



Tankless Hot Water Upgrade In Best Western Hotel

Case Study



BOSCH

Invented for life

Retrofit Tankless 10-Unit Cascade

at the Best Western in Suburban Boston

Background

The owners of the Best Western Plus New Englander Hotel located in Woburn, Massachusetts, a suburb located about 10 miles north of Boston, decided to replace an old gas-fired boiler and tank serving its 99-room hotel with two commercial washing machines after the existing 500-gallon tank began leaking. They contacted Henneghan and Sons Plumbing and Heating in Pepperell, MA to quote a replacement solution to provide the hotel's hot water needs.

Installation Summary

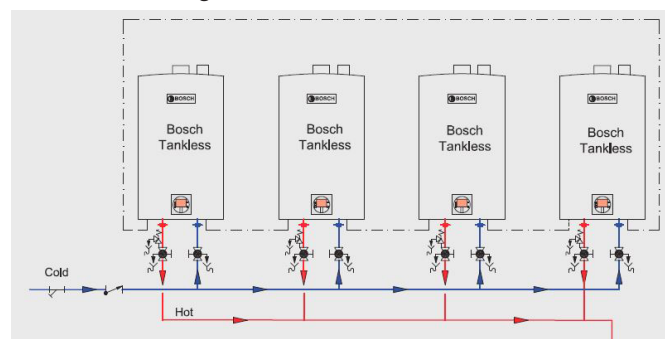
Colin Henneghan quoted a system of 10-intelligent cascaded Bosch Greentherm C1050ES gas-fired condensing tankless water heaters, delivering up to 107 gallons of hot water per minute. The Bosch units were priced less than a competitive unit, and offer a superior warranty.

PV Sullivan from Quincy MA supplied materials with the help from outside salesman Terry Wheatley.

Henneghan Plumbing was able to keep the existing hot water system running while installing the new system, and Colin added that "the changeover was a lot easier than we ever expected. We found the Bosch units easy to install, program and troubleshoot. It was made simpler with support from Bosch Sales Representative Dan McDermott and Craig Porter from Bosch technical support."



Replacement of old water heating system with ten intelligent cascaded Bosch Greentherm gas condensing tankless water heaters - example of cascade flow diagram shown below.



Intelligent Cascading

Intelligent Cascading allows up to twenty four appliances to be connected in parallel to achieve flow rates up to 257 gallons per minute for Bosch Greentherm 1050ES (see example in above figure). One of the appliances serves as the primary control and attempts to meet the hot water demand.



Tankless water heaters vented to outdoors with PVC piping

If the hot water demand is beyond the capacity of the primary appliance, a signal is sent to one or more of the secondary appliances to ignite. The primary control appliance is rotated throughout the cascade setup to distribute the load of each unit.

With an Energy Factor of .95, the 10-unit cascade installed in the Best Western Hotel delivers high-efficiency hot water delivering up to 107 gallons per minute. This satisfies demand from guest rooms, meeting space, laundry, and kitchen areas throughout the busy hotel.

Summary and Conclusion

The hotel owner reported fuel savings of approximately \$1,500 to \$2,000 per month in the first six months of operation. Compared with a competitive tankless installation at a similar hotel with same number of rooms, this Bosch installation saved about \$500 more per month.



Old gas-fired boiler (left) fed domestic hot water into 500-gallon storage tank (right).



Project Name:

- ▶ Best Western Hotel, Woburn MA

Application:

- ▶ Conversion to Bosch Greentherm C1050ES gas-fired tankless water heaters

Installing Contractor:

- ▶ Henneghan & Sons Plumbing & Heating, Pepperell, MA

Manufacturer's Representative:

- ▶ Dan McDermott, Bosch

Wholesale Supplier:

- ▶ P.V. Sullivan, Quincy, MA

Project Completion:

- ▶ Early 2014