

Gas 310 ECO

Modulating Condensing Boilers

The De Dietrich Gas 310... ECO Series of condensing boilers combines over thirty years European condensing technology experience with proven North American condensing expertise. The cast aluminum heat exchanger allows for superior and faster heat transfer that results in greater efficiencies. The boilers' large water-ways result in lower pressure drops through the boiler, allowing for smaller pump sizes. The state of the art premix burner is capable of high turn down ratios that allow for maximum performance and lower NOx emissions. The light weight heat exchanger enables installation in weight sensitive locations, over 30% lighter than other condensing boilers. A ten year non pro-rated warranty covers the cast aluminum heat exchanger from anything that you throw at it.

The user and installer friendly Honeywell boiler control system incorporates a P.I.D. function that eliminates overshooting and maintains steady system temperatures. With four temperature sensors constantly monitoring the inlet and outlet temperatures, maximum protection of the heat exchanger is provided.

The boiler maximum capacity can be adjusted to within 25% of the total building load requirements. Meaning the high fire can be set to fire at the design firing rate. With five models ranging from 1,000 to 2,000 MBH (output) you can pinpoint the model that fits your application perfectly.

Standard Features

- True modulating combustion, either remotely or locally
- No minimum return water temperature requirements
- Operates up to 81°F temperature differential
- Four boiler temperature sensors for ultimate protection & operation
- Factory packaged & tested for simple, easy Plug & Play installation
- ASME MAWP 100 psi maximum pressure rating
- Quiet operation - less than 60 dBA
- State of the art MCBA Honeywell boiler controller. Easily integrated with building management systems and Required Control Schemes
- Proven thirty year European cast aluminum heat exchanger design maximizes condensing operation
- Cast aluminum heat exchanger is not sensitive to condensate corrosion unlike stainless steel
- Fully modulating with a 5:1 turndown ratio. Remote BMS control (0-10VCD/4-20mA).
- Communication gateway to BACnet IP (built-in boiler control).
- Optimum cast aluminum design results in efficient heat transfer - seven times more conductive than stainless steel at a third of the weight. Results in less system water, faster response & less structural loading concerns
- Pre-mix combustion with Honeywell fuel-air ratio valve allows higher turndowns, lower inlet gas pressure and sealed combustion
- Stainless steel woven mesh premix burner
- Piping connection options (right hand & left hand) allow for modular installations with 1" minimum clearance
- Standard with probe type LWCO (manual reset), high limit Aquastat (manual reset) & 30 psi pressure relief valve
- Three wheels for easy mobility in boiler rooms
- 10 year heat exchanger warranty (non-prorated)
- 3.5" to 14" w.c. natural gas supply pressures
- Lead/lag (cascade) system manager for up to 8 boilers, space heating pump, 2 mixing valve circuits, 2 mixing valve pumps, DHW pump.

The boiler has two separate collectors, one for the flue gas and one for the heat exchanger condensate.



Pre-mix gas burner delivers outstanding performance and reliability. With a turndown ratio of 5:1 the ECO is the ULTIMATE fuel saving boiler



Safety and reliability are key components in the integrated Honeywell MCBA master control



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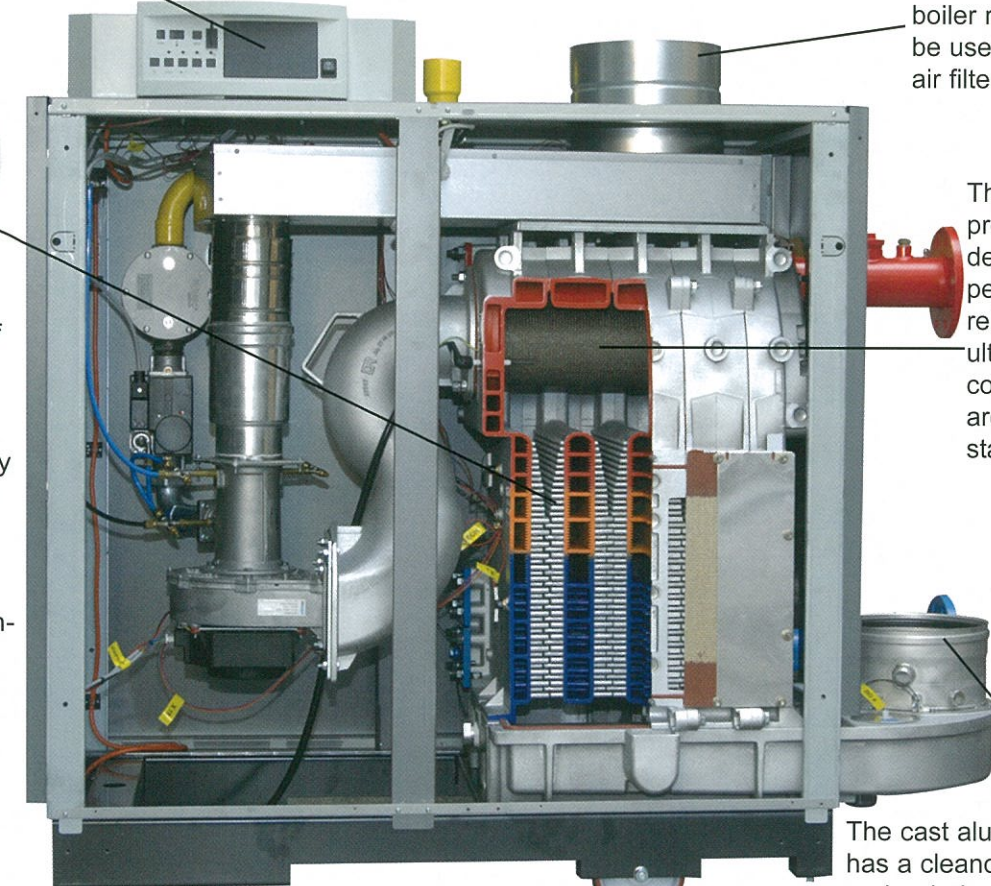
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The Honeywell MCBA boiler control uses analogue sensors (NTC) to measure temperature which provide maximum protection and accurate control. Control algorithms incorporate among other things the absolute value, differential value and temperature increase over time of the NTC 1 and NTC 2 sensors. The MCBA can follow a BMS signal or run the boiler locally. Boiler set up is easily done with or without the aid of a computer. The use of the optional outdoor temperature reset control gives the boiler the ability to reach its ultimate high efficiency.



This light weight cast aluminum boiler comes out of the box ready to start up. Factory presets make for fast start ups. Every boiler is factory fire tested.

The boiler is sized to fit through any standard door opening but can be further disassembled should it be necessary



Sealed combustion for tight boiler rooms - or room air can be used. Optional combustion air filter available.

The stainless steel premix gas burner delivers outstanding performance and reliability. With the ultimate combustion control the emissions are below the industry standards.



The cast aluminum condensate tray has a cleanout for annual servicing and a drain port. De Dietrich has a condensate neutralizer available.



An optional secondary water return inlet allows for warmer water to be returned.

For trouble free installation and maneuvering a set of removable casters is installed on the Gas 310 ECO boiler. Once the boiler is in place a self contained engineered levelling system ensures secure mounting to the service pad.

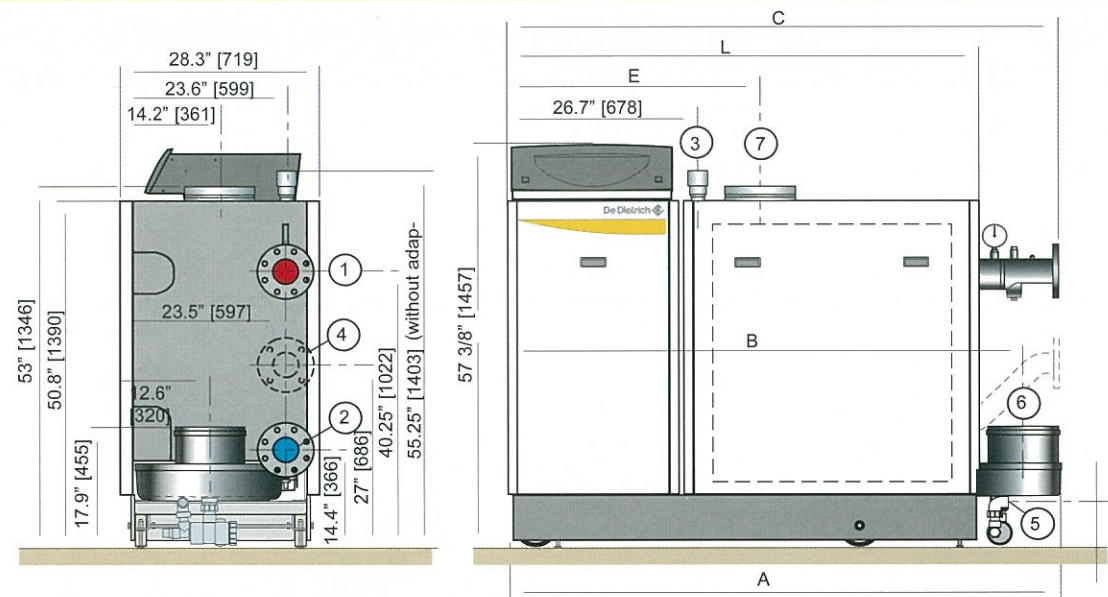
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As the Boiler Should Be!!!

GAS 310 ECO Dimensions



Item	310-5	310-6	310-7	310-8	310-9
A	63" [1600]	63" [1600]	78.4" [1991]	78.4" [1991]	78.4" [1991]
B	57.6" [1463]	57.6" [1463]	73" [1854]	73" [1854]	73" [1854]
C	62.6" [1590]	62.6" [1590]	77.9" [1979]	77.9" [1979]	77.9" [1979]
E	39.5" [1003]	35.5" [902]	43.7" [1110]	39.7" [1008]	35.6" [904]
L	51.7" [1313]	51.7" [1313]	67" [1702]	67" [1702]	67" [1702]

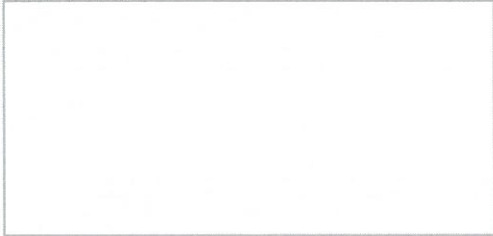
- 1 - Heating supply 3" ANSI 150# flange
- 2 - Return water 2.5" ANSI 150# flange
- 3 - Gas connection 2" NPT adaptor
- 4 - Second return (optional) 2.5" ANSI 150# flange
- 5 - Condensate connection 1.25"
- 6 - Flue gas vent connection 10" (cat. II & IV)
- 7 - Combustion air inlet connection 10"

Item	Unit	310-5	310-6	310-7	310-8	310-9
Maximum Output	MBH [kW]	962 [282]	1,205 [353]	1,457 [427]	1,703 [499]	1,955 [573]
Minimum Input	MBH [kW]	191 [56]	242 [71]	287 [84]	334 [98]	386 [113]
Maximum fuel input	MBH [kW]	1,017 [298]	1,269 [372]	1,529 [448]	1,785 [523]	2,041 [598]
CSA Combustion Efficiency (gross)	%	97.4				
CSA Thermal Efficiency (heat to H2O)	%	95.3				
Stand by losses (average)	%	Less than 0.3				
Gas (fuel) type		Natural Gas Only				
Gas vent category		Cat. II or IV type BH (AL-29-4C) SS material				
NOx Emissions (corrected to 3% O2)	PPM	Less than 20 ppm				
Operation		Single Stage, Full Modulation (0-10VDC, 4-20 mA)				
Maximum water temperature safety limit	°F [°C]	230 [110]				
Water temperature operating range	°F [°C]	68-194 [20-90]				
Water resistance @ 36°F ΔT [20°C ΔT, mbar]	Ft. H2O [mbar]	3.78 [113]	3.68 [110]	4.01 [120]	3.68 [110]	4.18 [125]
Flue gas temperature at 104/86°F	°F [°C]	126 [52]				
Water content	USG [Liter]	12.9 [49]	15.9 [60]	18.8 [71]	21.7 [82]	24.6 [93]
Min. water flow (operation >167°F, 81°F ΔT)	USGPM	23.8	29.8	36	42	48.3
ASME MAWP Rating (max)	PSI	100				
Sound emissions	dBA	Less than 60				
Net weight	Lbs [Kg]	794 [360]	904 [410]	1,014 [460]	1,124 [510]	1,235 [560]

Information contained in this brochure is subject to change without written notification

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- Condensing Cast Aluminum Heat Exchanger
- Operates under large Temperature Differentials - Up to 81°F without Thermal Shock
- SCAQMD Certified to <20ppm NOx
- Maximum Working Pressure at 100 p.s.i.

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