NORITZ®

COMBI BOILER

SALES TRAINING

1

TRAINING AGENDA

Combi Boiler Essentials

Technology, Performance, and System Design

Customer Engagement and Value Identification

Competitive Positioning and Sales Strategy

Application Demand & Sizing Requirements

2

COMBI BOILER ESSENTIALS

- What Is a Combi Boiler?
- How It Works
- Market Context
- System Comparisons

NORITZ® COMBI BOILER

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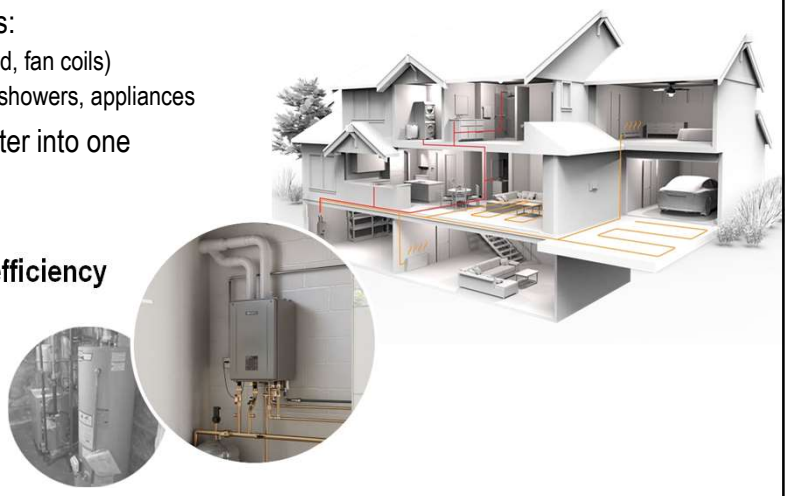
COMBI BOILER ESSENTIALS

What Is a Combi Boiler?

- A combi (combination) boiler provides:
  - Space heating (radiant floors, baseboard, fan coils)
  - Domestic hot water (DHW) for faucets, showers, appliances
- Combines heating boiler + water heater into one compact unit
- No storage tank required
- Immediate value: **space savings + efficiency**



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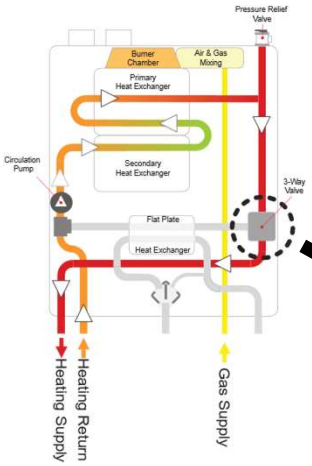
COMBI BOILER ESSENTIALS

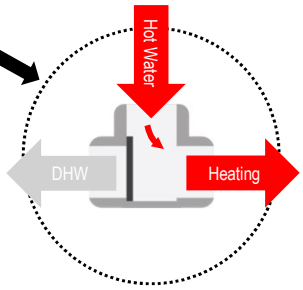
How Noritz Combi Boiler Works

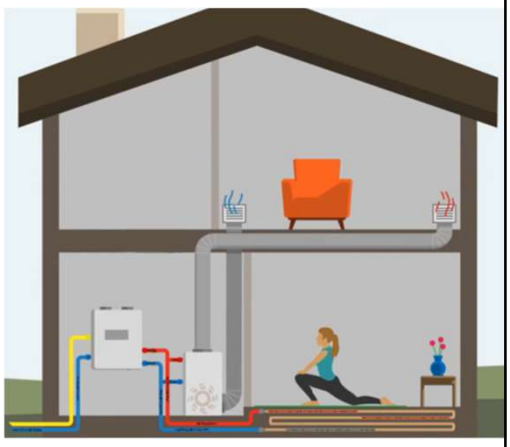
Heating Only



- Closed loop system
- Hot water heated by primary & secondary heat exchangers
- Recirculated hot water to provide space heating comfort

3-Way Valve: Variable Distribution Control





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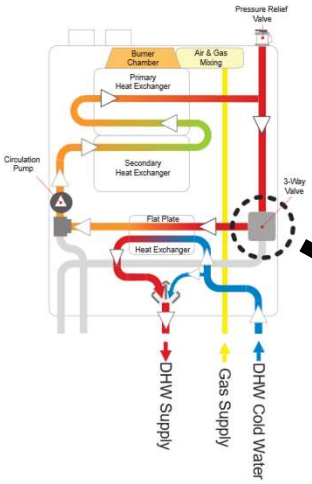
COMBI BOILER ESSENTIALS

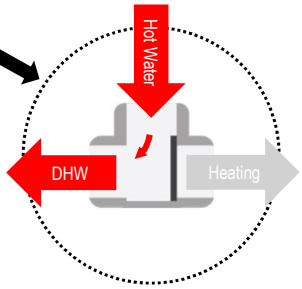
How Noritz Combi Boiler Works

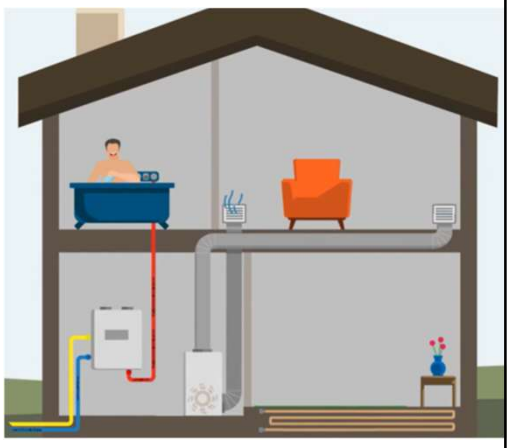
Domestic Hot Water Only



- Hot water to fixture demand
- Heated by flat plate heat exchanger
- Hot water for heating heats flat plate heat exchanger

3-Way Valve: Variable Distribution Control





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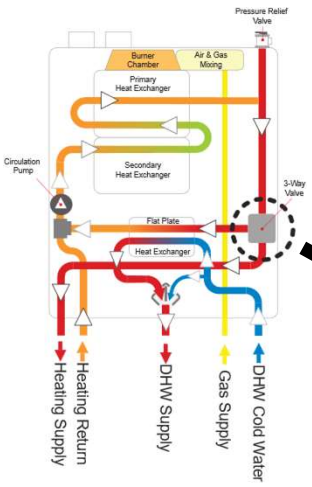
COMBI BOILER ESSENTIALS

How Noritz Combi Boiler Works

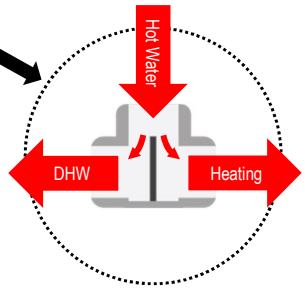
SIMULTANEOUS HOME HEATING AND HOT WATER

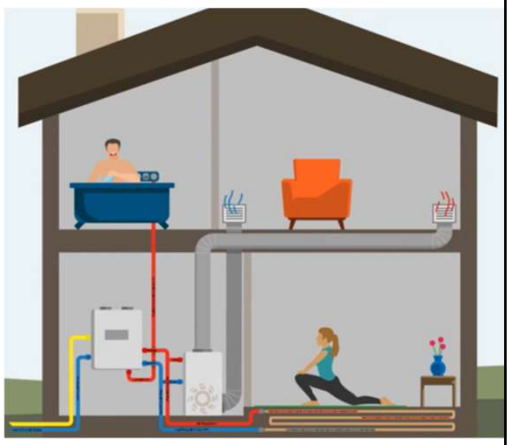
Simultaneous Heating & DHW



- Our **ADVANCED** technology provides **BOTH** Heating and Domestic Hot Water simultaneously
- Homeowners can use showers or faucets without shutting off or noticeably reducing home heating, ensuring consistent comfort

3-Way Valve: Variable Distribution Control





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COMBI BOILER ESSENTIALS

Market Context

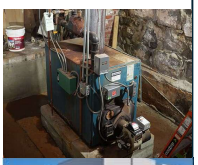
Market Shift

Large Storage & Low-Efficient Atmospheric Systems

High-Efficient, Compact Solution

Strong Demand

- Retrofits
  - Replacing aging boilers and storage tanks



- Urban Housing
  - Condos, townhomes, accessory dwelling units (ADUs)

- New Construction
  - Energy codes
  - Smaller footprint
  - Reduction in termination for furnace

Combi boilers win where **space, efficiency, simplicity, & high utility rebates** are primary drivers

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COMBI BOILER ESSENTIALS

System Comparisons

Noritz Combi Boiler VS

Tank Water Heater

- Endless Hot Water, Higher Efficiency, No Standby Loss

System Boiler & Indirect Tank

- Lower Upfront Cost, Smaller Footprint, Fewer Components

Most Combi Boilers

- Best overall comfort control with simultaneous performance, most combi boilers will do heating OR domestic hot water

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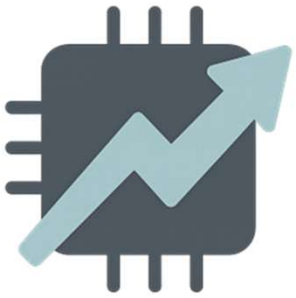
TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN



- Core Technologies
- Performance Metrics
- System Design Fundamentals
- Venting Options
- Wiring Options
- Plumbing Diagrams
- Heating Applications

NORITZ® COMBI BOILER

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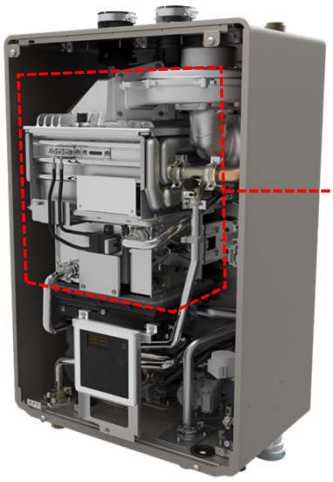
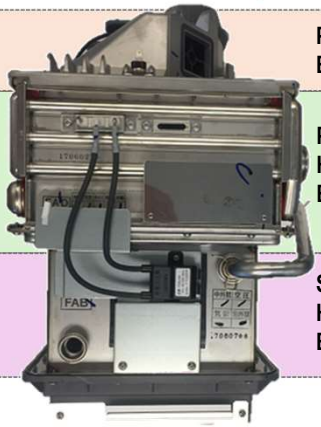
TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

Core Technologies





Premix Burner
- Single stage, Ceramic fiber
- Significantly reduces harmful flue gases

Primary Heat Exchanger
- ASME H Stamp
- 316L Austenite Stainless Steel, most Corrosion Resistance Material

Secondary Heat Exchanger
- 316L Austenite Stainless Steel
- Pre-heats water with exhaust gases

ASME H

Bruner & Heat Exchangers

NORITZ® COMBI BOILER

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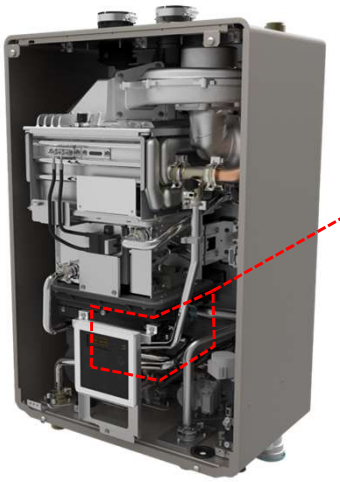
TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

Core Technologies



Flat Plate Heat Exchanger
- SCR (Stress Corrosion Resistant) Austenite Stainless Steel
- Indirectly heats the DHW side of the system, less scale build up on the DHW side due to the lower heating temperatures

Heat Exchanger

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TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

Performance Metrics

Models (2)	NRCB180DV	NRCB199DV
Standard Gas Input (BTUH)	Min: 18,000 Max: 180,000	Min: 18,000 Max: 199,900
Heating Gas Input (BTUH)	Min: 18,000 Max: 100,000	Min: 18,000 Max: 120,000
DHW Flow Range (GPM)	0.4 – 9.8	0.4 – 11.1
AFUE	95%	
DHW Burner Off Flow (GPM)	0.29	
Heating Temp Range	100F – 180F (As low as 80F with setting)	
DHW Temp Range	90F – 140F	
Simultaneous Heating & DHW	YES	
Max Elevation	10,000 feet	
Connection Sizes	¾" DHW & Gas, 1" Heating, ½" Auto Feeder & Condensate	
Quick Connect Capable	YES (With same BTU EZ or CDV Unit)	
Outdoor Temp Sensor	INCLUDED	
Warranty	10 Year Heat Exchanger, 5 Year Parts, 1 Year Labor	

Key Specifications

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TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

Performance Metrics

For more **Domestic Hot Water demand**, ADD 1 **EZ Model** at the same Max BTUH as the Combi

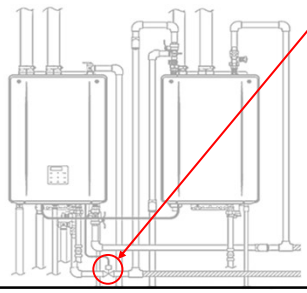
Connect with **QC-2**, Quick-Connect Cord. Mount units 3"-18" apart

Expansion

IMPORTANT NOTE

- Solenoid Valve is needed when using a QC System with any EZ Unit
- The Solenoid Valve must be Normal Closed Valve and Slow Closing to avoid water hammer

Solenoid Valve must be ¾" 120V AC - 1.5 Amp Max



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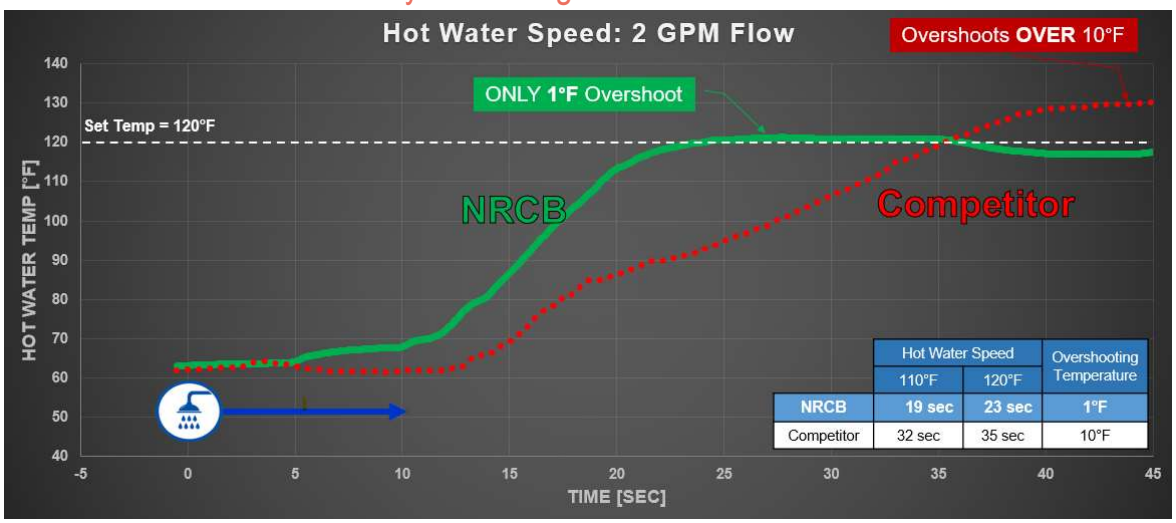
TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

System Design Fundamentals



Quick Temperature Control & Stability

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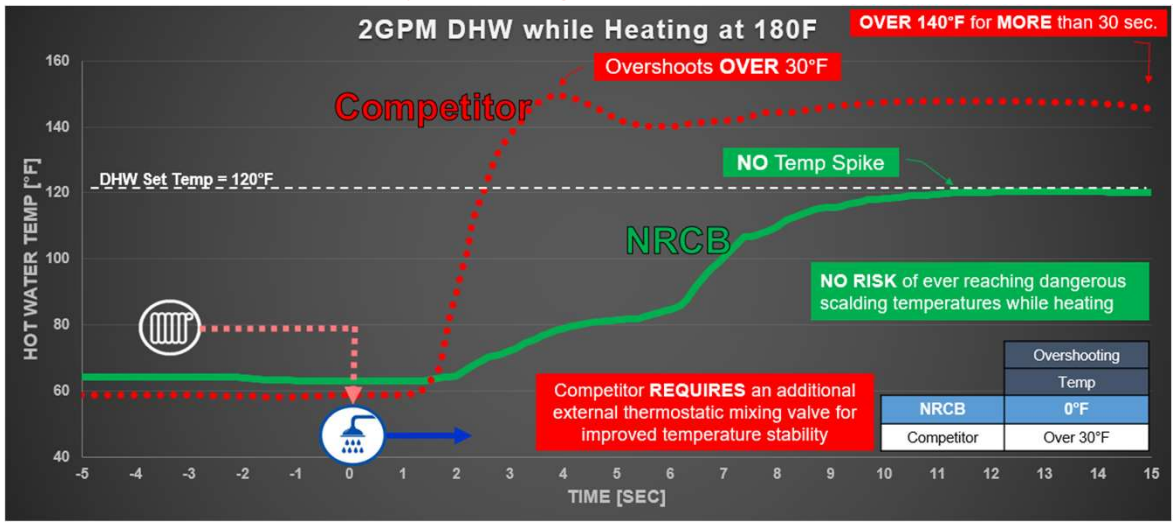
TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

System Design Fundamentals



Quick Temperature Control & Stability

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TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

System Design Fundamentals

Heating Control Settings

- 1. Standard (Manual Heating Settings) most common
- 2. Outdoor Reset Control
- 3. External Control (0-10 V) not common

User Mode – 5 Options

Installer Mode – 19 Options

Maintenance Mode

Diagnostic Mode – 3 Options

Pre-Heat Timer Setting

Control Panel

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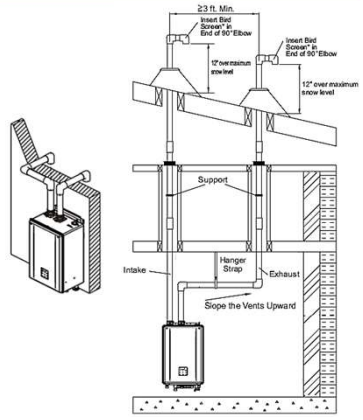
TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

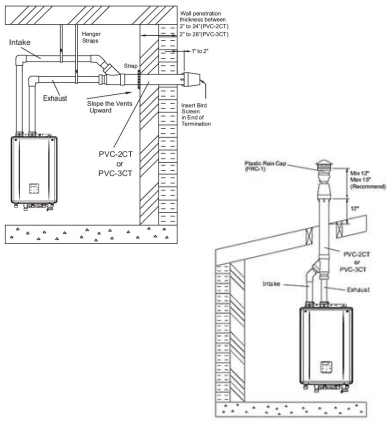
Venting Options

2" or 3" Diameters: PVC, CPVC, or PP Material (Horizontal / Vertical Termination Options)

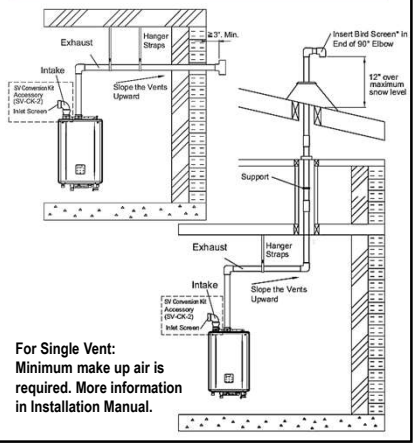
Direct Vent (2 Pipes: Exhausting Outdoor and Pulling Intake Outdoor Clean Air) – 2 Terminations



Concentric Vent (Pipe in a Pipe: Exhausting Outdoor and Pulling Intake Outdoor Clean Air) – 1 Termination



Single Vent (Exhausting Outdoor and Pulling Intake from Indoor Combustion Air – 1 Termination



For Single Vent:
Minimum make up air is required. More information in Installation Manual.

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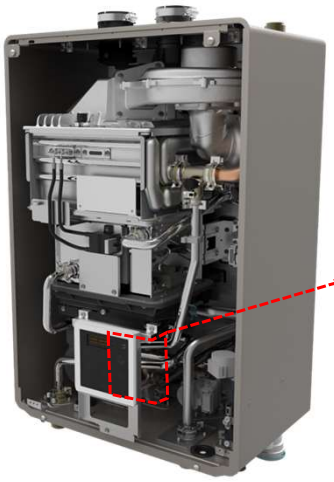
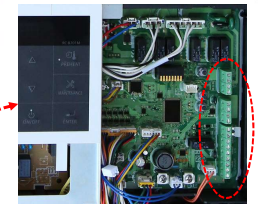
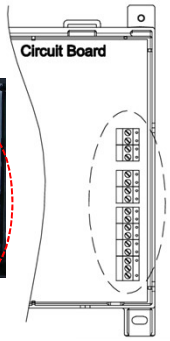
TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

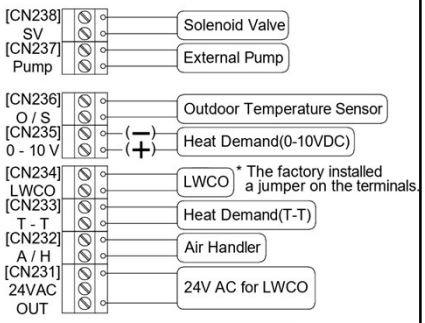
Wiring Options

- For accessories, controls, sensors, other equipment to compliment Combi Boiler system









Circuit Board

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TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

Plumbing Diagrams

- Combi Boiler as a Water Heater Only (Space Heating to be installed in the future)
- Primary/Secondary Piping with Zone Valves
- Primary/Secondary Piping with Zone Pumps
- Air Handler Piping
- Recirculation System on DHW side

Key applications for most system needs

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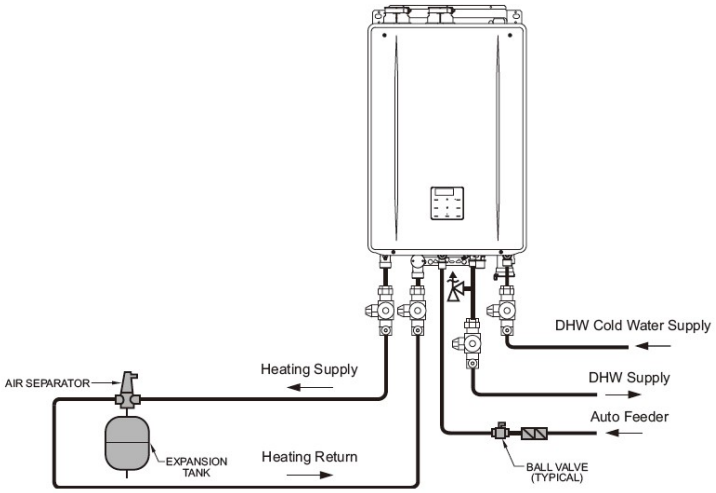
TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

Plumbing Diagrams

Combi Boiler as a Water Heater Only
(Space Heating to be installed in the future)



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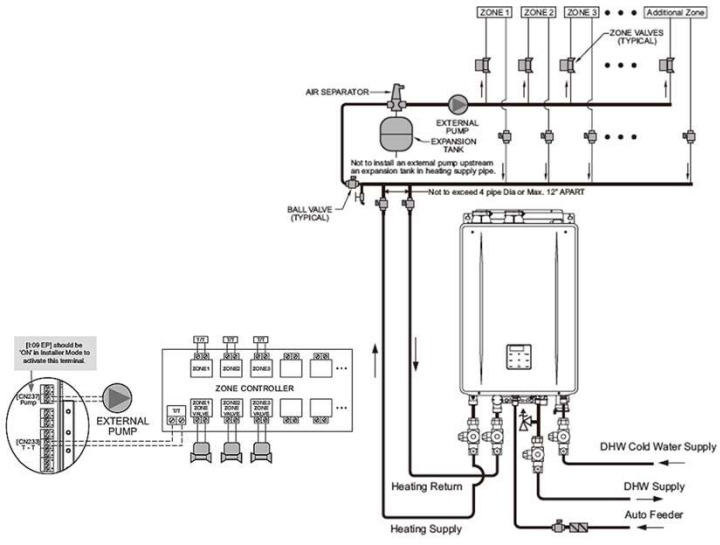
TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

Plumbing Diagrams

Primary/Secondary Piping with Zone Valves



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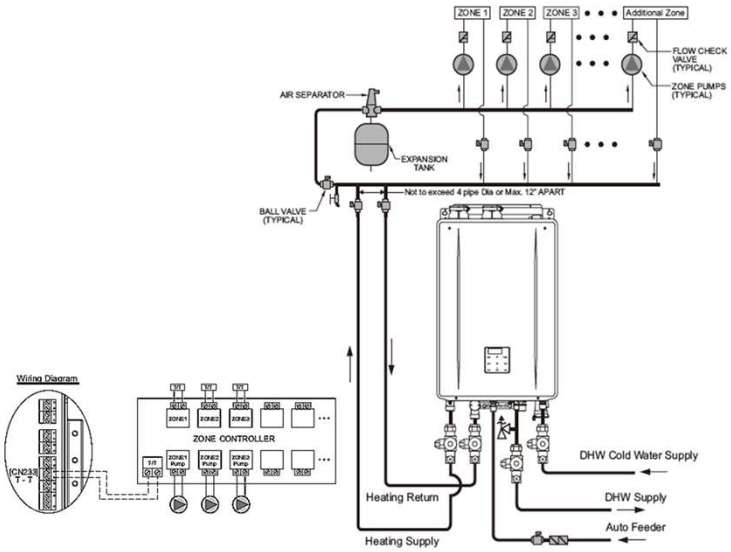
TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

Plumbing Diagrams

Primary/Secondary Piping with Zone Pumps



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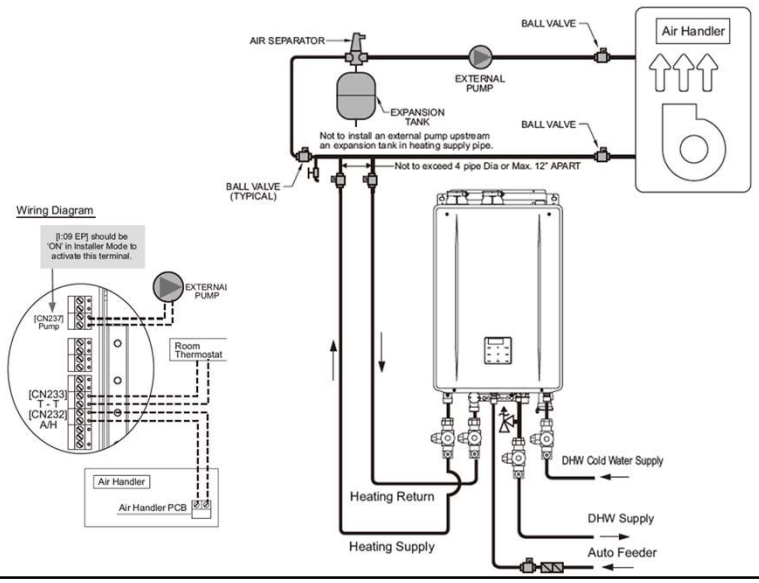
TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

Plumbing Diagrams

Air Handler Piping



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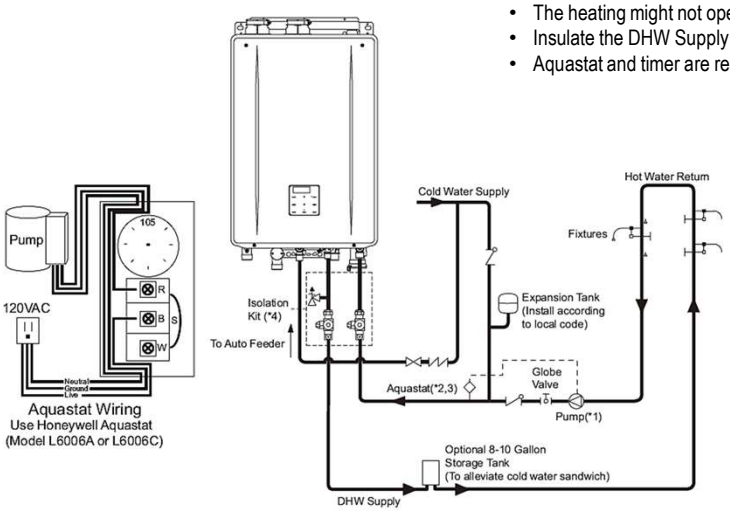
TECHNOLOGY, PERFORMANCE, AND SYSTEM DESIGN

Plumbing Diagrams

Recirculation System on DHW side

- The heating might not operate in some conditions during recirculation
- Insulate the DHW Supply and Return pipe completely
- Aquastat and timer are required to control recirc loop.



REQUIRED

This should only be installed when Heat loop is set minimum 20 F higher than the domestic side. If not possible then Quick Connect system with recirculation would be recommended.

Flow on recirculation pump should be from 1 to 1.5 gpm.
(If higher, simultaneously heating and DHW **may not work)**

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HEATING APPLICATIONS

Hydronic Systems

Radiant Floor Heating

- Warm water circulates through tubing embedded in floors.
  - Best for:
    - New construction
    - High-efficiency homes
    - Comfort-focused customers
  - Key advantage
    - Low-temp operation = high efficiency

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HEATING APPLICATIONS

Hydronic Systems

Baseboard Radiators (Fin-Tube)

- Baseboard Units along walls
  - Best for:
    - Retrofits
    - Traditional homes
  - Key advantage
    - Simple, proven

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HEATING APPLICATIONS

Hydronic Systems

Panel Radiators

- Integrated into limited wall spaces
  - Best for:
    - Modern hydronic retrofits
    - Zoned comfort
  - Key advantage
    - Faster response than radiant

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HEATING APPLICATIONS

Hydronic Systems

Snow Melt

- Integrated into limited wall spaces
  - Best for:
    - Driveways, walkways
  - Key advantage
    - Activating the heating only when needed, reducing labor and time spent snow removal.

NOTE

A flat-plate heat exchanger may need to be installed due to the limit of 35% glycol limit of the NRCB

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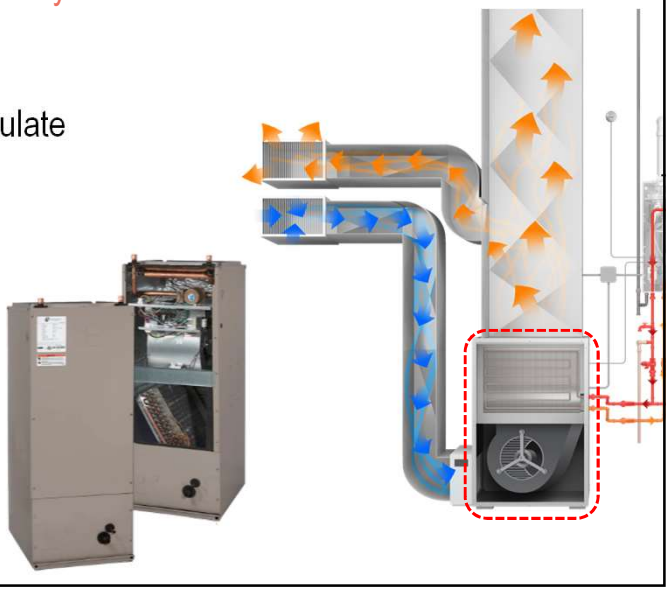
HEATING APPLICATIONS

Hydronic Systems

Air Handler

- Equipment designed to regulate and circulate air within a building using hot water
  - Best for:
    - Gas furnace replacement
    - In conjunction with cooling source
  - Key advantage
    - Complete system



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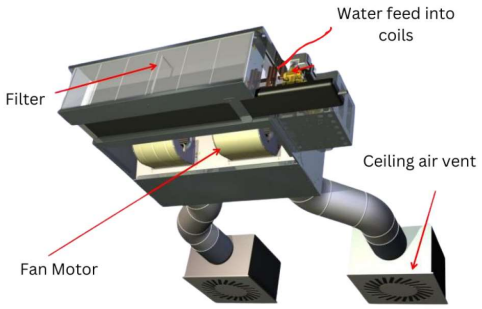
HEATING APPLICATIONS

Hydronic Systems

Fan Coil Unit

- Utilizes hot water to move heated air
  - Best for:
    - Ceiling application
    - Localized rooms
  - Key advantage
    - Smaller, self-contained device



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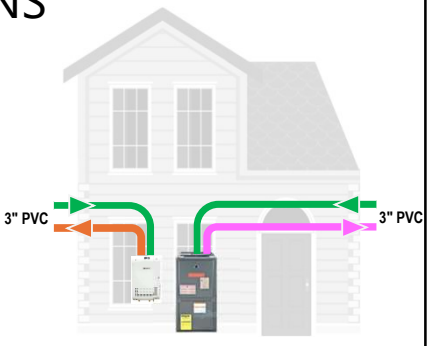
HEATING APPLICATIONS

Hydronic Systems

Use Case

- New Construction – Builder Advantage
  - Baltimore, MD
    - Single-Family Home (Tankless with Gas Furnace)



Termination Direction

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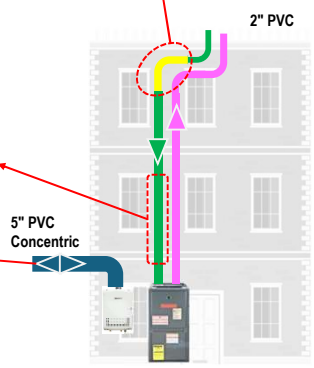
HEATING APPLICATIONS

Hydronic Systems

Use Case

- New Construction – Builder Advantage
  - Baltimore, MD
    - Townhome (Tankless with Gas Furnace)



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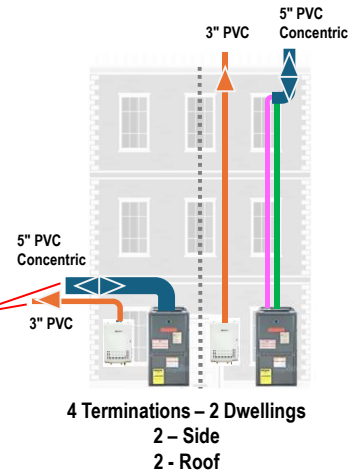
HEATING APPLICATIONS

Hydronic Systems

Use Case

- New Construction – Builder Advantage
  - Baltimore, MD
    - Multi-Family (Tankless with Gas Furnace)



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HEATING APPLICATIONS

Hydronic Systems

Use Case - Challenges

- New Construction – Builder Advantage
  - Installers are struggling with venting water heater and gas furnace
  - Not ideal in attic and mechanical rooms

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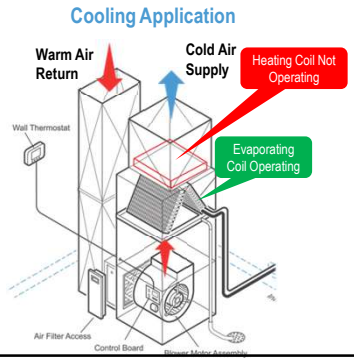
HEATING APPLICATIONS

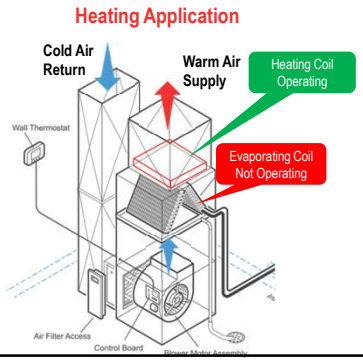
Hydronic Systems

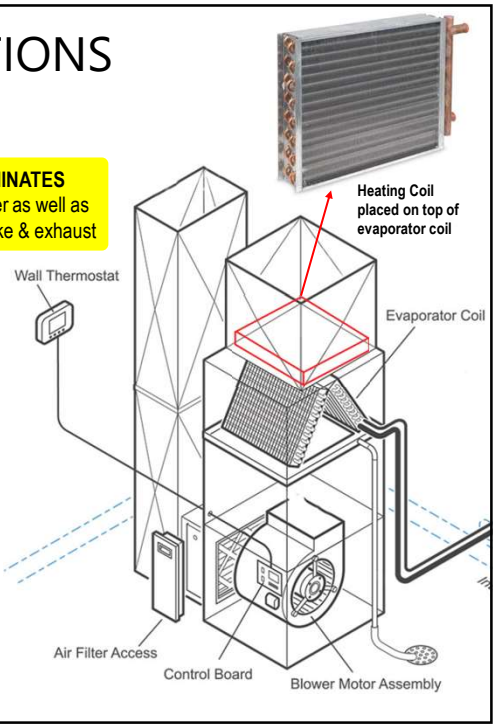
Heating Coil - Solution

This option **ELIMINATES** Gas Heat Exchanger as well as Terminations for intake & exhaust

- New Construction – Builder Advantage
  - Use Case: Cost Reduction







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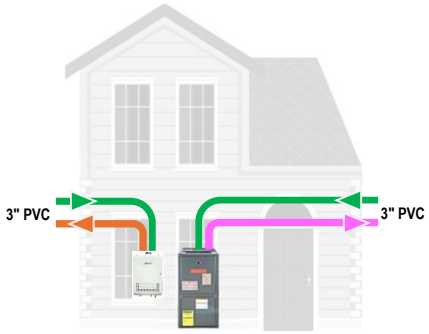
HEATING APPLICATIONS

Hydronic Systems

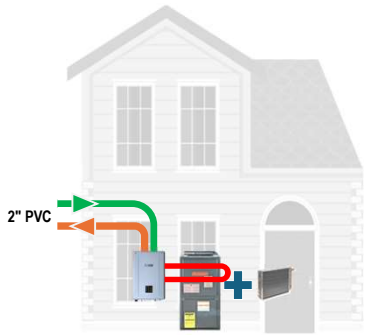
Heating Coil - Solution

Single-Family Home



4 Terminations

Tankless with Gas Furnace



2 Terminations

Combi with Heating Coil

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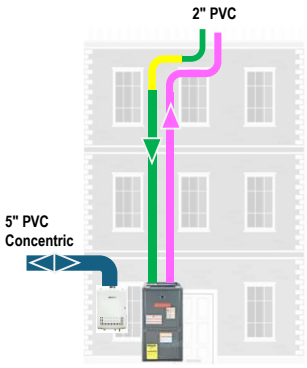
HEATING APPLICATIONS

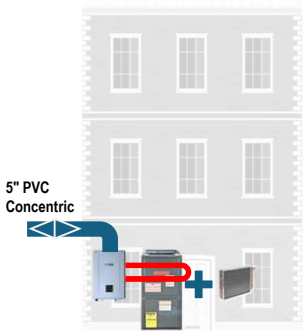
Hydronic Systems

Heating Coil - Solution

Townhome



Tankless with Gas Furnace



Combi with Heating Coil

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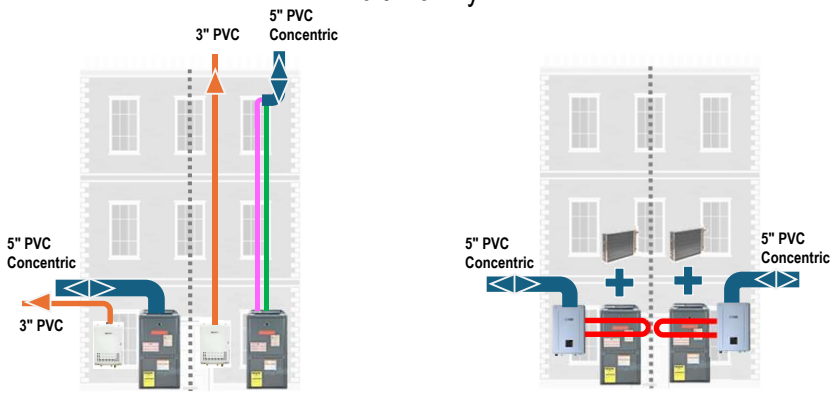
HEATING APPLICATIONS

Hydronic Systems

Heating Coil - Solution

Multi-Family



Tankless with Gas Furnace

Combi with Heating Coil

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HEATING APPLICATIONS

Hydronic Systems

Heating Coil

- New Construction – Builder Advantage – Other Features
  - 40/60/80/100 KBTU heating coils available
  - Direct connection between combi boiler and heating coil.
    - Primary/secondary system and external/additional pump are not required.
  - No electrical wiring is required to the heating coil.
    - Heating is controlled by the combi boiler (and room thermostat)
  - Heating coil can be put anywhere on the duct system.
    - Simultaneous DHW/Heating technology.
  - Less water quality issue (scale/corrosion) than regular tankless water heaters

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CUSTOMER ENGAGEMENT AND VALUE IDENTIFICATION

- Target Customer Segments
- Customer Pain Points
- Translating Features → Benefits
- Value Drivers by Persona

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TARGET CUSTOMER SEGMENTS

- Retrofit: replacing old boiler + tank
- New build: efficiency + space

Homeowners

- Ease of install
- Callbacks and service friendliness

Contractors

- Cost per unit
- Mechanical room footprint

Builders / Developers

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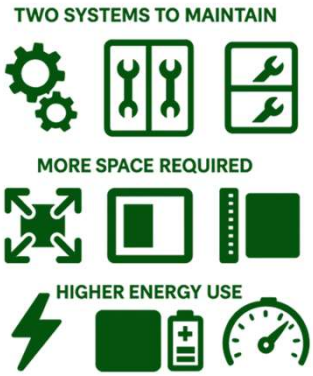
CUSTOMER PAIN POINTS

Rethinking Home Comfort: Heating & Hot Water, Simplified

Today's systems are outdated, inefficient, and frustrating. There's a better way.

Most homes are still running two separate systems.

A boiler/furnace + a tank water heater.



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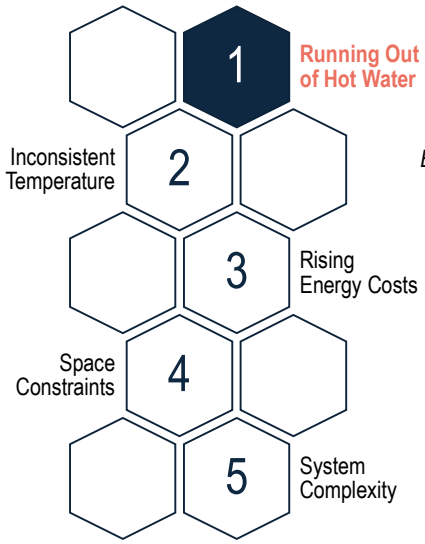
CUSTOMER PAIN POINTS



Everyone has experienced it—back-to-back showers and suddenly… cold water.

Impact:

- Household frustration
- Peak demand failures

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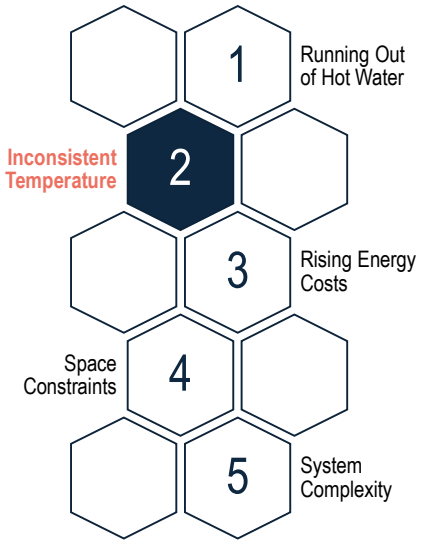
CUSTOMER PAIN POINTS



Temperature swings during showers or fixtures running simultaneously.

Impact:

- Poor user experience
- Perception of unreliable system

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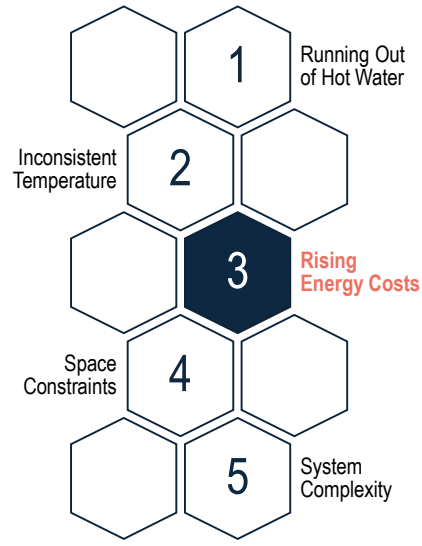
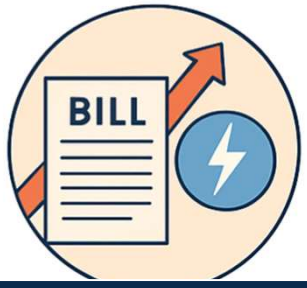
CUSTOMER PAIN POINTS



Traditional systems waste energy just keeping water hot.



Impact:

- Higher monthly bills
- Inefficient standby losses

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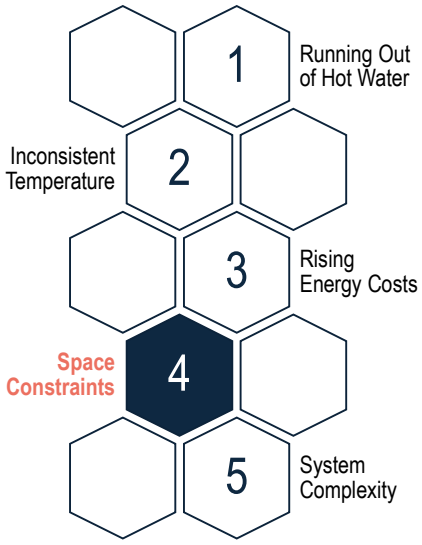
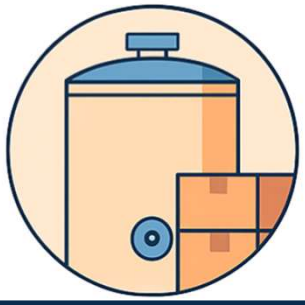
CUSTOMER PAIN POINTS



Mechanical rooms, garages, & basements are crowded - especially in modern homes.



Impact:

- Lost usable space
- Installation limitations

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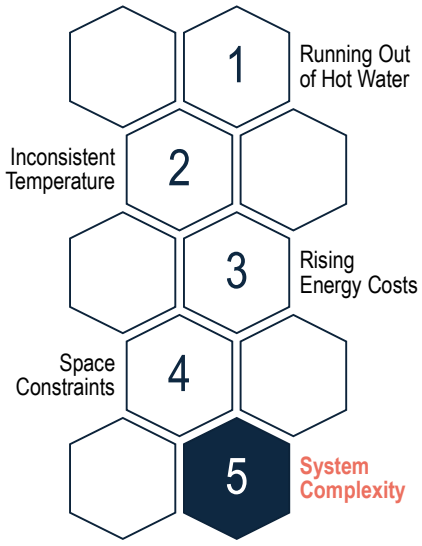
CUSTOMER PAIN POINTS



Two appliances = more parts, more failure points, more confusion.

Impact:

- Harder to service
- More things that can break

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CUSTOMER PAIN POINTS

The Turning Point: There Has to Be a Better Way

Bridge from frustration to solution

Homeowners don't want more equipment

they want a smarter solutions

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TRANSLATING FEATURES → BENEFITS

The Turning Point: There Has to Be a Better Way

High AFUE	Lower monthly bills
Compact design	More usable space
Superior Stainless Steel heat exchangers	Longevity & reliability
Simultaneous Performance	Uninterrupted Comfort

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VALUE DRIVERS BY PERSONA

Homeowner
- comfort, savings, peace of mind

Contractor
- simple install, fewer callbacks

Builder
- cost-effective, compact, code-friendly

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COMPETITIVE POSITIONING AND SALES STRATEGY

- Objection Handling
- Pricing & ROI Story
- Sales Process Framework

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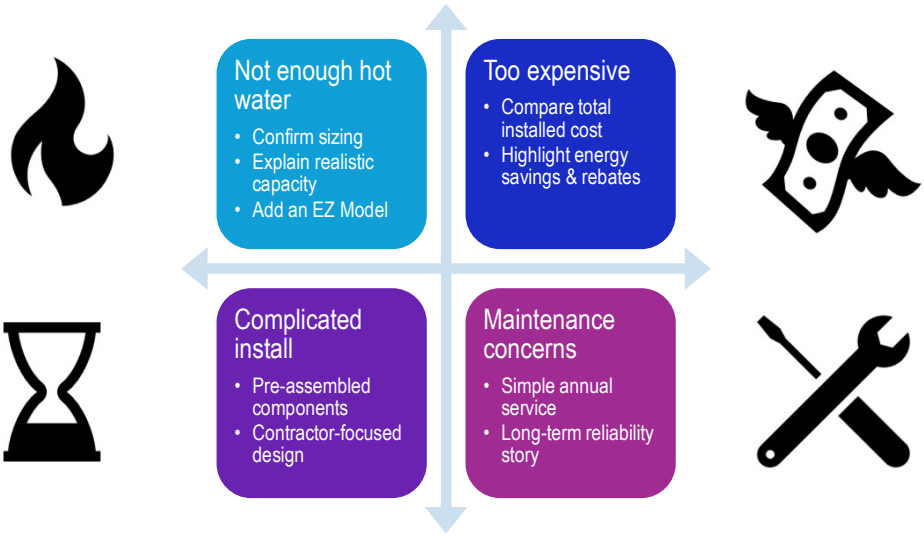
OBJECTION HANDLING



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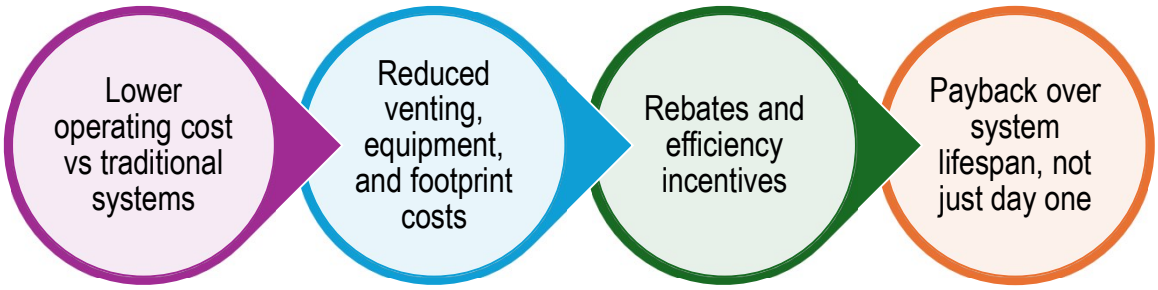
PRICING & ROI STORY



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SALES PROCESS FRAMEWORK

Discovery – Understand Before You Sell	Qualification – Is This a Real Opportunity?	Product Match – Engineer the Right Solution	Value Presentation – Sell Outcomes, Not Equipment	Confident Close – Guide the Decision
• Identify the application • Understand current system pain points • Document system details	• Identify potential barriers • Establish timeline • Evaluate application fit for a combi solution	• Match features to needs • Address installation considerations • Position differentiation	• Tie features directly to their pain points • Quantify benefits where possible • Pre-handle objections	• Summarize alignment • Create urgency (when appropriate) • Define next steps

Each step should clearly connect to the next - no gaps, no assumptions

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APPLICATION DEMAND & SIZING REQUIREMENTS

- Sizing Methodology
- Additional Accessories

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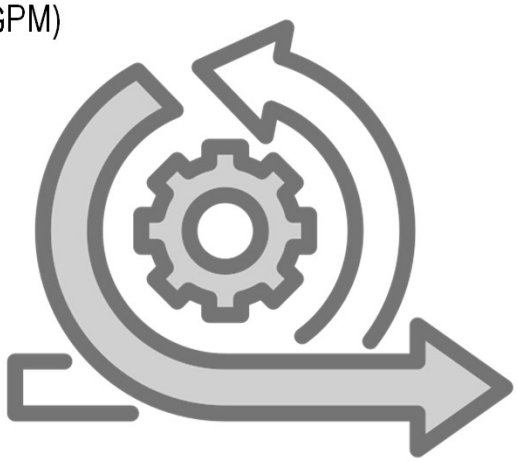
SIZING METHODOLOGY

- Calculate peak Domestic Hot Water demand (GPM)
- Calculate heating load (BTUs)
- Select unit that meets both requirements
- Verify gas and venting feasibility



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ADDITIONAL ACCESSORIES

½" pressure reducing valve is needed on the auto feeder connection line to reduce the inlet water pressure to below 30 psi

Part # MK-NRCB-1

Premade to align with the heating supply and return ports. Shut off valves and ports to flush the HEX along with a drain port to bleed out air in the system

Air Separator is required at the highest point of the heating system

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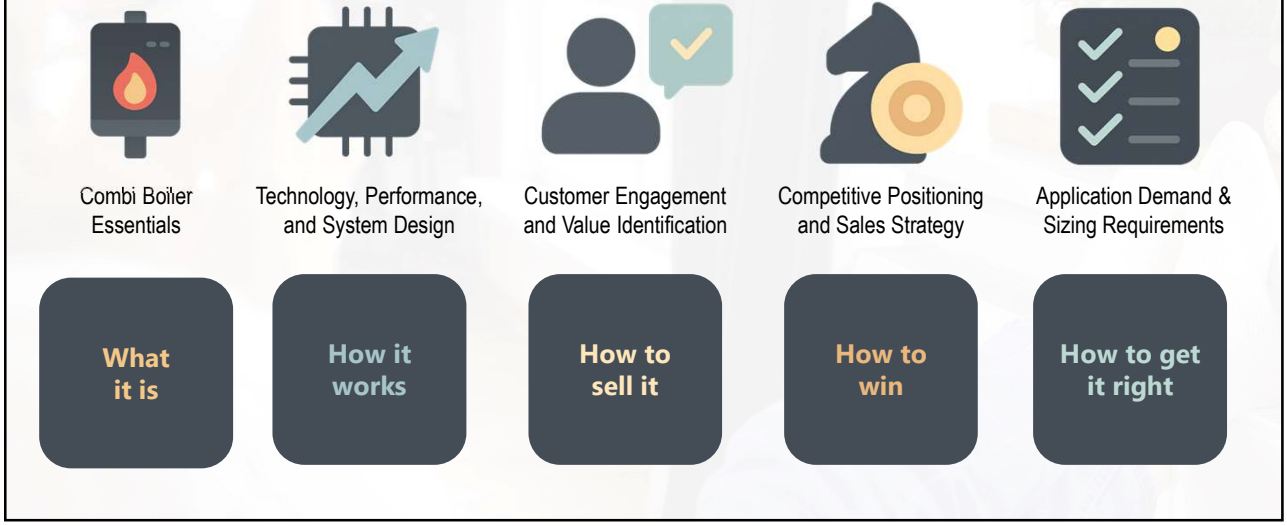
HOW THE 5 SECTIONS CONNECT



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QUESTIONS?

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