

BDC Product Showcase, March 2017: Engineered-to-Order Custom Fabricated Air Heater

For this month's product showcase, we decided to highlight a custom project we did for our customer, Williams Patent Crusher and Pulverizer. Williams designs and manufactures a diverse line of crushing and pulverizing equipment used in power, mining, cement, and numerous other industries throughout the world. Their equipment frequently needs a source of high-temperature hot air to assist in conveying crushed products to their point of use.

William's designed a system for one of their European clients who specified that they required a custom built air heater that met all requirements of the European Machinery Directives for fuel fired equipment and is certified as such.

The air heater was designed and built through our ETO (Engineered-to-Order) Process. This is where we work with our customers to engineer and design custom solutions for their particular requirements. Often, this requires receiving equipment and parts from multiple vendors and manufacturers, as well as scheduling and implementing other processes such as CAD drawing, fabrication, testing, inspection, and installation.

In this case, we started with a 3.5MM BTUH Custom Fabricated Air Heater for 900°F Discharge Air. This piece of equipment was needed to provide a stream of high-temperature air, at a

consistently high volume to convey pulverized coal to the next step in their steel making process. The unit was custom-built to meet the specific spatial requirements and performance needs of their process:



Creating this heater also required all electrical components to meet IP66 requirements. IP (Ingress Protection) standards are very similar to the National Electrical Manufacturers Association (NEMA)standards used in the United States. Both NFPA and IP use a standard rating system that defines the types of environments in which an electrical enclosure can be used; this specifies a fixed enclosure's ability to withstand certain environmental conditions. In this case, IP66 or the

ability to guard the following:

- Protects personnel against access to hazardous parts
- Provides a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt and windblown dust)
- Provides a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow, splashing water, and hose-directed water)
- Resists damage by the external formation of ice on the enclosure



CE certification is a self-certification process that requires adherence to certain construction and documentation requirements. To ensure we met all necessary requirements, BDC contracted with a third party certification agency in the CE Machinery Directive that governs this particular type of equipment.



BDC's ETO process builds on our many years of experience designing and building custom process heating equipment and control systems for just about every process application.

For more information about our products, services, or custom solution capabilities please contact us at 1-800-432-5810 or info@goBDC.com.