



HIGH EFFICIENCY  
CONDENSING BOILER

# Ultra Series 4

The new Ultra Series 4 features a nano-coated heat exchanger to maximize efficiency and extend longevity.



The new Ultra Series 4 from Weil-McLain takes our line of Ultra high efficiency condensing boilers to a higher level of performance. It features a state-of-the-art heat exchanger with nanotechnology coating that works like “Ultra Armor,” reducing build up in the heat exchanger while maintaining high efficiency.

### Inspired by nature

Nanotechnology was created to mimic the lotus effect, preventing water condensate build-up. Like that of the lotus leaf, the nanotechnology coating repels exhaust residue formation on the heat exchanger surface and prevents acidic condensate penetration.

In addition, Ultra Series 4 has an advanced condensate management system that incorporates polypropylene piping to further reduce the impact of condensate.



### Clean-free for at least 5 years\*

Thanks to our nano-coated heat exchanger, the new Ultra Series 4 requires no cleaning for a full five years after installation. When it's time to clean, a simple rinsing of the coated heat exchanger with water does the trick.

### Great for residential and light commercial

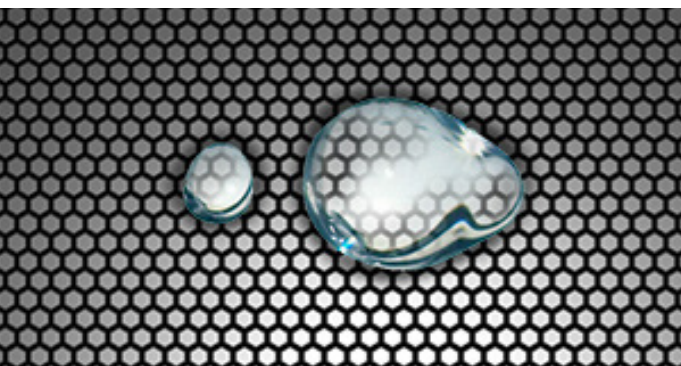
The new Ultra Series 4 is an ideal choice for single-family residential applications. Homeowners will appreciate its quiet operation, ease of set up and control, and unmatched comfort while providing immediate payback in energy savings.

For light commercial applications, the Ultra Series 4 lets contractors pair boilers in sequence to heat larger buildings. And, it allows you to control multiple boilers from a single control panel.

*\* Typical installations, field conditions may vary.*

## Heating perfection and long-term protection

- Every Ultra boiler is hydrostatically tested to ASME standards and test fired
- Backed by Weil-McLain quality and a warranty that provides peace of mind
- Unrivaled technical and field sales support
- From North America's leading boiler manufacturer with over 135 years of proud history



## Nanotechnology

To greatly decrease the possibility of heat exchanger corrosion, Weil-McLain utilizes Nanotechnology, a heat exchanger coating that combines antiadhesive and anticorrosion properties.

Nanotechnology protects from corrosion and combustion residue build-up. In conventional systems, aggressive exhaust particles can attach to the surface and cause heat exchangers to corrode. Heat transfer is then reduced and the heating system's energy efficiency decreases.

With nanotechnology properties, biofilm formation is inhibited and allow residues to be easily carried out of the heat exchanger before they obstruct the flueways.

## BENEFITS:

- Cast aluminum coated heat exchanger
- Up to 94% DOE AFUE efficiency
- Designed to operate in low temperature condensing applications
- Outdoor reset and domestic hot water priority
- Modulates with 5:1 turn-down ratio
- High grade stainless steel burner features quiet operation
- U-Control gives you the power for easy set-up and maintenance:
  - Multiple set-up and zone options
  - System sensing recognizes system and outdoor temperatures
  - Temperature management for up to three different set-points
  - Control multiple boilers from a single control panel
  - Standard screen messages provide service alerts and maintenance reminders



IGNITION



BURNER ON  
PROVIDING SPACE HEATING



BLOWER ON  
START/END OF HEATING CYCLE



ALERT STATUS



WATER HEATER  
PROVIDING HOT WATER



STANDBY MODE



WARM WEATHER SHUTDOWN



MAINTENANCE REMINDER

## User friendly display screens

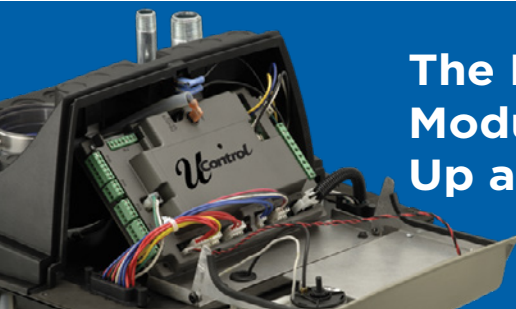
- Back-lit LCD display and simple programming buttons make entering and receiving information easy
- Homeowner has the ability to view current boiler status, check water and outdoor temperatures, review boiler maintenance schedule and view installing contractor contact information





### CONNECTIONS / COMPONENTS:

1. A negative regulated gas valve that precisely delivers gas to the boiler for optimal performance.
2. A variable speed motor that constantly matches combustion output to your heating needs.
3. A venturi mixing body that precisely mixes air and gas providing higher efficiency.
4. A cast aluminum mono block heats faster – aluminum provides 10 times better heat transfer than stainless steel.
5. Water and gas piping placement are designed for quick and easy connection at the top of the boiler.
6. Conveniently located for simple installation and servicing, the electrical components have been pre-wired and are connected to the U-Control Module with color-coded terminal block plugs.
7. Simplified venting with PVC, CPVC or PP for both exhaust and combustion air. Slide the pipe into the top outlet flue pipe adaptors and tighten the restraining ring, without messy sealants. Achieve vent runs up to 100 feet.
8. High grade stainless steel burner with woven steel fiber mesh that uses pre-mixed air and gas providing for a 20% to 100% modulating firing rate. The burner is designed for long life and whisper quiet operation.
9. Four adjustable boiler feet for easy placement and leveling.
10. The Ultra is lightweight compared to a conventional boiler, requires minimal clearance and floor space, and can be used in floor standing or wall hung applications.



**The Exclusive U-Control  
Module Makes Boiler Set  
Up and Operation Easy**

#### SET UP OPTIONS

Simple or as elaborate  
as you want

#### ZONE TYPES

Choose predetermined  
settings or customize



## High Efficiency and Environmentally Friendly

As fuel costs soar, home heating efficiency is on the mind of virtually every homeowner.

All Ultra boilers feature a high AFUE efficiency level. This is one of the highest efficiency levels in the industry, and when the Ultra is used in low temperature applications such as radiant heating, it can achieve even higher efficiencies.

The Ultra boiler is designed to be environmentally friendly and exceeds the highest North American environmental air-quality standards. In fact, it provides cleaner combustion for low NOx applications allowing for a reduction in green house gases.

While fuel efficiency and the environment are highly important factors, here's another-the Ultra system comes from Weil-McLain, America's acknowledged leader in boiler quality and reliability.

For well over a century, Weil-McLain has been single-minded in its pursuit of continual breakthrough innovation, backed by a solid commitment to provide the best customer service and support.

The new Ultra Series 4, coupled with the industry's greatest reputation for quality, provides today's most comforting combination.

## How high heating costs fall to Ultra technology

For gas fired appliances, Ultra boilers employ an advanced mono-lock aluminum heat exchanger that transfers heat faster than conventional materials.

Ultra's unique electronic sensor and control system allows key functions like the modulation of firing rates up or down, as conditions both inside and outside the home fluctuate.

Unlike most other systems that merely turn off or on at a single preset indoor temperature, Ultra senses precisely how much heat needs to be produced at any given instant and adjusts itself accordingly.

The result? Far greater fuel efficiency and far less wear and tear on critical parts.



### SYSTEM SENSING

Sense boiler, system and outdoor temperatures

### MULTIPLE BOILERS

Capable of controlling additional boilers or heating appliances

### TEMPERATURE MANAGEMENT

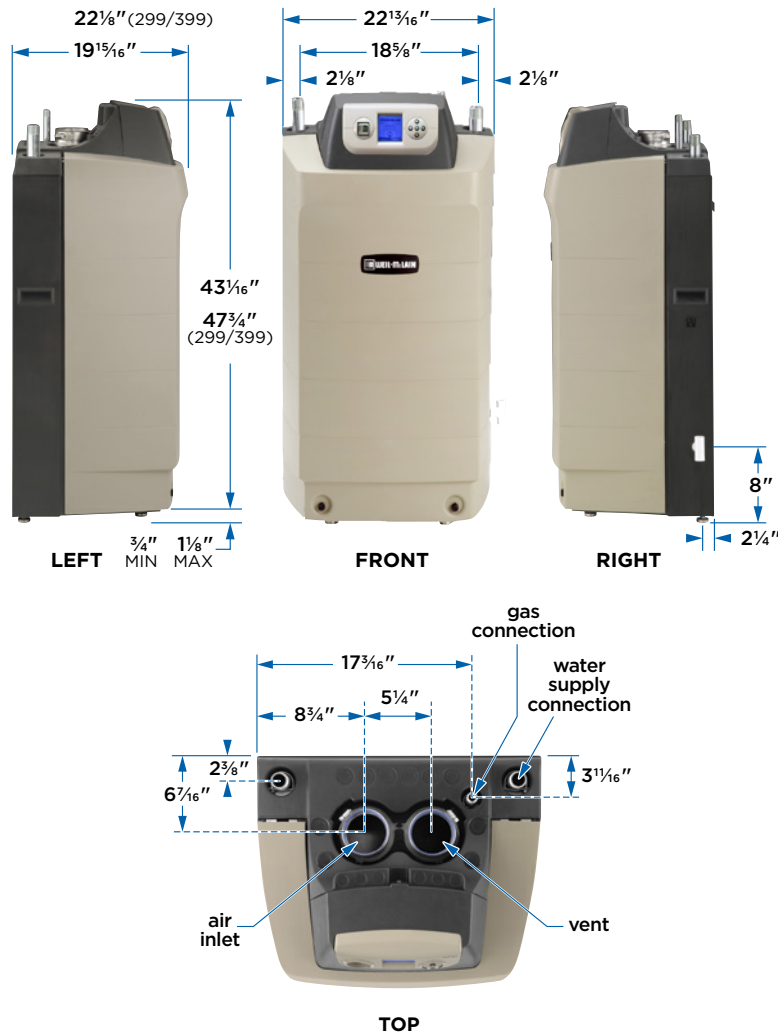
From 1 to 3 different setpoints for single or multiple zone type management

### SERVICE ALERTS

Use the standard screen message or customize with contractor information



## DIMENSIONS



DIMENSIONS	Ultra 80	Ultra 105	Ultra 155	Ultra 230	Ultra 299	Ultra 399
Min. Recommended Pipe Size	1"	1"	1 1/4"	1 1/4"	1 1/2"	1 1/2"
Supply Tappings	1"	1"	1"	1"	1 1/4"	1 1/4"
Return Tappings	1"	1"	1"	1"	1 1/4"	1 1/4"
Gas Connection Size	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"

## SPECIFICATIONS

RATINGS	Ultra 80	Ultra 105	Ultra 155	Ultra 230	Ultra 299	Ultra 399
CSA Input (Maximum)	80 MBH	105 MBH	155 MBH	230 MBH	299 MBH	399 MBH
CSA Input (Minimum)	16 MBH	21 MBH	31 MBH	46 MBH	62 MBH	80 MBH
DOE Heating Capacity	71 MBH	94 MBH	139 MBH	207 MBH	270 MBH	*364 MBH
Net AHRI	62 MBH	82 MBH	121 MBH	180 MBH	235 MBH	317 MBH
DOE AFUE	93.5%	94%	94%	94.1%	92.5%	*91.7%

\*Combustion Efficiency

DATA	Ultra 80	Ultra 105	Ultra 155	Ultra 230	Ultra 299	Ultra 399
Vent Size	2" or 3"	2" or 3"	3"	3" or 4"	4"	4"
Vent Material	PVC/CPVC/PP	PVC/CPVC/PP	PVC/CPVC/PP	PVC/CPVC/PP	PVC/CPVC/PP	PVC/CPVC/PP
Combustion Air Size	2" or 3"	2" or 3"	3"	3" or 4"	4"	4"
Water Volume	.69 Gal.	.82 Gal.	1.17 Gal.	1.57 Gal.	2.1 Gal.	2.1 Gal.
Approx. Shipping Weight	199 Lbs.	207 Lbs.	234 Lbs.	246 Lbs.	297 Lbs.	297 Lbs.

In the interest of continual improvements in product and performance, Weil-McLain reserves the right to change specifications without notice.



## STANDARD EQUIPMENT:

### BOILER

- Cast aluminum block
- 30 PSI ASME relief valve
- Drain valve
- Stainless Steel Burner (80, 105) with woven steel fiber mesh (155, 230, 299, & 399)
- Direct spark ignition
- Variable speed blower assembly
- Venturi mixing system with air silencer
- Negative pressure regulated gas valve
- 50 VA transformer
- Dual scale temp. & pressure gauge
- Outlet water temp. sensor
- Inlet water temp. sensor
- Flue gas temp. sensor
- Outdoor temp. sensor
- System water temp. sensors
- Fully removable jacket front
- Adjustable boiler legs
- On/off power switch
- Condensate trap with drain tee assembly
- Propane conversion orifice (all except model 80)

### U-CONTROL MODULE

- 3.5" LCD display
- Three boiler priorities with multiple preset system configurations
- Color-coded removable terminal blocks
- Multiple boiler functionality
- Alarm control functionality
- Ignition control
- High limit & modulating temp. control
- Low water protection
- Outdoor reset
- Ability to control any combination of 3 circulators

### BOILER CIRCULATORS

- 1" Flanges (80 & 105) Taco 007e
- 1" & 1 1/4" Flanges (155 & 230) Taco 0014
- 1 1/4" & 1 1/2" Flanges (299) Taco 0014
- 1 1/4" & 1 1/2" Flanges (399) Taco 0013

### OPTIONAL EQUIPMENT

- Ultra Easy-Up manifolds
  - US 80 & 105 Part #383-500-765
  - UG 155—399 Part #383-500-766
- PVC concentric vent kit
- Sidewall termination cap
- Condensate neutralizer kit
- LWCO kit
- Wall mount kit
- Water treatment—inhibitor & test kit