

## **PRODUCT BULLETIN**

### **Duct Design and Supply**

Often overlooked from many process and boiler ventilation projects is the importance of comprehensive ductwork design and supply. This is where the gas flow experts at Amerair can provide full service ductwork design and supply typically for less cost than using other professional services. And, with the required expertise that the local fabrication shop cannot provide.

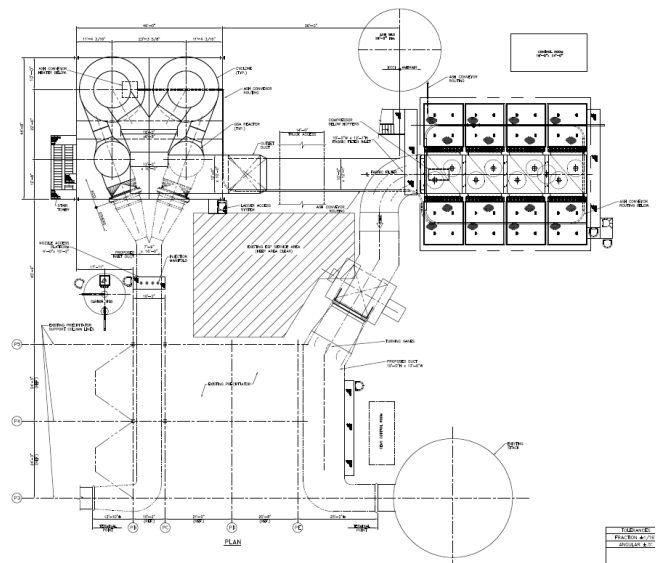
With an average of over 30 year experience the Engineers at Amerair have tackled challenges of:

- Flow and pressure drop optimization
- Minimum weight and cost with maximum strength
- Support, expansion joint, and foundation optimization
- Multi source flow balance
- Certified test/CEM port design
- Material selection for temperature, moisture and corrosive conditions
- Optimization of sorbent and carbon injection
- Any other challenge that needs to be met.

From melt shop ventilation with hoods and dampers to tight sight scrubber and fabric filter retrofits with carbon injection ports and CEM ports Amerair has delivered cost effective ductwork with optimized performance.

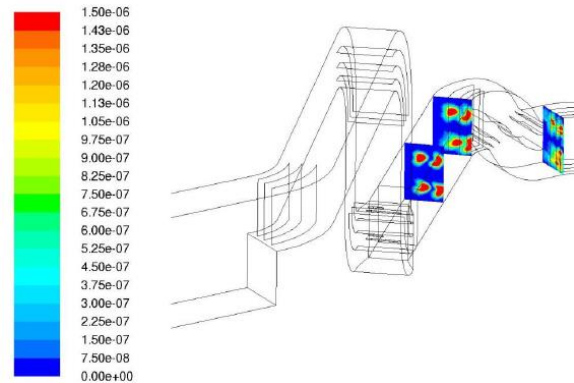


**18 Ft. Diameter Melt Shop Ventilation**



**Scrubber/Fabric Filter Retrofit on Boiler**

Amerair's resources go far beyond the AMCA charts and calculator in providing the customer with the ultimate duct designs. Our designs are backed by FEA (finite element analysis) and flow optimization via CFD (computational fluid dynamics). Shown to the right is a CFD model in early phase, optimizing turning vanes and sorbent injection for a boiler MACT retrofit project.



In-Duct Multi-Lance Grid CFD Model

Amerair is ready to provide the full scope of design and supply services ranging from:

- Design of all duct, hoods, dampers
- Design and specification of all required insulation and lagging
- Design of foundations, structural supports, and access
- Fabrication and supply of all: ductwork, foundations, structural supports and access
- Complete erection services
- Field service for flow balance, field adjustments, and test witnessing



Integrated Access, Supports, Dampers

Inlet Injection Loop w/Access & Support



Multiple I.D. Fan Arrangement  
w/Access & Support