

FULTON BOILERS REDUCE ENERGY USE BY MORE THAN 28%

Seagate – Bloomington, MN

When Seagate's Recording Heads division needed to upgrade their boilers, the Ryan Company was eager to help. We replaced one large firetube firebox boiler at 80% efficiency with three PHW2000 natural gas fired Fulton pulse combustion hot water boilers. Each Fulton boiler has an input of 2,000,000 BTU/HR and is equipped with modulation which produces efficiencies up to 98%.

The Fulton boilers are a firetube design utilizing the principles of pulse combustion. Due to the nature of pulse combustion, the boilers are self venting and self aspirating and therefore require no forced or induced draft fan to supply air for combustion after ignition.



During the design phase of the project, we worked directly with Kwong Loke, PE, Seagate Senior Staff Facilities Engineer. "We were very concerned with the sound level and frequency of the boilers, because the boiler room is directly across the hallway from one of our clean rooms", said Mr. Loke. "We thoroughly reviewed the sound power levels and resonating frequencies of the Fulton boilers with Mr. Loke to minimize any possible issues", said John Kelly, Sales Representative for Ryan Company. The model PHW2000 includes, as standard, sound/vibration reduction devices such as flex connectors, mufflers and vibration pads which bring the sound level to less than 72 dBA.

When asked about the sound level and frequencies of the newly installed boilers, Mr. Loke, stated "It's not an issue. We have zero problems". Mr. Loke further indicated that the new Fulton boilers have reduced their fuel costs by more than 28% and predicts the payback will be 28 months. Not only are the new Fulton boilers much more efficient, the modulating capability prevents frequent short cycling (start/stop) of the burner, thereby reducing energy waste and long term maintenance costs due to less wear and tear. Mr. Loke also provided the following comments. "Another nice feature that we like about the Fulton boiler is that there are so few parts involved, and the maintenance and overhaul is minimal. As there is no minimum return water temperature requirement (no boiler thermal shock), we simplified our piping and controls by eliminating the lower temperature mixing loop and control valves. This also allows us to reset the boiler hot water supply temperature in the Summer to a much lower level in order to take advantage of the condensing feature of the boiler for maximizing energy efficiency. We are very satisfied with the Fulton boilers."

The Recording Heads operation, with worldwide manufacturing facilities, is headquartered in Bloomington, and is Seagate's internal and principal supplier of recording heads. The division's leading research and development capabilities continually push the technology envelope - allowing the company to design and develop industry-leading advanced read/write heads for disc drives. Disc drive head technology is one of the most precise, complex, and dynamic technologies in computing, since it is the disc drive head-no larger than a grain of coarse sand-that writes, saves, erases, receives and sends data.



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