



*Zoo Installs Three Utica Boilers for
Reptile Building*

CASE STUDY



CUSTOMER

Utica Zoo

LOCATION

Utica, NY

INSTALLING CONTRACTOR

Gary Mundschenk

PRODUCT INSTALLED

Utica Mac-205 (3 units)



The Utica Zoo located in Utica, New York is a regional zoo which has been a source of learning and enjoyment for individuals, groups and families for over 100 years.

When it was uncovered that the current boiler was not providing optimal efficiency to the reptile building, a decision was made to upgrade the building with a new and more efficient boiler system.

The building was heated by a Utica Boiler model JC800. The Cast Iron sectional boiler was installed 10 years ago and had a Thermal Efficiency of around 77%. Also in place was an 85 gallon gas fired water heater providing potable water. Although the system was still operating, the decision was made to replace them with higher efficiency equipment.



The heat requirements of this particular building are unique in that on days where you traditionally would not see a call for heat, there is still demand due to the sensitive nature of the various reptiles, amphibians and other temperature sensitive animals kept there. In fact, one zone operates 24/7 continuously (even in the summer months the nighttime temperatures can get low enough to require the boiler to run).



Because of the size limitations in the mechanical room, the existing equipment had to be removed before the new boilers could be installed (supplemental space heaters were used to maintain the temperature required for the reptiles in the exhibits).



The solution was to install the new MAC-205 Combi boiler with an efficiency of 95% (this is currently a pre-production unit with an expected availability of early 2018). The Utica MAC-205 High Efficiency Condensing Boiler is a larger version of the current MAC-150 which uses AI Control Technology.



The AI Control self-commissions and continuously calibrates by measuring water temperature, flue gas temperature, flame signal and pressure to ensure maximum efficiency at all times.



The DHW demands tend to come in short intervals of very high demand, the remedy was to couple the Combi's to one of Utica Boilers Xtra High Output Commercial Storage tanks. When the tank aquastat calls for heat only one of the 3 boilers is activated (as the heat requirements at that point are just for standby loss). When a tap is opened, a flow switch allows all 3 boilers to now supply heat to the storage tank. In DHW mode the boilers can fire to 205 Mbtuh each for a total of 615 Mbtuh. The turndown in DHW mode is 6.7:1 for a combined turndown of 20:1 in DHW mode!

The combination of the combi units and the storage tank not only improves efficiency but also provides the zoo with a substantial cost savings in the long run.