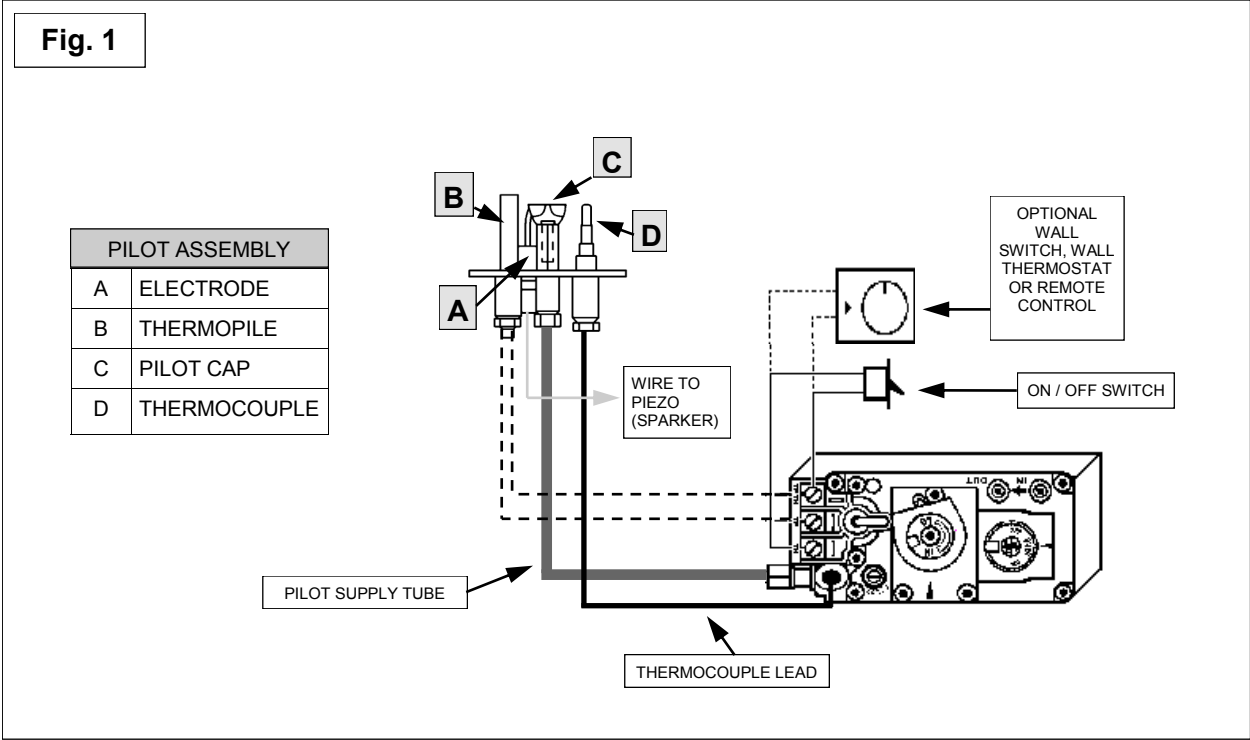
OPTIONAL WALL SWITCH OR THERMOSTAT

If a wall-mounted switch or a wall-mounted thermostat is desired, Archgard recommends that the device be wired as shown in Fig 1.

Note: Archgard Industries does not manufacture or sell any wall switch or wall thermostat and will not extend warranty to them.

Thermostat / wall switch wire table Recommended Maximum Lead Length for two wires	
Wire Size	Max. Length
14 GA.	50 Ft. (15.24 M)
16 GA.	32 Ft. (9.75 M)
18 GA.	20 Ft. (6.09 M)
20 GA.	12 Ft. (3.65 M)
22 GA.	9 Ft. (2.74 M)

VALVE CONNECTION FOR MILLIVOLT VALVE



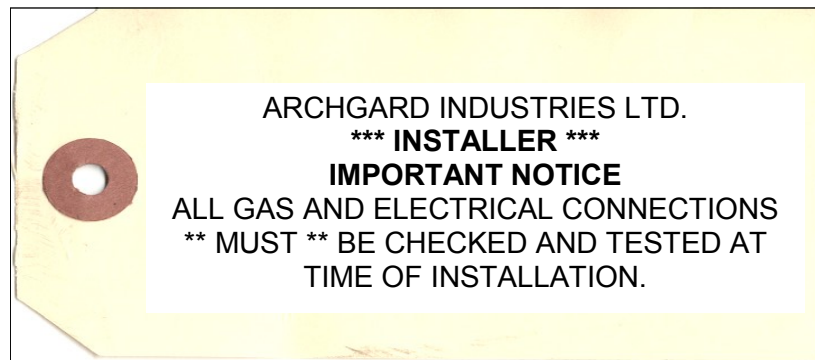
FINAL INSTALLATION CHECK

Each Archgard Gas Fireplace is checked and tested at the factory prior to being packaged and shipped to our dealers and finally installed in your home. Archgard recommends that before leaving this unit with the customer, the installer must ensure that the appliance is firing correctly, and that the electrical system is in working order. **This will include:**

1. Perform Leak tests of supply line, gas control valve, supply line from gas control valve and pilot assembly.
2. Clocking the appliance to ensure the correct firing rate (see rating plate or page 6 of this manual).
3. If required, adjusting the primary air to burner to ensure that the flame does not carbon or soot. (see rating plate or page 6 of this manual) .
4. Check for proper operation including correct drafting.
5. The FAN system should be turned ON for a minimum of 15 minutes to ensure the fan, rheostat and fan sensor are all working correctly. After the system has been checked, and confirmed that the fan components are in working order, turn the fan system OFF and refer to the instructions for FIRST FIRE located in this manual.

As a reminder, a TAG is attached to all of our gas fireplaces. This TAG is located at the gas control valve. (See Fig 1).

Fig. 1



Any alteration to the product that causes carboning or sooting that results in any damage or requires cleaning is not the responsibility of the manufacturer.

INITIAL OPERATION

1. Check that the appliance is properly vented and connected to the gas supply.
2. Check that the logs and branches are properly placed.
3. Check that all external parts, such as grills, door and faceplate are properly attached and fastened.
4. Do not operate this appliance with broken or cracked glass doors or without the door (s) in its correct (and latched) position. Do not use abuse the glass by either striking or slamming shut.
5. Check that there are no fingerprints left on gold surfaces or glass panels, as high temperatures can bake these prints permanently.

FIRST FIRE

When operated for the first few times, the appliance will emit some odor and fumes. This is due to the heat from the appliance evaporating the oils and solvents used in fabricating the appliance. Close off the room to the rest of the house and open all windows. Keep the room well ventilated as smoke alarm may sound. Run the appliance for at least 6 hours at maximum setting with blower set to "OFF" to allow paint to cure (after the installer has checked to ensure the fan is operational). Smoke and fumes caused by the curing process may cause discomfort to some individuals.

LIGHTING INSTRUCTIONS - CAUTION

WARNING : If you do not follow these instructions exactly, a fire or explosion may result, causing property damage, personal injury or loss of life. Do not operate the appliance with the glass front removed, cracked or broken. Replacement of broken glass should be done by a licensed or qualified service person.

This appliance has a pilot which must be ignited using the sparker located next to the appliance valve controls. When lighting the pilot, follow the start-up procedures **EXACTLY**. See next page or rating plate for complete lighting instructions.

1. BEFORE LIGHTING, smell all around the appliance area for gas. Be sure to smell next to the floor, because some gases are heavier than air and will settle on the floor.
2. IF YOU SMELL GAS, follow the instructions on the front cover of this manual.
3. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, do not try to repair it. Call a qualified service technician. Force or attempted repair of gas control knob may result in a fire or explosion.
4. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.



LIGHTING INSTRUCTIONS ON RATING PLATE

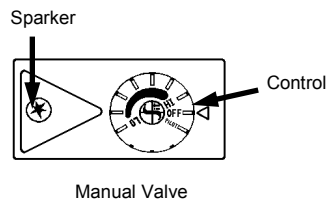
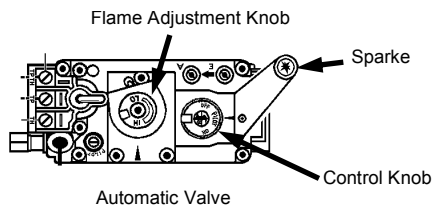
FOR YOUR SAFETY READ BEFORE

WARNING: If you do not follow these instructions exactly, a fire of explosion may result causing property damage, personal injury or loss of life.

- A. This appliance has a pilot which must be lighted by a spark ignitor. When lighting the pilot follow these instructions exactly.
- B. BEFORE LIGHTING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
- WHAT TO DO IF YOU SMELL GAS
- Do not try to light any appliance.
 - Do not touch any electrical switch; do not use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand don't try to repair it, call a qualified service technician. Forced or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.


LIGHTING INSTRUCTIONS

1. STOP! Read the safety information above on this label.
2. Set the remote switch to "OFF". Set the thermostat to the lowest setting. (Only if your appliance is equipped with these devices.)
3. Turn off all electric power to the appliance.
4. Open lower louvers or access door.
5. Press slightly and turn the control knob clockwise  to the "OFF" position.
6. Wait 5 minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! and follow instruction "B" above.
7. Find pilot. It is located between the logs near the center behind the burner.
8. Press slightly and turn control knob counterclockwise  to "PILOT". Depress knob and light pilot by repeatedly pressing the sparker. Once flame is established, hold knob depressed for approximately 30 seconds. Release knob. If pilot should go out, repeat steps 3 to 5.
 - If the knob does not pop up when released, stop and immediately call your service technician or gas supplier.
 - If the pilot will not stay lit after several tries, turn the gas control knob to "OFF" and call your service technician or gas supplier.
9. Turn on all electric power to the appliance.
10. Close louver or access door.



Pilot

TO TURN OFF GAS TO APPLIANCE

1. Set the thermostat to the lowest setting and turn the remote switch to "OFF".
2. Turn off all electric power to the appliance if service is to be performed.
3. Open lower louvers or access door.
4. Press slightly and turn control knob clockwise  to "OFF". Do not force.
5. Close lower louvers or access door.

303-0001

GLASS DOOR REMOVAL**WARNING:**

- Do not attempt to remove the glass panel assemblies when the appliance is hot.
- Do not strike or abuse glass panel (s).
- Do not operate with glass panel (s) broken or cracked.
- Broken or cracked glass panel assemblies must be replaced only with those supplied by Archgard Industries.
- Do not use substitute materials or assemblies.
- Replacement of the glass should be carried out by a licensed or qualified service person.

WARNING: Do not attempt to remove the glass door when the appliance is hot.

Removing the Glass Door

1. Open both side cover doors.
2. Unlatch the right hand door catches.
3. Swing the door open.
4. Lift the door clear of the bottom hinge and drop out of the top hinge.

Replacing the Glass Door

Reverse the above procedure.

To open the door
release the two
securing catches

**IF YOUR GLASS BREAKS**

In the event that your glass cracks or breaks, Archgard recommends that a new door assembly be ordered to replace the original door.

- Remove door as per the instructions above.
- Replace with new door assemblies.

NOTE: the NEW door will emit some odor when the appliance is re-lit and the odor will dissipate after the gasket material within the door has cured.

TROUBLESHOOTING

Please check to make sure the instructions are followed exactly before attempting troubleshooting of the appliance.

WARNING: Troubleshooting and servicing of gas and electrical devices of the appliance should only be conducted by a qualified service technician.

SYMPTOM	ACTION
Pilot will not light after pressing the sparker many times.	<ol style="list-style-type: none"> 1. When lighting the appliance for the first time after installation or after servicing, there is air in the gas line. It takes a while for all the air to purge out of the pilot before gas can reach the pilot and ignite. Remove the glass door and try lighting the pilot many times to purge the air. 2. Check to make sure the gas supply to the appliance is turned on and there is adequate gas supply pressure to the appliance. 3. Check for sparks between the spark electrode and the pilot head when the sparker is pressed. If there are no sparks, <ol style="list-style-type: none"> a. Check for broken or poor connection from the sparker to the electrode. b. Check for the spark shorting or arcing at other locations. c. Check for defective sparker. d. Check for defective spark electrode. 4. With the door removed, try lighting the pilot with a match. <ol style="list-style-type: none"> a. If air is blowing on the flame of the match, hold the control knob in at the 'PILOT' setting until all the air is purged out of the line. b. If there is no gas or air coming out of the pilot and there is gas pressure to the appliance, the pilot orifice may be blocked or the gas valve may be defective.
Pilot will not remain on after being lit.	<ol style="list-style-type: none"> 1. Press the control knob all the way in (at the "pilot" indicator). 2. Hold the control knob in for a longer period of time. 3. If you are trying to re-light the pilot immediately after you have shut-off the pilot, you have to wait 5 minutes for the valve to reset. (safety system built into the valve) 4. Check to see if the pilot flame is large enough to reach and surround the thermocouple. If the flame is too small, check for correct gas supply pressure. If pressure is good, adjust the pilot flame size with the adjustment screw on the valve. If the flame cannot be adjusted, there might be some debris obstructing the pilot orifice, or a wrong size pilot orifice. 5. Check for poor connection of the thermocouple to the valve. 6. Check for proper millivolts of the thermocouple. The thermocouple should generate at least 30 mV or it is defective. 7. Check for defective gas valve.
The main burner does not turn on with the pilot lit.	<ol style="list-style-type: none"> 1. Check to make sure the control knob is turned to the 'ON' position. 2. Allow enough time for the pilot to heat up the thermopile to generate sufficient voltage to activate the valve.

TROUBLESHOOTING Continued

SYMPTOM	ACTION
<p>The main burner does not turn on with the pilot lit. Cont...</p>	<ol style="list-style-type: none"> 3. Check to make sure the thermostat is set high enough to turn on the appliance. 4. Check that the remote switch or the thermostat is turned on. 5. Check for weak pilot flame. If the flame is weak, check gas supply, check pilot flame adjustment and check for blockage of pilot orifice. 6. Check all connections to the valve for tight electrical contact. 7. Check for 400-500 mV from the thermopile with the burner off and 200-250 mV with the burner on. If the voltages are lower, the thermopile is defective. 8. Check for defective gas valve.
<p>The main burner shuts off when the appliance is warm.</p>	<ol style="list-style-type: none"> 1. This may be the normal operation of a wall thermostat installed to appliances. 2. Check for good pilot flame on the thermopile. 3. Check for good voltage from the thermopile. 4. Check for proper functioning of venting system (blocked ?). 5. Check wire connections. Expansion from heat affects a loose connection.
<p>Sooty deposits on the glass door.</p>	<ol style="list-style-type: none"> 1. If the flame is yellow and lazy, check for lint etc. around primary air shutter. Increase primary air by opening the primary air shutter if necessary. 2. Check for proper placement of the logs and branches. Ensure logs and burner are clean. See that section in the instruction manual. 3. Check for proper venting and blockage of the vent termination. 4. Check manifold pressure and clock input rating for over-firing.
<p>Sharp blue flames with flames lifting off the burner at the ends.</p>	<ol style="list-style-type: none"> 1. Too much primary air. Reduce primary air by closing the primary air shutter. During cold temperatures, some flame lifting may occur during start-up.
<p>Convection blower does not turn on.</p>	<ol style="list-style-type: none"> 1. The convection fan is thermostatically controlled. It will only turn on when the appliance is warmed-up. This may take up to 15 minutes with the appliance on high. 2. Check for 120 VAC electrical supply to the appliance. 3. Check for proper mounting of the thermal snap disc. 4. Check electrical connections. 5. Check for defective thermal snap disc. 6. Check for defective convection blower speed controller. 7. Check for defective convection blower.

MAINTENANCE

CAUTION: Do not conduct maintenance on the appliance while it is operating or while it is still hot.

CLEANING THE APPLIANCE

The exterior painted surfaces, glass and gold trims may be cleaned with a soft, non-abrasive cloth and water or a suitable, mild, non-abrasive cleaner.

Regularly:

- Frequent cleaning of the ceramic glass is required. Archgard recommends using a good quality “gas fireplace” glass cleaner that is available at any hearth retail location. **DO NOT CLEAN WHILE HOT.**
- Clean and remove any lint accumulations or debris from the grills and in any combustion and convection air passage ways.
- Keep the appliance area free from combustible materials, such as paper, wood, clothing, gasoline and flammable solids, liquids and vapors.
- Visually check the height and color of the burner and pilot flames.

Every 2 to 3 months:

- Clean the ceramic glass with a good quality “gas fireplace” glass cleaner. **DO NOT CLEAN WHILE HOT.**
- Carefully remove the logs and gently brush off any loose carbon deposits. This job is best done outside the house, wearing a dust mask. The logs are very fragile, take care not to break them. **Do not wash logs with any liquid.** While the logs are removed, check that all burner openings are not obstructed and it is recommended you use a vacuum cleaner to clean off any dust or lint.
- After cleaning, the logs must be replaced as per the instructions in this manual.

Once a year, have a qualified service technician:

- Completely inspect the appliance and the venting system, if the vent pipe or seal is found to be defective, replace and or reseal (follow the instructions found in the installation section) .
- Clean and remove any lint accumulations or debris in the firebox, on the burners, on the pilot, at the primary air opening, on the convection air blower and in any combustion and convection air passage ways.
- Check the safety system of the gas valve and the appliance.

WARNING : All parts removed or disturbed including guards and grills must be properly replaced after maintenance. Service and repair must be conducted by a qualified service person. If these instructions are not followed, a fire or explosion may result, causing property damage, personal injury or loss of life.

SERVICING UNDER WARRANTY

Before servicing, read the Terms and Conditions of the Archgard Warranty at the back of the manual. Contact the Authorized Archgard dealer where you purchased the appliance and provide them with details of the problem together with the initial installation information (from the back of this manual).

WARNING: Servicing of this appliance **must be conducted by a qualified service technician**. Improper servicing, adjustment or alteration of this appliance may cause property damage, personal injury or loss of life. All servicing should be conducted with the appliance cold. All replacement parts must be authorized by Archgard for suitability.

ADJUSTING PRIMARY AIR

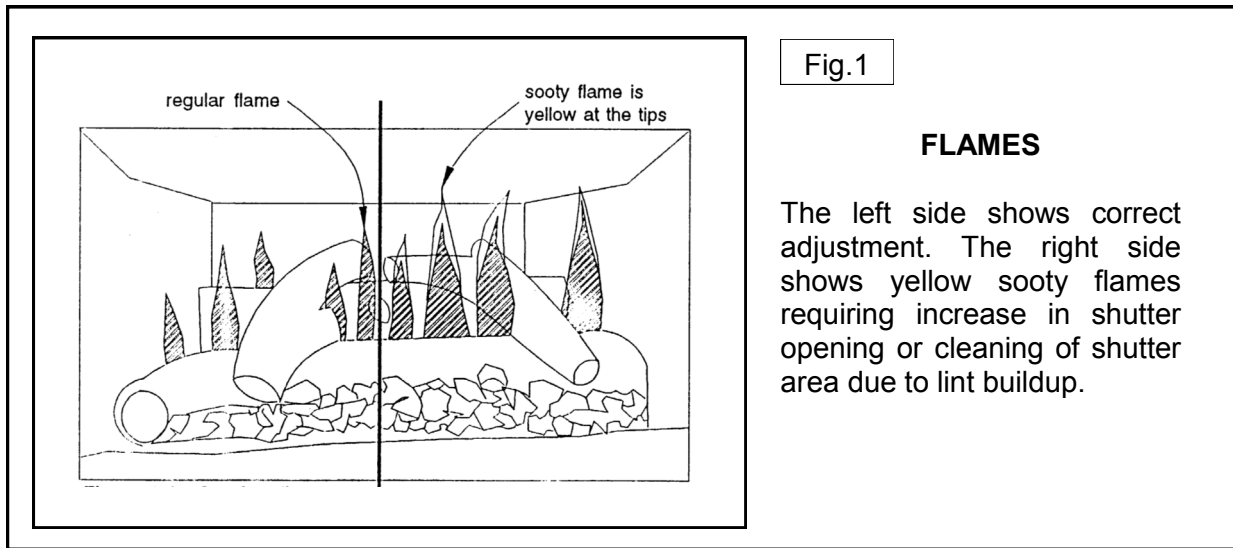
Caution: Wear gloves when adjusting the primary air with the appliance hot.

Note: the Shutter is set at the factory and normally only requires resetting at higher altitudes.

1. Unscrew the 2 screws holding the control panel and remove the panel.
2. The primary air adjustment wing nut is located behind and to the left of the control valve.
3. Loosen the wing nut and slide the primary air shutter to the right to increase primary air and to left to reduce primary air.
4. Tighten the wing nut after adjustment.

ADJUSTING PRIMARY AIR

NOTE: (Fig. 1) is to give an example of a correct and incorrect flame pattern. It is not a true representation of what the Optima 45 will look like in the customer's home environment.

**CHANGING MAIN BURNER ORIFICE**

1. Remove the glass door. Follow GLASS DOOR REMOVAL instructions within this manual.
2. Locate & slide the Primary Air Sleeve fully toward the left. This will allow the sleeve to disconnect from the burner tube. Follow ADJUSTING PRIMARY AIR instructions within this manual for reassembly.
3. Remove the ceramic fiber logs from the burner. See LOG PLACEMENT instructions.
4. Unscrew the two mounting screws holding the burner in place.
5. Carefully remove the burner by using your index fingers in the holes and lift the burner out.
6. Use a ½" (13 mm) wrench to remove the orifice cap.
7. Change the orifice cap to the fuel type desired. Use a small quantity of gas thread seal compound. Do not over-tighten.
8. Reverse steps 1 through 6.

THIS APPLIANCE IS EQUIPPED FOR NATURAL GAS. An additional Conversion Kit is required to convert for Propane use. To order the Conversion Kit , please contact your Authorized Archgard Dealer.

CHECKING INLET AND OUTLET GAS PRESSURE

1. Remove the control panel.
2. The pressure test taps are located on the valve. The taps are located on the gas valve front face. The inlet is marked 'IN' and the outlet is marked 'OUT'. (See Fig.1)
3. Loosen the set screw inside the tap with a $\frac{1}{8}$ " (3 mm) wide flat screwdriver.
4. Connect a $\frac{1}{4}$ " (6 mm) rubber tube to the tap post and a manometer.
5. Verify the readings obtained are within specs (as shown on the appliance rating plate)
6. Be sure to tighten the set screw inside the tap after you are finish taking pressure readings.
7. Check for leaks.

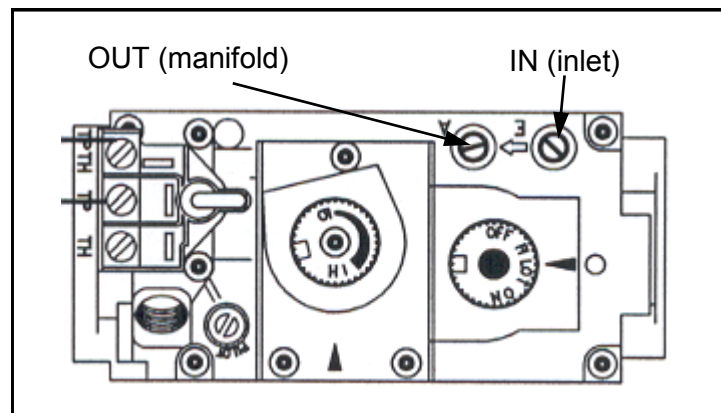
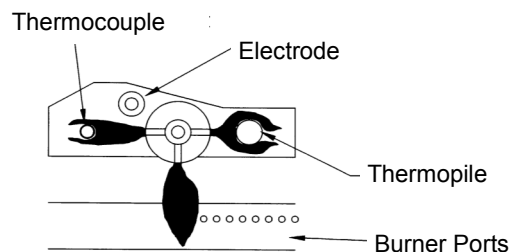


Fig. 1

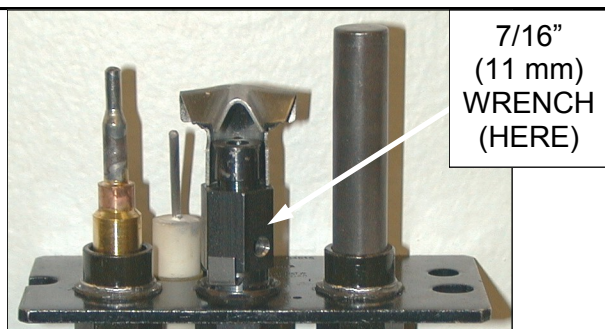
CHECKING AND ADJUSTING PILOT

The pilot flame should have the characteristic as shown in the illustration below. The flame should not have yellow tips but should engulf the thermocouple and thermopile. It can be adjusted by turning the screw marked "pilot" on the control valve.



CONVERTIBLE PILOT ORIFICE

The pilot assembly is convertible to the type of gas being used. Simply unscrew the body by using a $\frac{7}{16}$ " (11 mm) wrench and turn $\frac{1}{4}$ open - then push the small metal tab across to the other side of the body and retighten. **Call your local Authorized Archgard Dealer to purchase the correct fuel conversion kit for your gas appliance.**



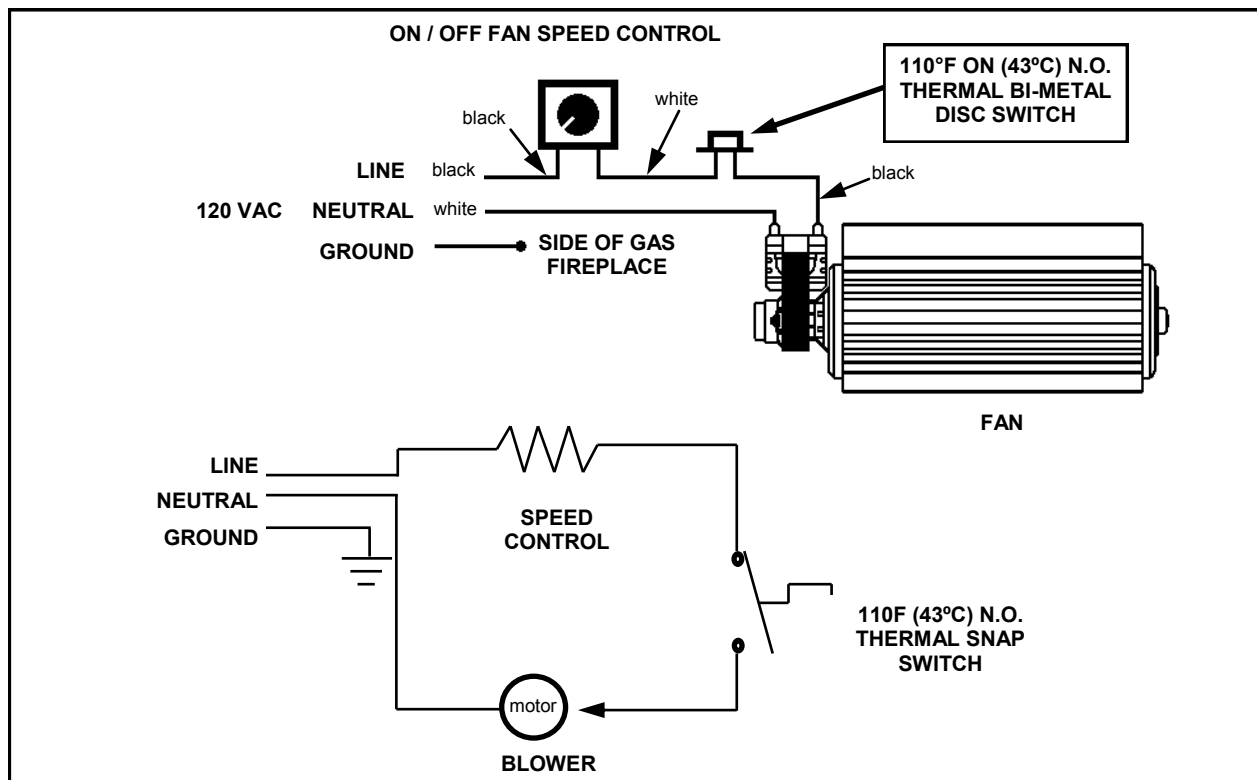
REPLACING CONVECTION BLOWER

Caution: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing. This appliance, when installed, must be electrically grounded in accordance with local codes or, in the absence of local codes, with the **National Electrical Code, ANSI/NFPA 70**, or the **Canadian Electrical code, CSA C22.1**.

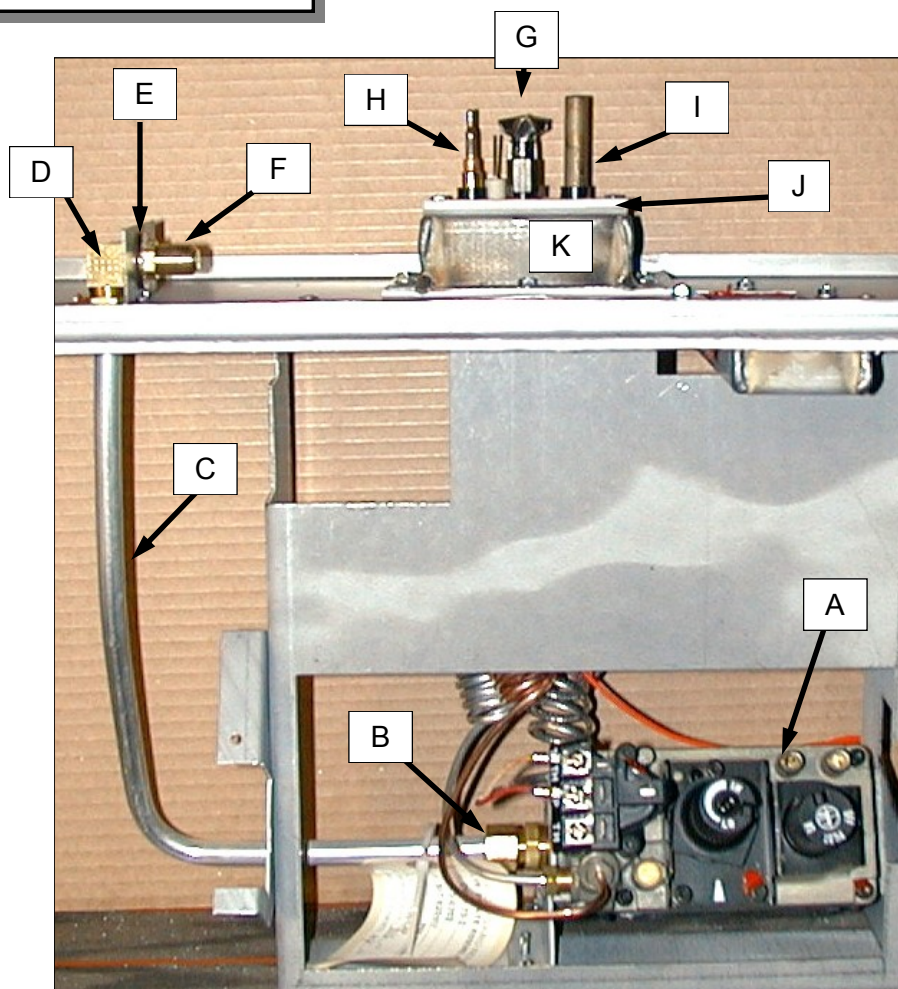
NOTES:

- Ensure that the main power and breaker system is turned OFF before removing the fan.
 - Make sure the fireplace has been turned off and is cool to the touch.
 - Mark all wires to be removed for proper reassembly.
 - **CAUTION:** Wiring errors cause improper and dangerous operation.
1. The convection blower is located at the bottom back of the fireplace just above the pedestal base. Locate the back panel and remove the six screws holding the plate in place.
 2. Remove the three screws holding the fan to the mounting plate.
 3. Lift the blower out and disconnect the wires from the blower.
 4. Repeat above steps to install new fan.

WIRING DIAGRAM

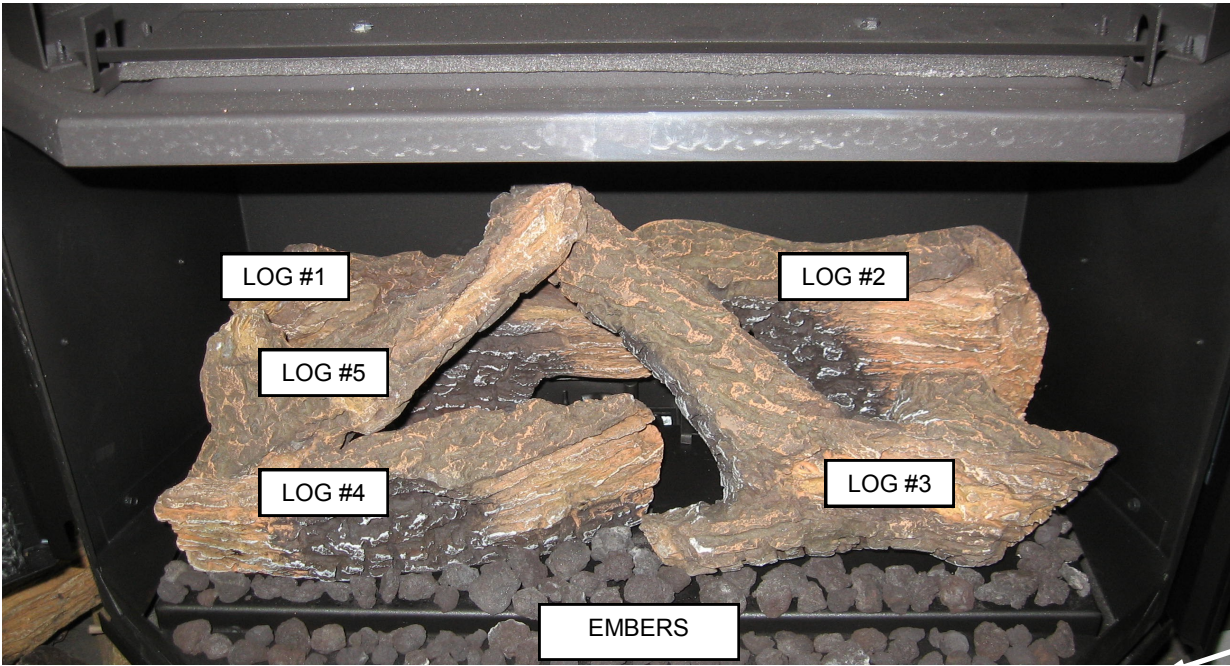


VALVE TRAY ASSEMBLY



	Item #	Item Description	Qty	Unit
A	308-0013	Valve NOVA SIT 820 (0.820.652) Natural Gas	1	EA
B	301-0000	Straight $\frac{3}{8}$ " (9.5 mm) compression $\frac{3}{8}$ " (9.5 mm) MNPT	1	EA
C	301-0009	Tubing $\frac{3}{8}$ " (9.5 mm) Dia. Aluminum (Main Supply Tube)	14.5	IN
D	301-0001	Elbow $\frac{3}{8}$ " (9.5 mm) compression 90 deg. $\frac{1}{8}$ " (3 mm) MNPT	1	EA
E	300-0020	Washer Flat Zinc Plated	2	EA
F	301-0068	Orifice (Main Burner Orifice) Drill to #38 DMS (2.64 mm dia) For Natural Gas / Drill to #52 DMS (1.60 mm dia) for Propane	1	EA
G	308-0093	Pilot Assembly. Convertible NG/LP Base Mount. Includes the items listed below	1	EA
H		Part # 308-0057 - Thermocouple (replacement)	1	EA
I		Part # 308-0056 - Thermopile (replacement)	1	EA
J	314-0127	Pilot Assembly Box Gasket	1	EA
K	727-0207	PILOT Assembly Box	1	EA
	822-0108	Valve Plate Assembly - Natural Gas	1	EA
	822-0109	Valve Plate Assembly - Propane	1	EA

PARTS LIST - Ceramic Logs and Burner Pan



Item #	Item Description	Qty	Unit
310-6450-1	FiberFlame Log #1	1	EA
310-6450-2	FiberFlame Log #74	1	EA
310-6450-3	FiberFlame Log #13	1	EA
310-6450-4	FiberFlame Log #142	1	EA
310-6450-5	FiberFlame Log #83	1	EA
310-6450	5-Piece FiberFlame Log Set	1	EA
822-0051	Replacement Burner Pan Assembly	1	EA
310-0020	Black Embers	1	EA

REPLACEMENT PARTS LIST ARCHGARD OPTIMA 45-3
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Item #	Item Description	Qty	Unit
200-0185	Owner's Manual	1	EA
300-0055	Door Latch "J" Hook Threaded	2	EA
308-0005	Piezo Igniter Only	1	EA
722-0228	Upper Pilot Shield	1	EA
305-0019	ON / OFF Rocker Switch	1	EA
308-0046	Knob Extension - ON / OFF 1 ½" (62 mm)	1	EA
308-0047	Knob Extension - HI / LOW 1 ½" (62 mm)	1	EA
Fan Components			
305-0013	Fan - Speed Control (Rheostat)	1	EA
305-0021	Fan - Thermodisc (fan sensor) 110 ⁰ F (43 ⁰ Celsius)	1	EA
305-0024	Fan - with motor and blades. 120VAC, 115V, 24watt (QLN65-0018)	1	EA
305-0012	8' (2.44 M) Power Cord	1	EA
Replacement Glass (Bay Door)			
BBAY-45	Full Door Replacement in BLACK	1	EA
GBAY-45	Full Door Replacement in GOLD	1	EA
Louver "Grill" Replacements			
317-0028	Replacement "TOP" Louver Assembly (Black) 3/Bar	1	EA
317-0029	Replacement "BOTTOM" Louver Assembly (Black) 2/Bar	1	EA
315-0033	Replacement "TOP" Louver Assembly (GOLD) 3/Bar	1	EA
315-0034	Replacement "BOTTOM" Louver Assembly (GOLD) 2/Bar	1	EA

ARCHGARD LIMITED WARRANTY

This Limited Warranty is made by ARCHGARD INDUSTRIES LTD., hereinafter referred to as "Archgard". Archgard warrants to the original purchaser of an Archgard gas burning fireplace (s) that the product will be free of defects in materials and workmanship under normal use and service, for a "lifetime".

INCLUSIONS: "LIFETIME LIMITED WARRANTY"

- ❖ All heat exchangers, combustion chamber, burner tubes and pans.
- ❖ Ceramic Fiber Logs and Ceramic Brick Panels against splitting or cracking caused by heat. This does not include cracking or splitting from handling.
- ❖ Ceramic Glass against thermal breakage.
- ❖ All 24 K gold trims and accessories against tarnishing.
- ❖ All trim accessories against tarnishing and paint defects.
- ❖ NOTE: Discoloration and some minor movement of certain parts are normal and are not a defect and therefore, not covered under warranty.

The above will be covered "parts & labor" to the original purchaser for FIVE years and "parts" only thereafter from original date of purchase. The above does not cover shipping and handling charges.

INCLUSIONS: "ONE YEAR LIMITED WARRANTY"

- ❖ Blowers, fans and fan motors, wiring, rheostats and thermostats.
- ❖ Rocker switches, spill switches and wiring to them.
- ❖ Gas control valves, pilot assemblies including thermopiles, thermocouples, electrodes, and igniters.

The above will be covered "parts & labor" to the original purchaser for ONE year from date of purchase. The warranty does not cover shipping and handling.

EXCLUSIONS:

- ❖ Archgard does not offer wall mounted thermostats, programmable thermostats (wiring for hook-up of said product), hand-held remote controls, fireplace mantel (s), trims or tiles.
- ❖ Ember Material.
- ❖ Tempered Glass is warranty for ONE year to the original purchaser from date of purchase.
- ❖ Travel time or mileage to original purchaser's residence. Archgard suggests that you pre-arrange travel expenses with your Authorized Archgard Dealer.
- ❖ Shipping and Handling

WHAT TO DO IN THE EVENT OF A PROBLEM:

- ❖ Thoroughly read your manual.
- ❖ If you cannot solve the problem, contact your Archgard Dealer or representative.
- ❖ When calling for help please have the following information:

Model of your Fireplace	Serial Number	Place of Purchase
Date of Purchase	Problem Description	

- ❖ NOTE: Warranty may be void if work is carried out by an unqualified person (s). Only original Archgard parts may be used. Please consult your Archgard dealer or representative if in doubt about a replacement part (s).

OBTAINING WARRANTY SERVICE:

To obtain warranty service, the original purchaser shall return the defective part (s) to the original authorized Archgard selling dealer transportation prepaid, along with the serial number of the appliance and proof of purchase. Any defective part, in our judgment, will be repaired or replaced at Archgard's discretion. The dealer must obtain approval from Archgard before any repairs are made.

WARRANTY LIMITATION:

THIS LIMITED WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED AS TO QUALITY, MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

The appliance is only warranted for the use as intended by the installation and operating instruction and local building codes. The warranty will not cover damage due to accident, misuse, abuse, alteration, improper installation or "Acts Of God". This limited warranty is void unless the appliance is installed by a qualified installer, in accordance with the instructions furnished with the appliance. Some Provinces or States do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to the original purchaser. Any damage resulting from defects in this product, is limited to the replacement of the defective part (s) and does not include incidental and consequential exposures sustained in connection with the product. This includes facing (s), mantle (s), cabinet (s), tile (s) or any other finishes resulting from removal of any gas appliance. This warranty is limited to residential use only and gives the consumer specific rights. These rights may vary from State to State or Province to Province.

FREQUENTLY ASKED QUESTIONS

Listed below are some frequently asked questions regarding your Archgard Gas Fireplace. If you have questions that are not listed below, or are not answered in this manual, please contact your Authorized Archgard Dealer.

Q. My glass has a condensation “fog” when the appliance is first lit.

A. Condensation is normal and will disappear in a few minutes after the glass is heated.

Q. I have a white “film” on my glass. What is the best way to clean the inside of the glass?

A. Frequent cleaning of your glass is recommended. Archgard recommends using a good quality “gas fireplace” glass cleaner that is available at all authorized dealers. Do not use abrasive materials, and do not clean the glass or the appliance when the unit is hot.

Q. How do I care for my gold plated trims?

A. Archgard recommends a cleaning with a damp cloth. DO NOT use chemical cleaners as they may harm the finish, and void your warranty. NOTE: If the top louvers, or top overlay starts to discolor, check the door gasket seal and replace if necessary.

Q. My fan/blower makes a “whirring” or “humming” noise.

A. Your Archgard gas appliance uses a powerful fan to push heated air into your room. It is not unusual to hear a “humming” noise when your fan is running. Note: the sound will change depending on the setting that your fan speed control is set at.

Q. I hear a “click” when my fan system activates.

A. When your appliance reaches temperature, it will activate the THERMODISC “fan switch”. The switch closes the electrical circuit that allows the fan to turn on. This is a normal sound.

Q. I hear a “ticking”, “cracking” or “pinging” sound when my fireplace is running, and after it is turned off.

A. The different gauges of steel used to manufacture your fireplace will expand and contract at different rates when your fireplace is on, and will continued as your fireplace completes its heating function. You will likely hear these same sounds more on start up and shut down. This is normal for steel fireplaces.

Q. When my appliance is OFF and my pilot light is lit, I hear a “whisper” sound.

A. The lit pilot can make a small noise. Sometimes in extreme wind conditions you may be able to hear air entering into the firebox chamber.

Q. I hear a “click” when my main burner turns ON or OFF.

A. Your Gas Control Valve will make a clicking sound when it opens to allow gas to flow to the main burner. This is a normal part of the operating system.

Q. Can I burn wood and other materials in my gas fireplace?

A. No! Burning anything other than natural or LP gas in a gas fireplace or stove will create a potential fire hazard and present a danger to your home and its occupants. This will also void the Archgard Warranty. Only burn the gas fuel for which the unit was originally designed.

Q. Can I shut my pilot off in the summer?

A. You will save energy by turning off the pilot light if you are not using your appliance for the hot summer months. Remember to relight it before you want to use the appliance for the first time in the fall. Refer to your owners manual for lighting instructions.

Q. Can I position my gas logs in a different fashion or use a different log set?

A. No. Your gas fireplace is an engineered system that includes the firebox, burner, logs, venting and options which are tested and listed by CSA. Changing any specifications or placement of the logs could void your manufacturer's warranty, and possible even your homeowner's warranty.

POSTAG

WARRANTY REGISTRATION

**ARCHGARD INDUSTRIES LTD.
7116 BEATTY DRIVE
MISSION, B.C. CANADA
V2V 6B4**

FOLD DOWN AT LINE

FOLD DOWN AT LINE & TAPE CLOSED

Model # : 45-DVFS28N Serial #: _____ Date Installed: _____ / _____ / _____
mm dd yyyy

Name: _____ Address: _____

City: _____ State/Prov: _____ ZIP: _____ Phone: (_____) _____

Dealer's Name & Address: _____

City: _____ State/Prov: _____ ZIP: _____ Phone: (_____) _____

Installer's Name & Address: _____

City: _____ State/Prov: _____ ZIP: _____ Phone: (_____) _____

Why did you choose this product? _____

Thank you for purchasing our product and filling out this warranty card.

ARCHGARD INDUSTRIES LTD.

7116 BEATTY DRIVE
MISSION, B.C. V2V 6B4
CANADA

WEBSITE: WWW.ARCHGARD.COM