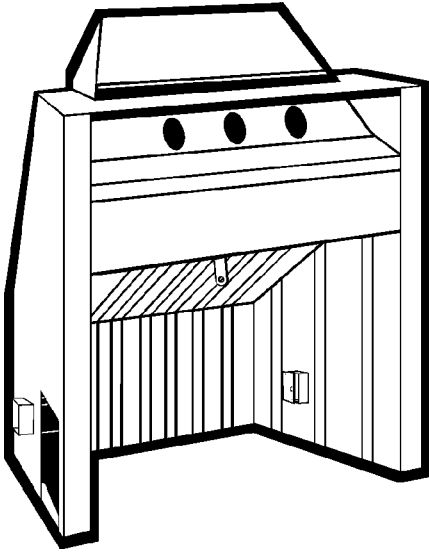


Series 1600 Heat Circulating Fireplace Installation Instructions

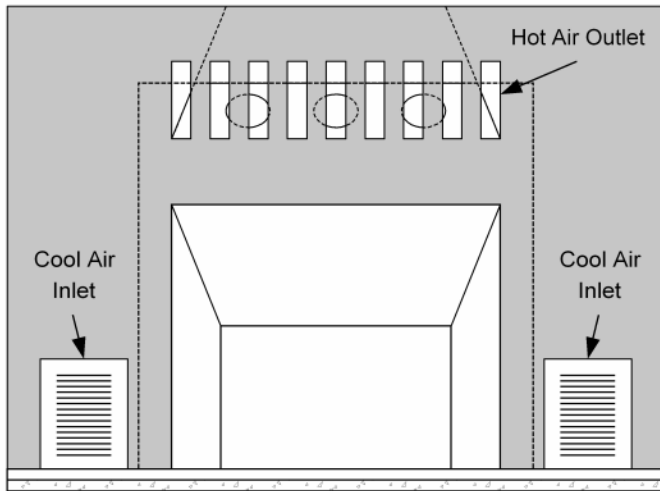


Dimensions

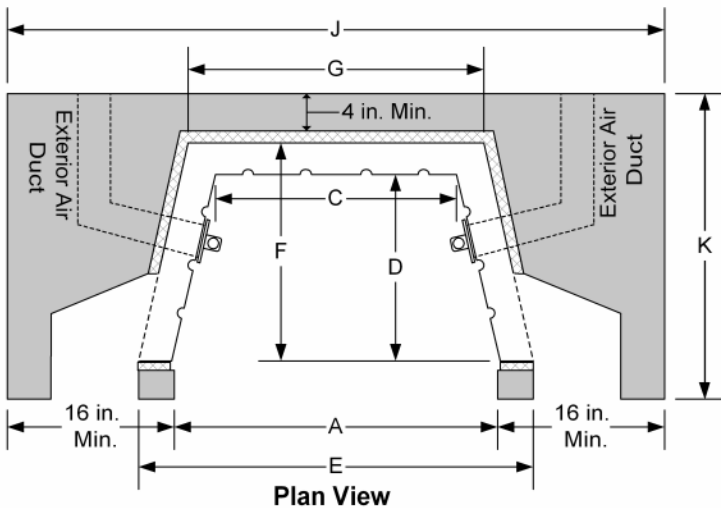
Model No.	Heating Capacity (Cu. Ft.)	A	B	C	D	E	F	G	H	J Min.	K Min.
1634A	5300	33	28	22.75	16.5	39.5	19.5	28	50	65	28
1636A	5800	36	28	25.75	16.5	42.5	19.5	31	50	68	28
1642A	6000	42	28	30.75	16.5	47.5	19.5	37	50	74	28
1648A	7000	48	29	36.75	20.5	53.5	23.5	42	54	80	32

Heating capacity ratings based on 20° F above zero. All dimensions are in inches unless stated otherwise.

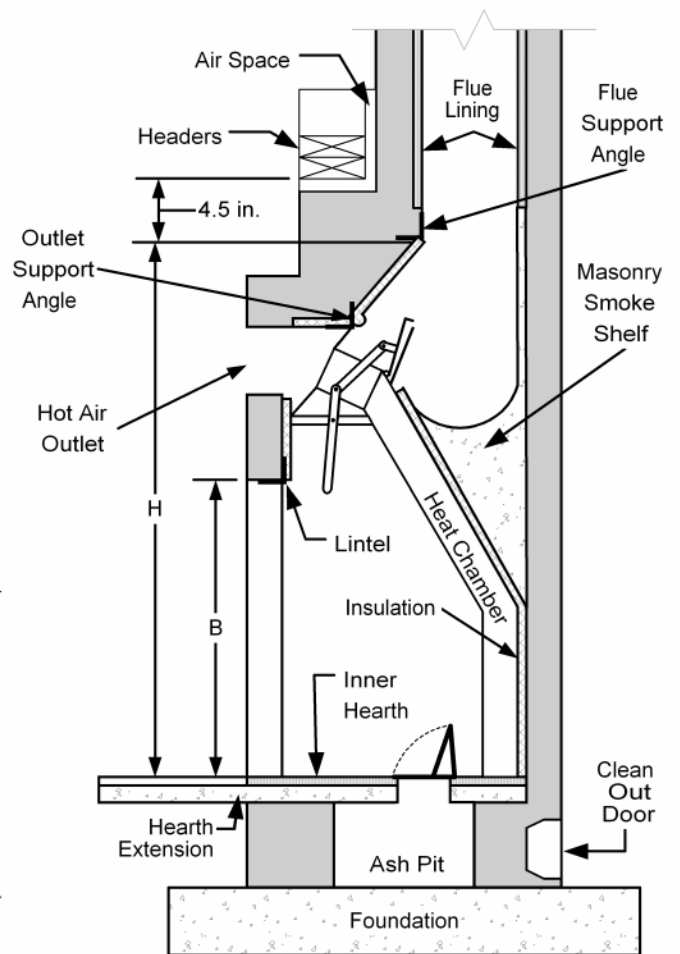
- Made from Heavy Gauge Steel
- Conforms with IBC® & IRC®
- Poker or Optional Rotary Control
- Insulation provided to prevent masonry cracking



Elevation View



Plan View



Section View



Series 1600 Heat Circulating Fireplace Installation Instructions



Construction Details

These installation instructions do not attempt to cover all aspects of fireplace construction. It is important to be familiar with standard masonry fireplace construction. Fire Magic Fireplace Circulators conform to the International Building Code® (IBC) and the International Residential Code® (IRC). HOWEVER, it is very important to check the local building codes for any local differences.

Fireplace Placement:

The architecture of the room should govern the design of the fireplace. The location and size of the fireplace should be planned to suit the size and shape of the room. The most common fireplace configuration and dimensions are shown on page 1. Alternate configuration suggestions are made on pages 3 and 4. Please use this information when placing the Fire Magic circulator.

The location of the air inlets and outlets of the Fire Magic circulator should also be considered when locating the fireplace so they will blend in with the design of the fireplace and the decor of the room. Cool air inlets should always be placed close to the floor, to pull in and heat the colder air near the floor. When a raised hearth is used, the inlets should be placed in the hearth at floor level. The Series 1600 circulator is designed with a single hot air outlet directly over the fireplace opening. Long horizontal runs are not recommended for either inlets or outlets.

Footings/Foundation:

The foundation size will vary with the size of FireMagic circulator, and the placement of air inlets and outlets. Pages 1, 3 and 4 show plan and elevation views of several different configurations. Each set of views includes a chart that shows the minimum masonry measurements. Use these plans and charts to determine the masonry "footprint" of this particular installation.

The foundation should extend a minimum 6" beyond the masonry "footprint" on all sides. It should be 12" (or more) in thickness, depending on local conditions. Check your local building codes. The foundation should be poured concrete or solid masonry. It is recommended that it be reinforced with steel or mesh.

Gas Line:

A gas log lighter or gas log can be use with a Fire Magic circulator. Any gas line to supply such devices should be run through the foundation and/or the firebrick layer of the inner hearth. Holes for a gas line should never be drilled through the metal walls of the unit. Always follow the manufacturers' instructions when installing these devices.

Ash Pit:

An ash pit is an optional feature. Check your local building codes for what is permitted in your area. There are no special considerations in the construction of an ash pit for a circulating fireplace. The ash pit compartment is formed within the masonry foundation walls with cleanout door for removing ashes near the bottom of the pit on an outside wall, and an ash dump door in the floor of the inner hearth. An example of an ash pit shown in the section drawing on page 1.

Hearth:

The hearth and hearth extension should be made of concrete or masonry and reinforced to carry their own weight and all imposed loads. There should be no combustible materials supporting or remaining against the underside of the hearth or the hearth extension.

The hearth extension should extend a minimum of 20" in front of the fireplace and a minimum of 12" on each side. The minimum thickness of the hearth extension should be 2".

The inner hearth dimensions should match the size of the Fire Magic circulator. A layer of firebricks covers the concrete or masonry base for a minimum thickness of 4". The firebrick layer should not extend beyond the masonry face of the fireplace. If including an ash pit, remember to leave space for the ash dump door. (See section drawing; page 1).

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Alternative Configurations

The drawings on this page and the following page show alternative fireplace configurations that can be achieved with a Fire Magic heat circulating fireplace.

Plan View

Labels: J, G, K, 13 in. Min., 10 in. Min., A, Exterior Air Ducts

Elevation View

Labels: Hot Air Outlet, Cool Air Inlet

Model No.	A	J Min.	K Min.
1634A	33	53	28
1636A	36	56	28
1642A	41	61	28
1648A	47	67	32

Drawings and dimensions depicting a fireplace that projects into the room with air inlets on the sides.

Plan View

Labels: J, A, 16 in. Min., 12 in. Min., Exterior Air Ducts, K

Model No.	A	J Min.	K Min.
1634A	33	120	28
1636A	36	126	28
1642A	41	136	28
1648A	47	148	32

Drawing and dimensions depicting two fireplaces set side by side.



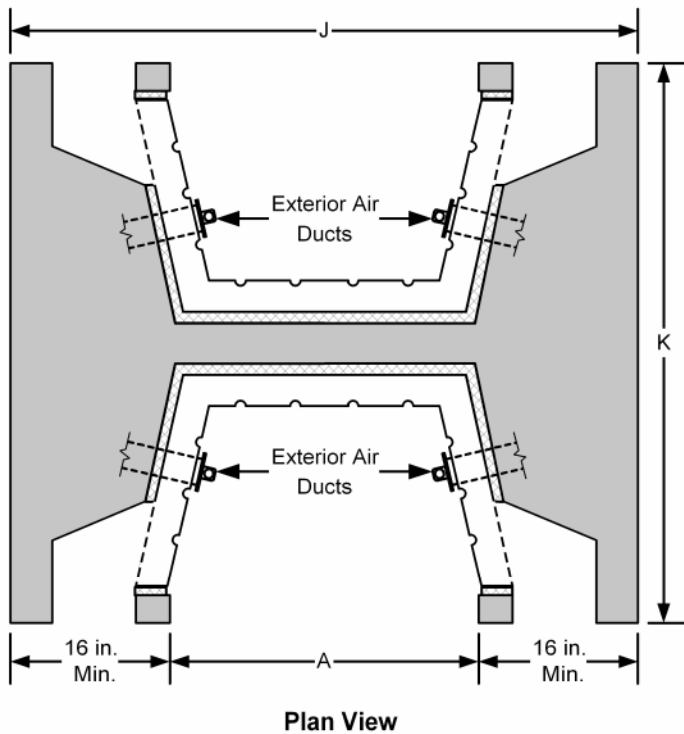
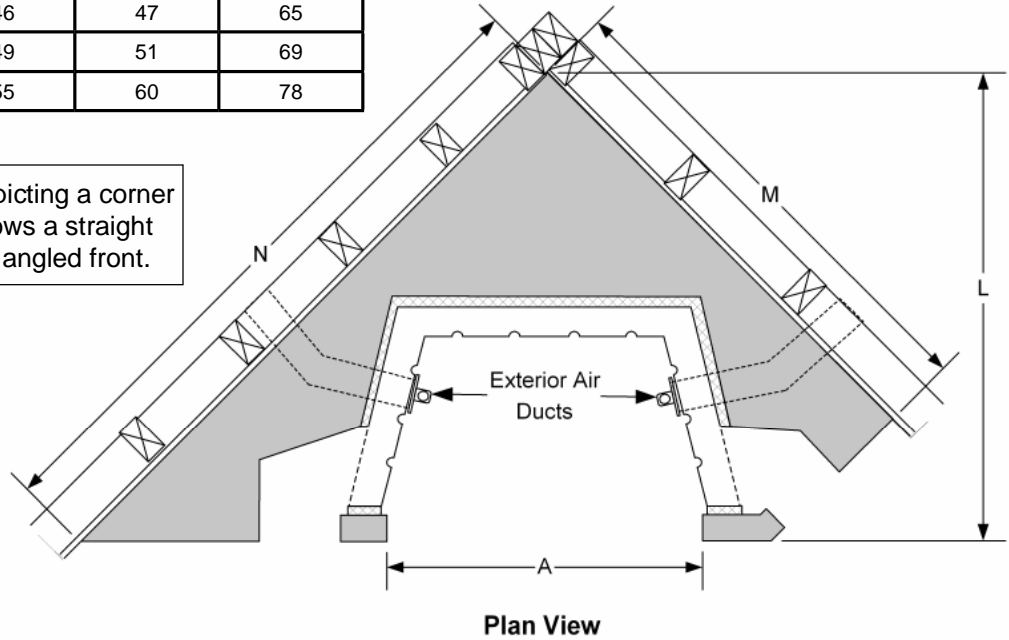
Series 1600 Heat Circulating Fireplace Installation Instructions



Alternative Configurations ...continued

Model No.	A	L Min.	M Min.	N Min.
1634A	33	44	44	62
1636A	36	46	47	65
1642A	41	49	51	69
1648A	47	55	60	78

Drawing and dimensions depicting a corner fireplace. The left side shows a straight front. The right shows an angled front.



Drawing and dimensions depicting two fireplaces set back to back. A minimum of 4 inches of masonry should be set between the units

Model No.	A	J Min.	K Min.
1634A	33	65	56
1636A	36	68	56
1642A	41	73	56
1648A	47	79	72



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Construction Details

Continued from page 2

Fire Magic Circulator:

Set the Fire Magic unit on the firebrick without mortar or other material underneath. Completely cover the unit with the insulation furnished. A thin mixture of mortar brushed on the unit will hold insulation in place. This insulation material is important. It provides an expansion layer between the metal of the circulator and the masonry, and helps prevent cracking.

WARNING: This insulation material contains fiberglass wool. It may cause irritation to skin, eyes, and respiratory tract. Avoid contact with eyes and skin. Protect yourself by wearing long sleeved, loose fitting clothing, gloves and eye protection when handling and applying material. (Do not tape sleeves or pants at wrists or ankles.) As an extra precaution, you may choose to wear a disposable dust respirator at all times. Wash with soap and warm water after handling. Wash work clothes separately and afterwards wipe out washer.

Laying of Masonry:

Lay masonry around and to the top of the unit. (See typical construction details on page 1). The masonry walls surrounding the circulator should be a minimum thickness of 4". Leave channels for air passage as described in the following section on air inlets and outlets. The masonry face (front) may be built at this time or after the chimney is completed. Angle iron should be used in the masonry to support the single hot air outlet, and at the transition from the masonry to the flue liner for support of the chimney and flue.

A smoke shelf should be formed in the sloping space behind the unit. (See section view on page 1). Be sure to use a layer of the insulation material between the unit and the fill used to form the shelf to prevent cracking.

Exterior Air Ducts:

Fire Magic circulators come with exterior (or combustion) air ducts built into the sides of the units. Each duct has an 8 square inch passageway which needs to be continued through the masonry to an air intake opening. The minimum combustibles clearance for all parts of the ducts and their passageways is 1 inch.

The exterior air intakes may not be located at an elevation higher than the firebox. The air intakes must pull the combustion air from the exterior of the dwelling or from spaces within the dwelling ventilated with outside air such as non-mechanically ventilated crawl or attic spaces. The exterior air intakes **may not** be located within the garage or basement of the dwelling. The exterior air intakes should be covered with a corrosion-resistant screen of 1/4-inch mesh.

Air Inlets and Outlets:

Channels must be left in the masonry for each inlet and outlet. **All** air inlets and outlets **must be open** to allow circulating airflow for the Fire Magic circulator to operate correctly. Failure to allow all inlets and outlets to circulate air could result in warping of the circulator, damage to the surrounding masonry, and voids the warranty.

The channels should be sized to fit the size of the Fire Magic circulator. If Fire Magic air grills or fan sets are used, simply match the size of the grill-mounting frame. When spaced masonry grilles (or some other inlet and outlet coverings) are desired, use the table at the right for opening requirements. The two air inlets must provide at least the net square inches of open space specified for the model unit used. The single front outlet must provide at least the same net square inches of open space specified. Insufficient open space allowances for air inlets and outlets will restrict air circulation, reduce the efficiency of the fireplace, and possibly damage the unit, voiding the warranty.

Model No.	Minimum combined sq. inch opening
1634A	70
1636A	70
1642A	80
1648A	110

Each channel should be "plastered" smooth to seal the walls of the channels to avoid any possible smoke and air leakage from voids in the masonry. The "plastering" also helps improve the airflow into and out of the unit. In addition, use additional insulation material in the joint between the masonry channel and the inlets and outlets to provide a better seal. This step helps to prevent air from moving directly from the inlet channels to the outlet channels.

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Series 1600 Heat Circulating Fireplace Installation Instructions



Construction Details

Continued from page 5

IMPORTANT: The air from the hot air outlet is just as hot (if not hotter) as the heat produced inside the firebox. For that reason, the combustible clearances for the hot air outlet is the same as the clearances from the fireplace opening. Ducting the hot air directly from the outlet through any combustible materials is not recommended.

Electric Fans:

Fans are optional. The Fire Magic circulator will naturally begin to circulate hot air once the air in the heating chamber heats up. Fans will start the air to circulate immediately, and will provide a more forceful air flow.

When fans are used, they must be used in pairs, one in each cool air inlet. **Do not** locate in hot air outlets. The fans should be pulling air from the room and pushing it into the air inlet. Both fans should be wired to run simultaneously.

Fire Magic fan sets are available for two sizes of air inlets, 8 x 10 and 8 x 14. These sets include air grills with fans mounted on the frames and a wall-mount fan control switch.

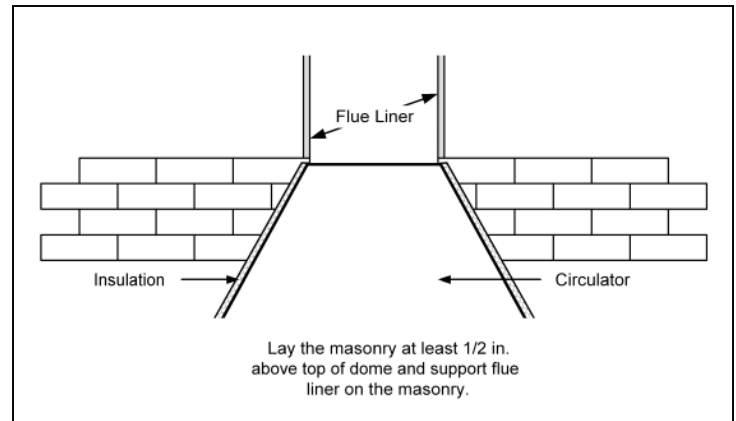
Masonry Face (front):

The construction of the fireplace face is much the same as laying the face of any other fireplace. The finished masonry opening should be at least 1" less than the circulating fireplace opening to conceal the joint between the masonry and metal. This joint should be packed with insulation. Remember to allow for the openings for the air inlets and outlets.

Chimney and Flue:

Chimney and flue construction is the same as any other fireplace. Either a masonry or a metal chimney may be used with a Fire Magic circulator. It is important to note the flue, whether masonry or metal, must be supported by masonry and **not** the metal unit. The drawing on the right depicts the correct way to set the flue liner. When using a metal flue, the transition from the masonry to metal is done above flue liner.

A flue of sufficient size should be used with each fireplace unit. The standard formulas for determining flue size apply to Fire Magic circulators. The table below gives fireplace opening areas, and minimum flue areas from the IBC section 2113.16.1 and the IRC section R1003.15.1 to assist in selecting the proper flue size.



Model No.	Fireplace Opening	Minimum Flue Net Cross Section Area Needed	
		Round	Square or Rectangular
1634A	33 x 27 - 891 sq. inches	74	89
1637A	36 x 27 - 972 sq. inches	81	97
1642A	41 x 27 - 1107 sq. inches	92	111
1648A	47 x 29.5 - 1386.5 sq. inches	116	139

Fire Magic circulators may be use in multi-level fireplaces, combined in a single chimney (not a single flue). The standard rules that govern multi-level fireplaces and concerning flue offsets and heights apply.

