

Dieterich Standard APPLICATION NOTE

In-Line annubar Monitors Electric Furnace Cooling Lines

The process of making steel depends on combustion at several stages of production.

Iron ore and carbon (in the form of coke) are heated in a blast furnace. Oxygen driven from iron ore is taken up by the coke during combustion. Waste gases from the upper part of the blast furnace are burned in the “stove” that is the heat source for the blast furnace.

Molten pig iron, rich in carbon, is removed from the bottom of the blast furnace and transferred to a steel furnace or converter where excess carbon is burned away by injected oxygen. Waste gases from the converter are cleaned and discharged.

Cooling Refractory Linings with Annubar
the refractory linings of steel furnaces require cooling, which is usually accomplished by continuously circulating cooling water and measuring the water inlet/outlet temperatures and flow rates. This strategy assures that the furnace is being cooled and that there is no leakage or pluggage of the cooling lines.

One configuration that lends itself to refractory cooling lines is an in-line Annubar®. It mounts directly in a two-in diameter line and its pressure connections allow tubing to carry the pressure information to the electronic transmitter that may

Customer:	Steel Manufacturers
Product Line:	Diamond II+ Annubar® primary flow element
Application:	Measurement of temperature and flow levels of cooling lines to ensure proper combustion levels.

be remotely located. A Look Ahead There is strong, worldwide growth in the small electric steel furnace process. It allows greater flexibility and use of scrap metals. When combined with an in-line continuous casting facility, production benefits become even more significant. Steel manufacturers will benefit from precise flow measurement and control with an emphasis on custom solutions and careful application.

