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Innovative Combustion Technologies, Inc. provides result oriented boiler testing, consulting, inspection, and training services to operators of fossil fired power plants ranging in size from 40 Mw to 1300 Mw. We specialize in addressing "Combustion Side" parameters to identify and address opportunities for improved unit heat rate, performance, availability, capacity, and operability. When addressing unit heat rate on coal fired units, electric utilities typically concentrate on factors related to the turbine, condenser, feed water heaters, and steam cycle. Numerous opportunities for improving heat rate are available at the boiler. Optimizing boiler side or "Combustion" side parameters will address the heat rate penalties incurred by "non-optimum" combustion.

Note: For those who want to continue to use aspirated air ports, instead of installing ball valves, we do make an OEM replacement. With the addition of a proper bushing, all of these connectors can be used with any size ball valve 1-1/4" or larger.



Collection of coal samples or velocity measurements from the burner pipes is a dusty and dirty job, but it does not need to be. The dustless connector allows the probe to be inserted into a burner pipe without the escape of fugitive coal dust which is a nuisance and can be a safety hazard. The ICT dustless connector is an ideal replacement for OEM type sampling connectors that use aspirated air but don't always work well, in addition to being maintenance intensive. ICT offers several types of dustless connectors that can make burner line fineness sampling, coal sampling, or dirty air measurements easy and clean.

ICT's Aluminum Dustless Connectors

Innovative Combustion Technologies' aluminum dustless connector provides a method of inserting sample probes for fineness collection, dirty airflow measurement, or static pressure/temperature measurement from individual burner lines with the pulverizer "in-service". Our dustless connectors have a 1/4" NPT fitting, aluminum body, and a replaceable seal. The flexible spring loaded seal allows for a "dustless" connection without the escape of fugitive coal dust when the seal is in good condition. With proper maintenance (periodic cleaning), seals will last for numerous traverses. When the seals do wear out simply unscrew the retaining cap, remove the old seal, and replace it with a new one.



ICT's Synthetic Dustless Connectors

Innovative Combustion Technologies' Synthetic Dustless Connector is a 6" x 1 7/8" high-temperature, impact-resistant, injection-molded ABS plastic. An elastomer seal is used to eliminate any coal dust leakage through the orifice while performing dirty air testing or burner line fuel sampling. The ICT Synthetic Dustless Connector's design includes one-twist acme threads to expose the seal. This enables quick and easy replacement of the elastomer seal. An advantage of using the New Synthetic Dustless Connector is a lower transference of heat from the burner line into the connector. It is an inexpensive alternative to permanently installed fixtures on the burner/fuel line taps.



ICT's Aluminum Dustless Connectors with Aspirated Connection

This connection utilizes aspirating air and is a direct replacement of cast OEM connectors. The connector incorporates an internal seal that allows the aspirating air to be turned off while the probe is inserted. This improves test accuracy by eliminating the need for aspirating air when a ball valve is used in conjunction with the connector. When the use of aspirated air is desired, the connector design, superior to OEM designs, provides a stronger air stream preventing fugitive coal dust escape. We offer immediate availability whereas replacement OEM connectors are only available with a 2-4 month delivery time.

