

Accel CS™

Simply the smartest heating design
ever developed for home or business,
with the industry's proven
top efficiency!



UP TO
97% AFUE

Exceptional Features:

- Cuts fuel bills up to 40% or more.*
- Why settle for yesterday's reset controls that can leave you out in the cold?
 - Quietest operation of all boilers!
 - **LONGER hot showers!**
- **BEST Lifetime Limited Warranty**
- Natural Gas or Propane!



**Plus! Accel CS improves
on the highest real efficiency
of all systems tested!**

-In a US Department of Energy
Brookhaven Laboratory study

* See page 2



Awarded the ENERGY STAR®
Most Efficient mark for 2021.

Accel CS is an integrated system, which means it produces both heat and hot water!

Heat and hot water are the largest energy consumers in cold climate homes. Accel CS is a single high efficiency appliance that delivers the best of *both*. The result is comfortable warmth for living spaces, plus abundant kitchen, bath, and laundry hot water including nearly endless hot showers.

What is the primary advantage of Accel CS?

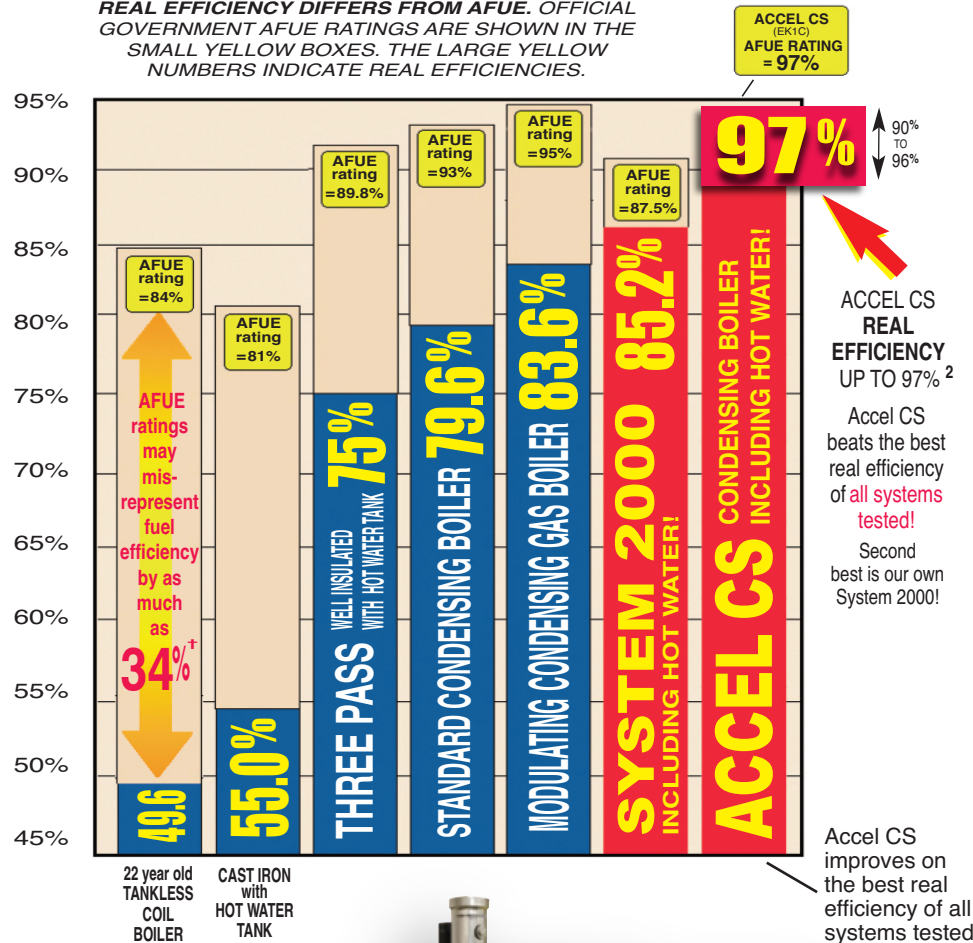
Condensing technology is already established as a high efficiency heating method. Accel CS takes it further, first with better construction and then by incorporating condensing technology in a *combined system*, a common sense marriage of processes that is simply smarter than any other heating system. Among many benefits, Accel CS runs more intelligently and adapts more swiftly to changing demands. As a result, it delivers bigger fuel savings (greater efficiency) in every area of heat and hot water production.

Under contract with the US Department of Energy, a Brookhaven National Lab study confirmed:

U.S. energy guide (AFUE) ratings miss significant areas of energy loss, and do not reflect the real efficiencies of common heating systems.¹

THIS CHART SHOWS HOW ACCEL CS BEATS THE BEST REAL EFFICIENCIES OF ALL SYSTEMS TESTED.

REAL EFFICIENCY DIFFERS FROM AFUE. OFFICIAL GOVERNMENT AFUE RATINGS ARE SHOWN IN THE SMALL YELLOW BOXES. THE LARGE YELLOW NUMBERS INDICATE REAL EFFICIENCIES.



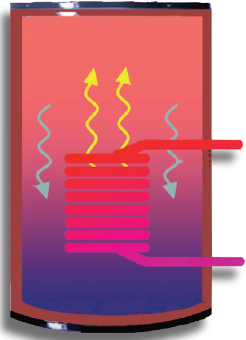
[†]This means that some Annual Fuel Utilization Efficiency (AFUE) ratings **underestimate fuel consumption by more than 50%**.

¹Data and conclusions are drawn from the report "Performance of Integrated Hydronic Heating Systems." Paper and presentation by Brookhaven National Laboratory, Upton, NY, under contract No. DE-ACO298CH10886 with the United States Department of Energy by Dr. T. Butcher; and "Chimney Related Energy Losses in Residential Oil-Fired Heating Systems."

²The real efficiency rating for Accel CS of 97% is based on boiler return water temperature of 118°F (comparable to AFUE test conditions). Higher return water temperatures normally found in American heating systems may reduce annual efficiency to 90%; lower heating efficiency is associated with higher water return temperature on all condensing boilers.



Our plate heat exchanger vastly outperforms old fashioned coil in tank systems.



Old fashioned tank with coil

This design is inefficient because the tank heats slowly all over, even when you need only a small amount of heat or hot water. In addition, the temperature of the system's boiler is allowed to rise *above* the tank's temperature, meaning there is an automatic loss of heat energy every time the boiler heat has nowhere to go, which wastes energy.



Plate Heat Exchanger

By comparison, our plate heat exchanger draws cold water from the *bottom* of the tank and feeds hot water from the *top down*. This delivers the highest efficiency through the entire hot water cycle.

Our hot water plate heat exchanger maximizes condensing – during every hot water cycle.

Accel CS features an internal pressure vessel of American made 316L domestic stainless steel

... plus the highest grade AL294C stainless steel for its condensate collector and flue (a rugged material originally developed for the nuclear power generating industry).

The Accel CS vessel contains over **70 pounds** of high grade stainless steel

Variable speed burner and negative pressure venturi gas valve for modulating input

High grade Kanthal flame sense rod and silicon nitride hot surface ignitor promote reliably consistent ignition

Flow accelerator enhances uniform heat transfer

Highest grade AL294C stainless steel condensate collector and flue for exceptional resistance to corrosion. Plus, our gasketed design allows access to *all* areas of the pressure vessel

Condensate trap and flex hose for easy connection to neutralizer and drain

Low pressure drop wide open **flue passes** with no dimples or pins for better performance

Low pressure drop wide open **water passes** mean enhanced heat transfer and more reliable operation

37 uniquely designed, specially formulated stainless steel super turbulators provide maximum condensate production and efficiency

Super turbulators may be removed for cleaning or service

Accel CS features removable panels for very easy service if the need arises.

Fold down door for easy access to control options

Hot water priority duration option

Return water temperature sensor

Modulating burner with 5:1 turndown ratio to match heating load

Outlet water temperature sensor (not shown)

Flue gas temperature sensor and limit (not shown)

Outdoor temperature sensor (not shown)

Ask for our free Accel CS DVD!



Accel CS means better heating and bigger savings, plus peace of mind for you and your family.

Hybrid Energy Recovery® – the easy-set controls behind Accel CS efficiency!

The Accel CS Condensing Hybrid Energy Recovery Control integrates thermal purge with temperature reset for the best year-round performance and hot water efficiency.

Friendly lighted indicators show thermostats calling, zone operation, heat and hot water demand, primary loop circulator operation, and boiler supply water temperature.



Large easy-read display



Hot water plus 4 zones (standard) Expandable to 12 zones

Accel CS control panel

Control panel features

Zone Control – The primary/secondary loop option controls up to 4 separate thermostats and zones, and includes a relay for the primary loop circulator, with fast and easy setup.

SmartBoost™ Comfort – Outdoor temperature reset can leave your home cold when recovering from overnight setback or whenever you turn up your thermostat. But our Smart Boost technology automatically adjusts to make your home warm and comfortable faster.

Accel CS's rapid hot water recovery squeezes more out of your fuel dollars. Unlike systems where the boiler heats up along with the tank (which can virtually stop the condensing operation) our advanced plate heat exchanger can run at full output while maintaining peak condensing!

Auto Express temperature settings allow quick selection for baseboard, radiators, air handlers and other systems. Optional custom outdoor reset boiler supply temperatures can be enabled with the flick of a switch.



Peace of Mind!

Exceptional residential lifetime limited warranty on pressure vessel and condensing energy manager!
See actual warranty for details.

ACCEL CS SPECIFICATIONS	EK1C		EK2C	
Maximum Input, Btu/Hr	90,000	120,000	150,000	200,000
Maximum Output, Btu/Hr	86,000	115,000	143,000	190,000
AFUE	97%		95.3%	
Maximum Supply Temperature	Water 210°F		Water 210°F	
Maximum Pressure	75 PSI		75 PSI	
Weight, Pressure Vessel, dry	70 lbs		90 lbs	
Weight, dry w/o stand	200 lbs		275 lbs	
Weight, w/water and w/ stand	270 lbs		375 lbs	
Water content	5 gallons		6-1/2 gallons	
Supply & Return Piping Size	1"		1-1/4"	
Gas Supply Connection	3/4"		3/4"	
Size with Stand	15"D x 25-7/8" W x 62-7/16" H		17-1/2"D x 28-1/8" W x 69-7/16" H	
Size without Stand	15"D x 25-7/8" W x 50-7/16" H		17-1/2"D x 28-1/8" W x 57-7/16" H	
Maximum Venting and Air intake Lengths	100 ft equiv 3" polypropylene 50 ft equiv 2" polypropylene (intake may be pvc)		100 ft equiv 4" polypropylene 50 ft equiv 3" polypropylene (intake may be pvc)	
Power requirements	120 VAC, minimum of 12 amps		120 VAC, minimum of 12 amps	

AFUE
UP TO **97%**



EnergyKinetics.com

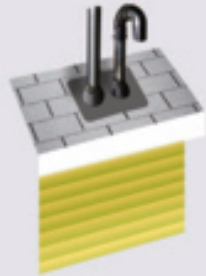
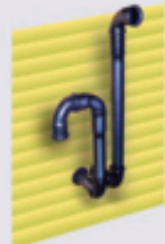


INSTALLATION FLEXIBILITY

WITH MULTIPLE VENTING OPTIONS



Sidewall direct venting



Through the roof



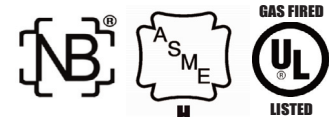
Chimney



51 Molasses Hill Road
Lebanon, New Jersey 08833

908 735-2066

F: 800 735-2068



® The color yellow for heating boilers is a registered trademark of Energy Kinetics.