

ACCEL CS™

CONDENSING BOILER DATA SHEET



RATED FOR COMMERCIAL CAPACITY

Accel CS is the smart, efficient
gas condensing **combined heat
and hot water** commercially
rated boiler system!

**CUTS COMMERCIAL FUEL BILLS UP TO 20%
OR MORE!**

EK3C with high
performance hot
water tank

Featuring:

- **Hybrid Energy Recovery®!**
- Outstanding boiler design made from **robotically welded 316L domestic stainless steel** (up to 2 times thicker than others!)
- Operates on **natural gas** or **LPG** (with EZ conversion)
- **Simple installation!**
- 'Low pressure drop' boiler design (no separate boiler circulator required!)
- Five or twelve zones **includes hot water**
- Connect up to 8 boilers in cascade!
- On board primary/secondary control



12 YEAR COMMERCIAL WARRANTY!

See actual warranty for details.



Proudly made in the USA

Four Accel CS advantages, including Hybrid Energy Recovery® and SmartBoost™, Energy Kinetics' compensation technology

1. Hybrid Energy Recovery

(Energy Kinetics' thermal purge technology) – Other condensing boilers shut off with energy left wasted in the boiler. But Accel CS Hybrid Energy Recovery automatically sends remaining heat to the top of the hot water storage tank, or directly into your conditioned spaces. This means the boiler finishes colder and no energy is left wasted. The result: More condensing and energy savings during every cycle.

2. SmartBoost – Increases boiler supply temperature to improve recovery from night setback or to override temperature reset on long thermostat calls to ensure comfort.

A. After a 25 minute (or optional 45 minute) thermostat call, supply water temperature is increased by 5°F every five minutes, up to 30°F.

B. If return temperature exceeds 130°F, condensing stops and SmartBoost immediately increases supply temperature 15°F.

3. Heating professional approved features:

- Pre-piped and pre-wired
- Serviceable with stock parts
- 5 zones with hot water standard
- Up to 12 zones optional
- Includes primary/secondary loop control of up to 3 zones (or up to 10 zones with optional upgrade to 12 zone manager). Loop circulator and zone manager hardware kits are available for fast, easy setup.

ACCEL CS EK3C SPECIFICATIONS

Maximum input, BTU/HR	399,000
Maximum output, BTU/HR	395,000
THERMAL EFFICIENCY	99%
Maximum supply temperature	Water 210° F
Maximum pressure	75 PSI
Weight, pressure vessel (dry)	140 lbs
Weight dry without stand	360 lbs
Weight with water and stand	510 lbs
Water content	12 gallons
Supply & return piping size	1-1/2"
Gas supply connection	1"
Dimension with stand	22-3/8"D x 32"W x 64-3/4"H
Dimension without stand	22-3/8"D x 32"W x 52-3/4"H
Air intake diameter	4"
Maximum venting and air intake lengths (Air Intake may be pvc or cpvc.)	100 ft equiv 4" polypropylene 50 ft equiv 3" polypropylene
Power requirements	120 VAC, minimum of 12 amps

99%

THERMAL EFFICIENCY

4. Commercial installations

Commercial Hot Water

Many commercial applications use multiple boilers and are piped with primary/secondary loop heating systems.

With these systems, the installer has the option of installing the plate heat exchanger(s)

- as a boiler zone with a Hot Water Zone Kit or
- as a zone off the primary loop

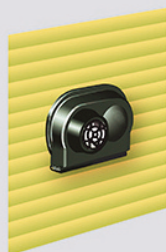
Each option has benefits and the best location should be determined by the requirements for domestic hot water.

Multiple Boiler (Cascade) Systems

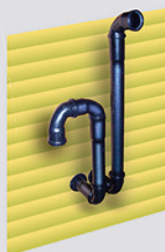
Commercial locations requiring up to 3.2 MM BTU/HR input can be accommodated by installing as many as eight Accel CS EK3C boilers in a primary/secondary configuration and using a Tekmar Multi-Boiler Staging Control along with an ERC Zone Control.

The ERC can handle 5 primary loop zones (and can be connected to additional controllers for up to 20 controlled zones) as well as the loop circulator, while the Tekmar staging control operates the boilers with integrated OTR and boiler rotation.

INSTALLATION FLEXIBILITY
FEATURING A VARIETY OF VENTING OPTIONS



Sidewall direct venting

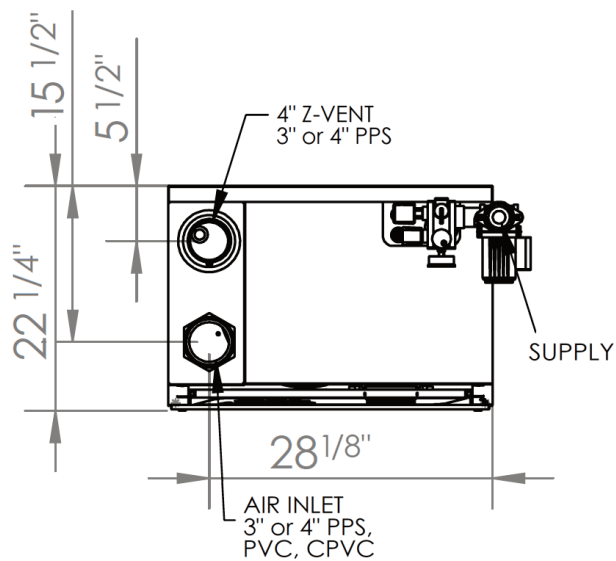


Through the roof



Chimney

ACCEL CS EK3C BOILER DIMENSIONS

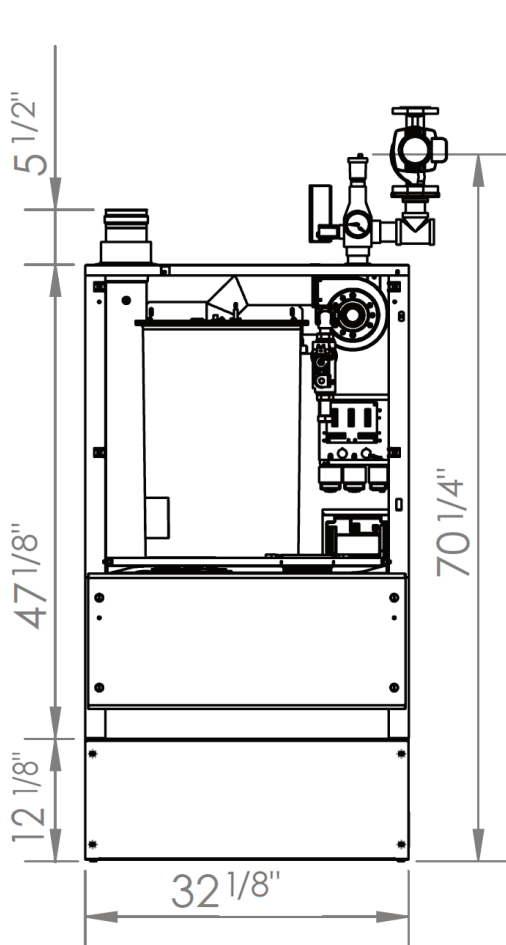


TOP VIEW

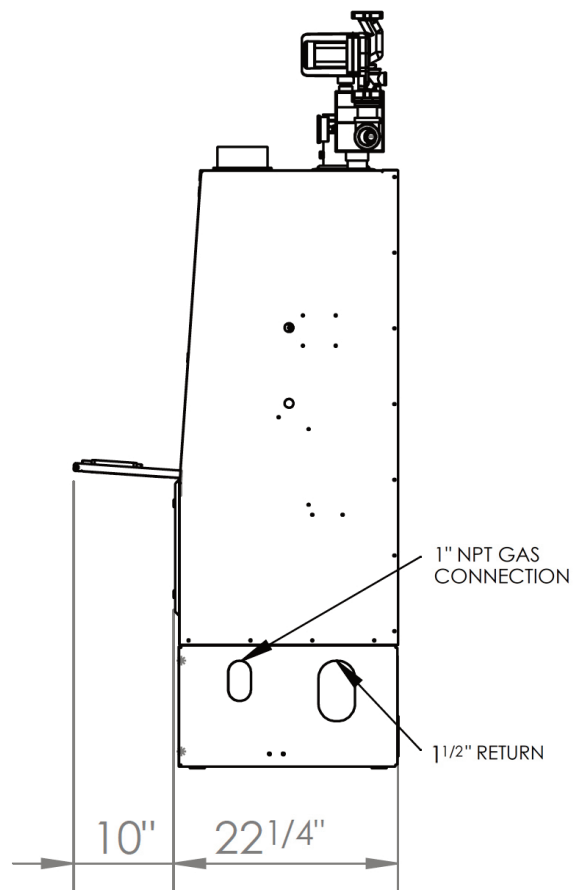
Outdoor Air Intake*	3" (to 50 ft) or 4" (to 100 ft) PPS, PVC, CPVC
Boiler Vent*	3" (to 50 ft) or 4" (to 100 ft) PPS, Z-Vent stainless steel
Supply and Return	1 1/2" NPT (Supply may be configured with pump flange.)
Gas connection	1" NPT

CONNECTION PARAMETERS

*Air Intake and Vent lengths are equivalent lengths



FRONT VIEW



SIDE VIEW

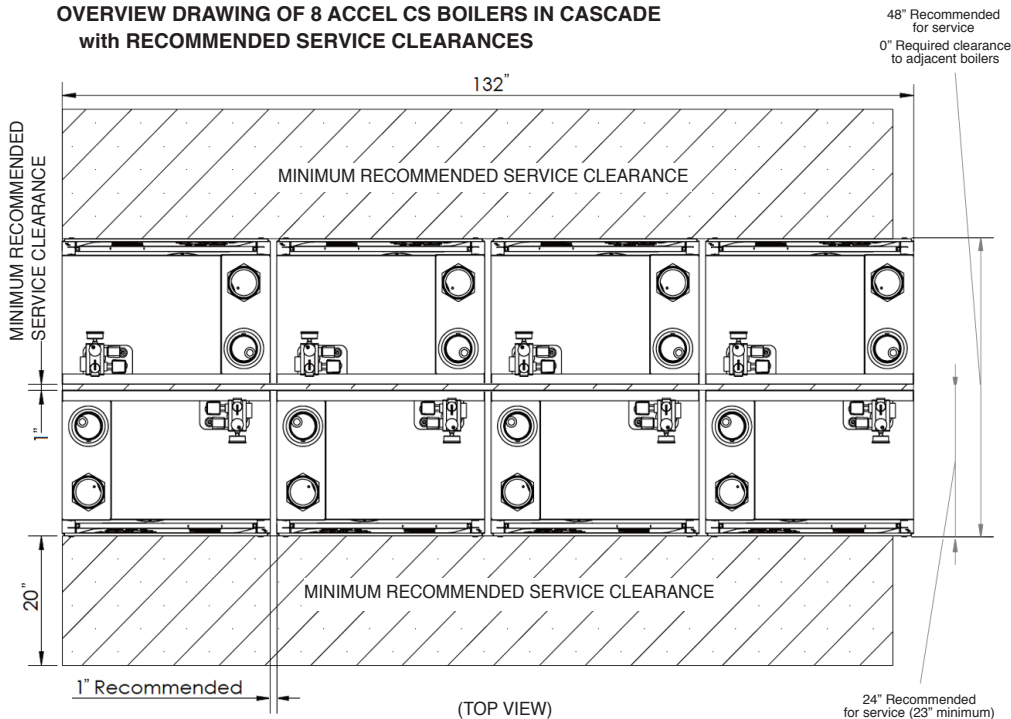
CLEARANCE to COMBUSTIBLES and SERVICE

Due to the low stack temperature of the condensing boiler, the Accel CS boiler may be installed with zero clearance to combustibles. Specifically, with zero clearance to top, bottom, left, right, front and back.

Installation Clearances from Boiler Surfaces, Inches	Clearance to Combustibles	Clearance for Service
Front of boiler	0 inches	20 inches
Left side of boiler body	0 inches	0 inches
Right side of boiler body	0 inches	0 inches
Back of boiler body	0 inches	1 inch
Top of boiler body	0 inches	20 inches
Bottom of boiler chassis to floor (Without boiler base)	0 inches	12 inches*
Stainless Steel Vent Pipe (Z-Flex Z-Vent III)	Refer to Manufacturer Specs	Refer to Manufacturer Specs
Polypropylene (Centrotherm & DuraVent)	Refer to Manufacturer Specs	Refer to Manufacturer Specs
PVC and CPVC Vent Pipe	Not Recommended	Not Recommended

*Minimum recommended clearance to allow a condensate trap/neutralizer/pump.
Zero clearance to combustibles when vented with Centrotherm polypropylene venting.

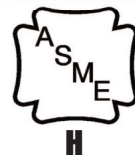
OVERVIEW DRAWING OF 8 ACCEL CS BOILERS IN CASCADE
with RECOMMENDED SERVICE CLEARANCES



ACCEL CS™



Energy Kinetics is an ENERGY STAR® Partner and a leading manufacturer of ENERGY STAR heating equipment. ®The color yellow for heating boilers is a registered trademark of Energy Kinetics.



Exceptional **12 year commercial warranty** on pressure vessel!
(Others require service twice a year.)

See actual warranty for details.



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