



LET'S TALK ABOUT IT.

AN IN DEPTH LOOK AT ~ Rantoul Township High School // Fisher High School



Bard Manufacturing
Case Study // Vol. 1
School HVAC Solutions



In this installment of “Let’s Talk About It.”

we sat down with Ron Rogers, Tony Worthington, John Meerdink, Kirk Mescher, and Tom Shallenberger to learn about their schools.

The Community

Fisher and Rantoul, Illinois are like many small towns in America. A stroll down Main Street and you observe neighbors catching up on each others lives, talking about the lunch special at the local diner on the corner, and last Friday night’s football game. A couple of years ago both communities needed to upgrade their high schools. They were faced with a choice: start from scratch, or renovate the existing building which holds historical significance and memories for many of their residents.

For these two communities the choice was clear, renovate and upgrade. We’re going to take a look at these two central Illinois towns, and speak with the designers and stakeholders to discover why they chose Bard.

The Choice

Ron Rogers is the facility director for Fisher High School; he’s been in the business for over 30 years. Ron knows HVAC and he knew when the original HVAC design was selected it wasn’t going to work for his community. He was right. The original system, a boiler/cooling tower 4 pipe system, came in at one million dollars over budget. Another challenge with the original system would be the difficulty for the maintenance staff to maintain and service the system.

Mr. Rogers was familiar with Bard Manufacturing HVAC systems and suggested they take a look. After much conversation with other users and designers, Fisher High School selected Bard’s water source Q-TEC system. The design at Fisher High School utilizes a water loop with a boiler and cooling tower. The project was within budget and on time.

Tony Worthington is the Building and Grounds Superintendent for Rantoul Township High School. From the start Tony and his team knew they wanted Bard in their school. They knew Bard would be the easiest to incorporate into the existing building, as well as one of the most reliable systems he had worked with.

Prior to the renovation at Rantoul High School the building utilized steam heat for their climate management. The Bard system they chose was the water source Q-TEC, utilizing a ground loop. Rantoul has realized significant energy savings while adding additional features like cooling and ventilation.



Design Attributes

Since both schools utilized the water source Q-TEC, we had some questions about sound, appearance, operation, and maintenance. Ron and Tony both mentioned they had concerns about the noise of the units, but when speaking to other end users they were assured sound wouldn't be an issue. As it turned out, the units were much quieter than many of the ducted systems they were used to. We specifically asked if teachers ever mentioned the noise of the units in their classroom. Ron's response was, "I have never had a teacher complain or even mention the noise the units make in their classroom." Tony said, "Since the Bard system was installed I haven't had complaints about noise".

We also had some questions about appearance and the amount of space the unit requires in the room. Ron commented, "I don't think the space is an issue, our teachers do a nice job decorating the units so you don't even notice them." When we asked Tony about the appearance he focused more on the exterior appearance which was important to his community. Tony said, "These units were great for us, we were able to integrate the system into the space where our unit ventilators were, so we didn't have to modify the exterior of our school. We were able to maintain the appearance our community likes."

Another area we touched on was the operation and maintenance of the system. Ron focused on what happens when the system goes down. He compared his Q-TEC system to a 2-Pipe system. Ron said, "When a boiler, chiller, or air handler goes down in a

2-Pipe or 4-Pipe system you're going to lose your entire school or at least a wing. If a Bard unit goes down, you only lose a classroom. It's a lot easier to move one classroom than to move an entire school."

Tony focused on the space the unit takes up as well as how it operates with the system. We asked him about the units taking up space, and he said, "Yes, they take up space in the classroom, but you gain space in the mechanical rooms which you could use for storage, or an additional classroom if you wanted." We asked Tony about energy consumption and he had this to share, "With the Bard system we only condition the classrooms we use, when we use them, so we're not paying to condition empty classrooms after hours when Rotary or tutoring is going on in one of our classrooms."

Flexibility of our schools is a significant challenge today. Historically schools were used from 8:00am – 3:00pm, but today that isn't the case. If you drive by Rantoul or Fisher High School, like many schools in America you will always see cars in the parking lot, and people coming and going. Today schools are used as community centers in addition to a learning community. Community groups meet at night, tutoring programs run after school and drivers ed classes on the weekends. Administrators want the flexibility to only operate the classrooms they're using, but legacy systems don't provide that flexibility like the Classroom Preferred Solution from Bard Manufacturing.



Comfort and Sound

Naturally, comfort and sound are major concerns in classrooms today. We want to ensure teachers are comfortable in their working environment, and we believe it's critical that students are comfortable in their learning environment. For schools the size of Rantoul and Fisher it's difficult to design a legacy system that ensures continuous comfort in every classroom for every child. Bard's Classroom Preferred approach allows administrators to tailor their climate management on a room-by-room approach, while allowing the teacher a prescribed range of adjustment.

Sound level is key to comfort and can hinder learning if it's not managed appropriately. In our design labs, we continuously test a wide array of materials and devices, designing our systems to ensure the most quiet operation attainable. In many of our systems we use the same technology employed by nuclear submarines, and sound deadening materials used by high end auto manufacturers. We are confident in our ability to deliver the quietest climate management equipment available today.

Dollars and Cents

Kirk Mescher is an engineer based in Missouri who has been designing schools with the Bard geothermal system for over ten years. He prefers Bard because of the individual classroom approach, and their reputation for reliability. Kirk says, "My clients prefer the Bard design because teachers can have some control over the temperature and ventilation in their own classroom." He also said the geothermal units are very quiet, and he has never had noise complaints.

We asked Kirk if he prefers the Bard system over a two or four pipe system, and he said yes. "We lay our system out with one pipe, and so our clients are able to realize energy sharing across the entire school." We dug deeper into the operation of the system, and asked for some insight on the differences between the two systems. "With a 2-Pipe system you have to choose heating or cooling, and there are many school days where you need both capabilities," he said.

A 4-Pipe system gives you that ability but it's truly cost prohibitive, and doesn't allow the energy sharing as our design does. With our design, which utilizes Bard, you have all the features of a 4-Pipe system, plus energy sharing, at a significantly reduced cost. We asked specifically about cost, and Kirk said the budget around \$25 per square foot, which included the field.



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Summary

All across the country, forward-thinking communities are moving towards a better way of thinking when it comes to HVAC for schools. They're adapting to a system that offers flexibility, efficiency and more. They're switching to Bard Manufacturing. Classroom Preferred.™