Builder's Manual for Ortal Fireplaces
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Introduction

Congratulations, your customer has entrusted you with building the world’s finest fireplace into your project. By using the Builder’s Manual and shop drawings from Ortal reviewing the architect’s or designer’s drawings and specifications, a location is chosen and where the fireplace is to be installed. The builder coordinates the installation and schedules with your Ortal dealer, mechanical contractor, electrical contractor, drywall installer, AV home automation and other trades that will be involved.

We look forward to working with you.

Checklist

FIREPLACE MODEL AND SIZE

- Model and size:
  - [Model and size details]

GAS TYPE (PROPANE OR NATURAL GAS)

- Gas type:
  - [Gas type details]

MEDIA OPTIONS:

- Ceramic Stones (large/small, white/grey)
- Branch Set
- Log Set
- Glass

OPTIONAL FEATURES:

- Double Glass fan assisted (upgrade from screen barrier)
- Power Vent system
- Reflective Interior Panel
- Wall Control Switch

FIREPLACE LOCATION AND VENTING: Make sure that adequate space is provided to vent the fireplace from its desired location to the termination outside of the structure.

GAS SUPPLY LINE: Plan out to fireplace valve location and include shut-off to allow for line to be disconnected at the source. Have an influent shut-off in the same room as the fireplace (within 6’ of fireplace).

ACCESS PANEL FOR CONTROL VALVE: See page 5.

FLUSH-TO-WALL FACING: Thin brick panels are premade to be attached to the flue. No material may be attached to the fireplace. Provide a single gang 120v outlet in the same area.

NO MATERIAL ATTACHED TO FIREPLACE: No material may be attached directly to the fireplace – no screws/glue/or nails should be used against the fireplace. No weight on the firebox.

CUT OUT DIMENSIONS (May vary depending on the model):
- [Cut out dimensions]

INSTALLATION OF SHEETROCK IN THE CAVE: General:
- All combustible framing in chase area must be completely covered with 5/8” Type X drywall.

NO MATERIAL ATTACHED TO FIREPLACE: No material may be attached directly to the fireplace – no screws/glue/or nails should be used against the fireplace. No weight on the firebox.

The heat produced by Ortal fireplaces requires particular attention to materials and details to ensure a safe installation. Because the fireplace is a focal point, your customer will expect high levels of craftsmanship. However, with proper workmanship, you can be confident you will meet the same pride we do in every Ortal fireplace.

We look forward to working with you.

[Ortal Logo]

YOUR LIFE. YOUR FIRE.

2 3
AIRFLOWS

An Ortal fireplace requires two airflow paths:

1. Direct vent exhaust system: This is the air inside the firebox and the direct vent pipe. A direct vent pipe has an inner and outer channel. Hot exhaust gases (mostly carbon dioxide and water vapor) escape through the inner channel. Fresh outdoor air (providing oxygen for the fire) is drawn in through the outer channel where it captures most of the heat escaping through the inner channel.

2. Heat release system and air intake: The cavity enclosing an Ortal fireplace must have a heat release outlet above the fireplace. This allows for heat building up within the fireplace cavity to be released back in the space which then helps keep your fireplace wall cool. Fireplaces with the double glass feature must have an air intake. Room air is drawn over the glass, between the interior wall and the frame of the fireplace, into the cavity and then is returned to the room through the heat release. These airflows, along with radiant heat from the front of the fireplace, maximize the heating performance of an Ortal Fireplace and contribute to its energy efficiency.

**Air Intake:**
- Ortal fireplaces with double-glass require an intake located below elevation of firebox.
- Can be a grille or louver or an opening on underside of cavity.

**Heat Release:**
- Locate 0-inches minimum from top of fireplace cavity.
- Can be a grille or louver or a gap between the top of cavity wall and ceiling.
- Required for all built-in models.

**Size of Air Intake and of Heat Release:**
- Minimum free area (net area after grille work or screens are subtracted) shall be:
  - Ortal Models 40 to 130: 124 sq.in. or more
  - Ortal Models 150 to 200: 200 sq.in. or more
  - Other Models: Check with Ortal.

**GAS VALVE ACCESS PANEL**

Gas valve should be installed below elevation of firebox.

An access panel is recommended for easy servicing of gas valve. Panel should be 10 x 10 inches minimum. Use larger size if required to conveniently reach valve. An appropriate sized air intake (see page 12) can be used as an access panel.
All built-in fireplaces come with legs and with seismic brackets at the top of the firebox. These are an additional way to secure the firebox in your cavity while maintaining the minimum air clearances provided here in this manual. You have the option to use these brackets or you may use checker duty steel brackets to mount the firebox to the back cavity wall while still maintaining the required 2′ air clearance. If the seismic bracket does not extend all the way to your cavity wall, you may also extend metal studs to connect to your seismic bracket (as shown in several sections in this manual).

**FREESTANDING AND WALL-MOUNTED ORTAL FIREPLACES**

Secure fireplace to wall and subfloor. If fireplace is located against a wall, the wall must be of non-combustible material or covered with 5/8′ Type X gypsum board.

**IT’S YOUR BUSINESS**

- Offer to assist your customer and their architect or designer while the project is still in planning so you can better understand their needs and suggest the best approach to installing the fireplace.
- Get to know your local Ortal dealers. They can be a good source of referrals for you.

**ADDITIONAL WORDS OF CAUTION**

- Know the building code and consult with authorities having jurisdiction before proceeding. This guide contains minimum requirements; modify details to satisfy project requirements.

**LEGEND**

- 5/8′ Type X fire rate gypsum board
- Section Cut
- Metal Framing
- Non-combustible material
- Wood Framing
[Heat Release and Air Intake (with reveal or gap openings)]

Detail 9A
Heat Release as Reveal
See heat release note 2 on page 5

Detail 9B
Air Intake as Reveal/Toe-kick
See air intake note 2 on page 5

Width opening must allow for minimum square inches of free air space (see page 5)
In a situation where a sprinkler head is in close proximity to the heat release, the detail below must be followed. The distance between the sprinkler head and the heat release opening cannot be less than 60 inches linear length from every point of the heat release opening.

Check with your louver manufacturer regarding the percentage of free air space provided by their products in order to verify you will be providing the minimum free air space required or more.
1. WALLS AND CEILING

Non-combustible Framing
The wall behind an Ortal fireplace (either at the back or side of the fireplace) and the ceiling above the unit must be non-combustible construction such as concrete, brick, concrete masonry units, or plaster on metal framing and lath. Penetrations in wall or ceiling, such as electrical boxes, must be removed and patched to assure integrity of non-combustible enclosure.

Combustible Framing
Existing walls or ceilings built of combustible materials may be used if the wall or ceiling is covered with 5/8-inch thick Type X gypsum board. (Exception: Where cavity walls do not extend all the way to the ceiling and allow a “gap” for heat release, 1/2-inch thick Type X gypsum board may be used to match the thickness of gypsum board used on the ceiling outside the cavity.)
The gypsum board may be screwed directly to the existing wall or mounted on metal framing or furring.

2. FLOOR
Ortal fireplaces can be set on wood, concrete, metal, and other typical floor types. Ortal fireplaces come with legs that position the unit above the floor or platform on which they are installed. See shop drawings for height of legs. To further raise Ortal fireplace, build a stable platform to which unit can be secured.

Services: This is also the time to make sure power and gas lines are in place. Provide a grounded duplex power outlet inside cavity for use by Ortal installer, and other outlets if required.
3. INSTALLATION OF ORTAL FIREPLACE AND VENT

Ortal fireplaces must be installed in accordance with Ortal installation and Operation Manual and applicable codes. Install the direct vent pipe, make gas and power connections, and provide fire stopping or thimble where direct vent pipe penetrates the wall or ceiling of cavity.

**TIP - Do not allow delivery of Ortal fireplace to jobsite until building is enclosed and ready for installation.**

*Protect fireplace against damage throughout construction.*

*Notify authorities having jurisdiction to inspect work before cavity is enclosed (if required).*

*Installation must be performed by an Ortal Authorized Installer otherwise warranty is void.*

### B. Metal Framing (see Step 4)

4. **INSTALL METAL FRAMING**

Install framing in accordance with building codes and project specifications. We also recommend installation of studs at 16-inch on center maximum and compliance with American Iron and Steel Institute Publication S220 “North American Specification for the Design of Cold-Formed Steel Framing – Non-Structural Members”.

Plan your work carefully and give particular attention to:

- Required clearances.
- Blocking for securing fireplace, direct vent pipes, mantles, etc.
- Access panel for gas valve (see page XX).
- Heat release and Air intake (see page XX).
- Direct vent, direct vent strapping, and penetrations through walls and ceiling.
- Recesses for TV, audio speakers, light fixtures, artwork, and other items built into cavity (if required).

Take a moment for a final visual inspection of the cavity interior and to remove any construction debris that may be inside cavity. Install conduit, wiring, power outlets, and electrical boxes between framing members as required.

*Building and structural loads must not bear on Ortal fireplace.*
5. Drywall

Cover the metal framing with 5/8-inch thick Type X gypsum board to exterior face of cavity. (Exceed these requirements where fire-resistance-rated construction is required).

Type X gypsum board must comply with ASTM C1396 - Specification for Gypsum Board. (This standard replaces ASTM C36 - Specification for Gypsum Wallboard.)

Provide Level 1 or better finish in accordance with GA-214 - Recommended Levels of Gypsum Board Finish.

Do not locate exposed gypsum board joints directly above fireplace. If corner beads and other drywall trim are required, use metal products where non-combustible materials are required.

DRYWALL: These instructions apply to all steps. We recommend the following as a minimum. Exceed these requirements where fire-resistance-rated construction is required.

Use 5/8-inch thick Type X gypsum board. (Exception: Where cavity walls do not extend all the way to the ceiling and allow a “gap” for heat release, 1/2” thick Type X gypsum board may be used if to match the thickness of gypsum board used on the ceiling outside the cavity.)

Type X gypsum board must comply with ASTM C1396 - Specification for Gypsum Board. (This standard replaces ASTM C36 - Specification for Gypsum Wallboard.)

Gypsum board joints shall be staggered on opposite sides of framing.

Fasteners: Use 1-1/4” Type W drywall screws 12” o.c. or 6d coated nails, 1-7/8” long, 0.0915” shank, 1/4” head at 7” o.c. along edges and interior studs.

Cover the metal framing with 5/8-inch thick Type X gypsum board to exterior face of cavity. (Exceed these requirements where fire-resistance-rated construction or other methods are required.)

Type X gypsum board must comply with ASTM C1396 - Specification for Gypsum Board. (This standard replaces ASTM C36 - Specification for Gypsum Wallboard.)

Provide Level 1 or better finish in accordance with GA-214 - Recommended Levels of Gypsum Board Finish.

Do not locate exposed gypsum board joints directly above fireplace. If corner beads and other drywall trim are required, use metal products where non-combustible materials are required.
7. FINISHES
Almost done.
Finish the time to apply decorative features to exterior of fireplace cavity (see page 33). This is also time to install mantels, TV mounts, and other features (see page 22 for TV and 37 for mantels).
- Observe clearance requirements for combustible materials.

8. TURN OVER TO CUSTOMER
Your Ortal dealer will install interior design media, remove protective materials from and clean exposed surfaces of the Ortal fireplace and perform a start-up inspection and burn in the unit.
The dealer will provide:
- Ortal Installation and Operation Manual.
- Executed Warranty
- Operation Controls
Demonstrate the operation of the Ortal fireplace to the customer.
- Advise customer that furniture and other combustible materials must not be placed within the clearance zone shown on Drawings.
- Send Ortal photos of installation and the completed project for a chance to be featured on our website and social media. Submit your project at info@ortalheat.com.
- Ask customer for a letter of recommendation. You can use the letter (and the photos) when you suggest an Ortal fireplace for your next project.

Below is a table defining the maximum surface area for incorporating a shelf detail in the fireplace design.

The drawing is showing that a minimum 12 inch height must be provided from the top of the fireplace opening to the top of the shelf. Be sure to keep the top of the shelf clear from obstruction and maintain all clearances.

<table>
<thead>
<tr>
<th>SHELF DETAIL</th>
<th>MAX SHELF SURFACE AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODEL</td>
<td>A x B (sq. in.)</td>
</tr>
<tr>
<td>Series 75</td>
<td>A x B = 220 sq. in.</td>
</tr>
<tr>
<td>Series 110/130</td>
<td>A x B = 340 sq. in.</td>
</tr>
<tr>
<td>Series 150/170</td>
<td>A x B = 410 sq. in.</td>
</tr>
<tr>
<td>Series 200</td>
<td>A x B = 520 sq. in.</td>
</tr>
</tbody>
</table>

This detail applies to all our built-in models (Front, Corner, Three-Sided, Tunnel and Space Creators).
- A heat release on top of the shelf is only needed if the shelf surface area exceeds what is shown on the table above.
Always respect the 1/4" clearance between the metal framing and fireplace front for heat expansion.
1. Frame Cavity

Front Wall:

On most projects, you will want to postpone installation of the front wall of the cavity. This will allow access for installing drywall inside the cavity, positioning the Ortal fireplace and direct vent pipe, and making necessary connections. (See step 3)

Install framing in accordance with building codes and project specifications. All studs placed 16 inches on center.

Plan your work carefully and give particular attention to:

- Required clearances.
- Blocking for securing fireplace, direct vent pipes, mantles, etc.
- Access panel for valve (see page XX).
- Heat release and Air intake (see page XX).
- Direct vent, direct vent strapping, and penetrations through walls and ceiling.
- Recesses for TV, audio speakers, light fixtures, artwork, and other items built into cavity (if required).

Take a moment for a final visual inspection of the cavity interior and to remove any construction debris that may be inside cavity. Install conduit, wiring, power outlets, and electrical boxes between framing members as required.

Building and structural loads must not bear on Ortal fireplace.

Floor:

Ortal fireplaces can be set on wood, concrete, metal, and other typical floor types.

Ortal fireplaces come with legs that position the unit above the floor or platform on which they are installed. See shop drawings for height.

A. Work Inside Cavity (Steps 1-3)

Take a moment for a final visual inspection of the cavity interior and to remove any construction debris that may be inside cavity. Install conduit, wiring, power outlets, and electrical boxes between framing members as required.
Floor:
Ortal fireplaces can be set on wood, concrete, metal, and other typical floor types. Ortal fireplaces come with legs that position the unit above the floor or platform on which they are installed. Save space by height. To further raise Ortal fireplace, install stable platform to which unit can be secured. Services: This is also the time to make sure power and gas lines are in place. Provide undersized power outlet inside cavity for use by Ortal installer, and other outlets if required.

2. DRYWALL CAVITY INTERIOR
Wood framing inside cavity must be covered with Type X gypsum board or constructed of a non-combustible material such as concrete, plaster, concrete masonry, or brick. Remodeling Projects: Apply a layer of Type X gypsum board over existing materials unless it is certain that the existing surfaces are 5/8-inch Type X gypsum board or acceptable non-combustible material.

3. INSTALLATION OF ORTAL FIREPLACE AND VENT
Ortal fireplaces must be installed in accordance with Ortal installation and Operation Manual and applicable codes. Install the direct vent pipe, make gas and power connections, and provide fire stopping or thimble where direct vent pipe penetrates the wall or ceiling of cavity.

TIP - Do not allow delivery of Ortal fireplace to jobsite until building is enclosed and ready for installation.

DRYWALL: These instructions apply to all steps. We recommend the following as a minimum. Exceed these requirements where fire-resistance-rated construction is required.
Use 5/8-inch thick Type X gypsum board. (Exception: Where cavity walls do not extend all the way to the ceiling and allow a “gap” for heat release, 1/2” thick Type X gypsum board may be used to match the thickness of gypsum board used on the ceiling outside the cavity.)

4. BUILD INFILL PANEL
Assemble infill panel flat on the floor. Orient so that the face that will be inside the cavity is uppermost as it lays on subfloor. Be sure to provide headers or other devices required to support infill panel and other construction. Give particular attention to the details and clearances required by any specified for fire or art. Provide backing to enhance TV or heavy artwork, and brace recesses for support. (See TV details on pages 30 and 31)

5. DRYWALL INSIDE OF INFILL PANEL
Apply 5/8-inch thick Type X gypsum board to the “inside” surface of the infill panel, this is the top of the panel as it lays on the floor.

6. INSTALL INFILL PANEL
Take a moment for a final visual inspection of the cavity interior and to remove any construction debris that may be inside cavity. Gather a few mates and give it the old heave-ho to lift or tilt the infill panel into position. Secure to cavity framing.
C. Metal Surround and Enclosure (Steps 7-8)

7. INSTALL METAL SURROUND
Assemble and install metal surround.
Do not attach framing to Ortal fireplace.

8. DRYWALL EXTERIOR OF CAVITY
Installing wiring, power outlets, and other electrical boxes required between framing members.
Apply 5/8” Type X gypsum located to exterior face of cavity, infill panel, and metal surround. Do not locate drywall panel joints directly above fireplace.

- If corner beads and other drywall trim are required, use metal products where non-combustible materials are required.
- Electrical boxes should not penetrate the drywall on the interior of the cavity.

⚠ If corner beads and other drywall trim are required, use metal products where non-combustible materials are required.

Electrical boxes should not penetrate the drywall on the interior of the cavity.

9. FINISHES
Almost done.
Now is the time to apply decorative finishes to exterior of fireplace cavity (see page 32). This is also time to install mantels, TV mounts, and other features (see page 30 for TV and 37 for mantels).

- Observe clearance requirements for combustible materials.

10. TURN OVER TO CUSTOMER
Your Ortal dealer will install interior design media, remove protective materials, from and then expose surfaces of the Ortal fireplace and perform a start-up inspection and burn-in the unit.
The dealer will provide:
- Ortal Installation and Operation Manual.
- Executed Warranty
- Operation Controls
- Demonstrate the operation of the Ortal fireplace to the customer.

- Advise customer that furniture and other combustible materials must not be placed within the clearance zone shown on Drawings.

- Send Ortal photos of installation and the completed project for a chance to be featured on our website and social media. Submit project at info@ortalheat.com

- Ask customer for a letter of recommendation. You can use the letter (and the photos) when you suggest an Ortal fireplace for your next project.
[ Wood Framing - TV Detail (flush) ]

[ Wood Framing - TV Detail (recess) ]

- TV or art work
- Blocking for TV mounting bracket
- Keep 1" min clear around vent pipe when vertical
- Optional decorative finish
- See seismic bracket note on page 6

- Blocking for TV mounting bracket
- Keep 1" min clear around vent pipe when vertical
- Optional decorative finish
- See seismic bracket note on page 6
Always respect the 1/4" clearance between the metal framing and fireplace front for heat expansion.

Quartz is not allowed to be installed on your hearth extension.
Always respect the 1/4" clearance between the metal framing and fireplace front for heat expansion.
Always respect the 1/4" clearance between the metal framing and fireplace front for heat expansion.
Always respect the 1/4” clearance between the metal framing and fireplace front for heat expansion.

The 1/8” clearance applies to the bottom/hearth extension as well.
Inside Corner Clearances

The non-combustible materials within dimensions shown shall be non-combustible.

Non-combustible materials within dimension shown
INSIDE CORNER OPTIONS
Clearances to Ceiling

- Maintain 1" clearance to combustibles on entire circumference.

Horizontal:
- Maintain 1" clearance to combustibles on bottom and sides
- Maintain 3" clearance to combustibles on top
- Maintain 1/4" rise per foot

**MODEL A (minimum vertical off top of firebox before 90° elbow)**

- Series 40-132: 3 feet
- Series 210+: 6 feet

In a situation where a 45 degree elbow is required off the top of the firebox, it must be followed with the minimum vertical run per above.

Vent Pipe Clearances

Vertical:
- Maintain 1" clearance to combustibles on entire circumference.
VENTING DIAGRAM - TYPICAL HORIZONTAL

VENTING DIAGRAM - TYPICAL VERTICAL

SERIES 40
Vertical (V)  Horizontal (H)
24 ft  15 ft
30 ft  12 ft
27 ft  12 ft
33 ft  12 ft
18 ft  21 ft
21 ft  18 ft
9 ft  24 ft
6 ft  24 ft
3 ft  21 ft

SERIES 75
Vertical (V)  Horizontal (H)
24 ft  15 ft
27 ft  12 ft
18 ft  21 ft
12 ft  24 ft
15 ft  24 ft
9 ft  24 ft
6 ft  24 ft
3 ft  21 ft

Notes:
1. Can use up to two 90 elbows
2. V = V1 + V2

NOTES:
1. Can use up to one 90 elbow or four 45 elbows.
2. Vent minimum = * For venting runs that exceed these maximums consider Ortal's Power Vent system. Contact your Ortal dealer for more information.
**Venting Diagram - Straight Vertical**

For venting runs that exceed these maximums consider Ortal’s Power Vent system. Contact your Ortal dealer for more information.

### MODELS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Max Vertical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series 40-200</td>
<td>42 feet</td>
</tr>
</tbody>
</table>

**Sconce Cap Detail (with small wall thimble)**

- Metal stud, metal plate, and metal flange added on the top after 12" x 12" framing to keep 2" clearance above vent plate.
- Wood stud, wood framing, and wood slab are used.
- Bronze Cap, fixed height, and bronze flange are included.