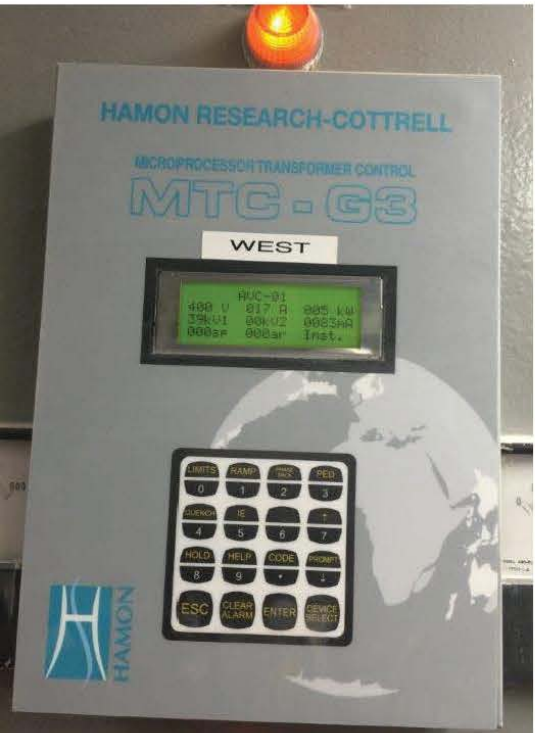
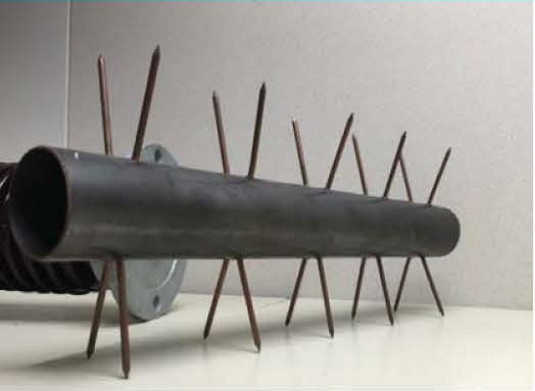


HAMON RESEARCH-COTTRELL, INC.



AFTERMARKET SERVICES



AFTERMARKET SERVICES

Our services include all field and technical engineering capabilities to meet your plant needs. We specialize in on-site process assessment and plant training. We also provide complete technical services for commissioning & start-up of all new HR-C equipment.

- Inspections
- Consulting
- Troubleshooting
- Engineering & Design
- Maintenance Services
- Construction Supervision
- Quality Control
- Spare Parts
- Repairs
- Rebuilds & Upgrades
- Material Supply
- Turnkey Installation
- ESP Repowering
- Bag Cleaning & Testing

FIELD SERVICES

The Field Services Group includes Field Service Engineers and Construction Advisers that have an extraordinary level of experience on a broad range of pollution control equipment.

■ **Field Service Engineers** are troubleshooters and problem solvers that typically perform equipment inspections and make recommendations to improve particulate and acid gas control systems. This is usually the first line of contact with our Aftermarket customers. They average over 30 years of experience and are fully versed on essentially every manufacturer's equipment in the ESP area. Contracts are man-hour based with no material supply component. They can provide direct supervision to craft labor on turn-key projects.

■ **Construction Advisers** routinely provide QC and technical oversight for clients on projects where labor is being performed by others. They are often used to lend their expertise on projects for clients where neither materials nor labor are of HR-C origin.

The Construction Adviser team and the Field Service team often "crossover" to assist one another when the need arises. The Field Services Group also provides other services like Filter Bag Testing and in-situ High Energy Cleaning (HEC) of fabric filters. The HEC process can buy users many months of additional operating time on their filter bags by returning pressure drops to a manageable regime.



Here is a summary of the services performed by the Field Services Group:

- Inspections: Clean & Dirty
- On-line Troubleshooting
- Fabric Filter Bag Testing
- HEC Cleaning
- New Construction & Major Overhaul QC and Oversight
- Application & Performance Consulting
- Outage Repair Supervision & QC
- Air Cooled Condenser Inspection & Service

CONSTRUCTION SERVICES

Hamon Research-Cottrell can offer either Construction consulting services or a complete turnkey solution. Our construction expertise extends across the entire spectrum of air pollution control equipment work, from rapid turn-around outage maintenance to full-blown rebuilds and expansions of existing equipment. A Turnkey solution includes all engineering, material and labor to design, supply, install and commission a repair, upgrade or replacement air pollution control equipment project. Our skilled Construction/Technical Advisers average over 30 years of field experience performing this type of work with either locally preferred construction contractors or our own stable of trusted labor partners. This gives you, the customer, a single source of responsibility to execute a project from Purchase Order release through final acceptance.

SPARE PARTS

The Spare Parts Group responds to requests for all materials and components that can be identified by part number and require no engineering. Many common-use parts are kept in inventory for immediate delivery. We have both our own manufacturing as well as a network of sub-suppliers that can respond quickly to requests for specialty parts. While the vast majority of parts we provide are for HR-C supplied systems, we do supply parts for other Manufacturers equipment as well.



Here is a sample of spare parts that we commonly supply:



- Insulators (rapper shaft, support, anti-sway, etc)
- Discharge Electrodes (all types)
- Gaskets & Packing for many applications
- Heating Elements
- MiGi Rappers & Associated Hardware (rapper “shoes”, rods, sealing systems, etc.)
- ESP Voltage & Rapper Control Replacements
- Fabric Filter Bags & Cages
- Blowers, Blower Motors & Cleaning Mechanisms
- Air-Cooled Condenser Parts

ENGINEERED PRODUCTS

The Engineered Products Group is responsible for developing and implementing upgrades to existing equipment in pursuit of improving performance and reliability. Typically, the group takes on projects that have an engineering component and require Project Management. Additionally, partial and total rebuilds of existing equipment, whether they are in-kind or include upgrades, fall under the purview of Engineered Products. All turnkey labor projects are managed by the Engineered Products team.



The group also provides value added services such as Engineering Studies on existing equipment to define reinforcing requirements for pressure increases or to predict the performance of existing or proposed pollution control equipment under the influence of process changes or new regulations.

Here is a summary of services provided by the Engineered Products Group:



- Upgrades to Control Systems
- Partial & Full Rebuilds for Dry & Wet ESP's
- ESP Re-Wires
- FF Re-Bags
- Air Cooled Condenser (ACC) repairs & upgrades
- Rapping Sectionalization Projects
- Hardware Upgrade Projects
- Outage Maintenance
- Re-Powering/Frame Sectionalization (Conventional or SMPS)
- Engineering Studies

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Hamon Research-Cottrell is part of the worldwide Hamon Group and is a major provider of air pollution control technology. HR-C serves the North American market from its main office in Somerville, NJ.

Hamon Research-Cottrell provides innovative clean air technologies to a wide array of industries including power generation, pulp & paper, petrochemical, chemical, glass, cement, steel, food, and pharmaceuticals. Hamon Research-Cottrell is a worldwide leading supplier of:

- Electrostatic Precipitators
- Fabric Filters
- ReACT™ multi-pollutant control technology
- Dry and Wet Flue Gas Desulfurization Systems
- DeNOx Systems (Selective Non-Catalytic Reduction - SNCR)
- Urea to Ammonia (U2A®) Systems
- ExxonMobil Wet Gas Scrubbers

Hamon Research-Cottrell provides solutions and project services that include new and retrofit equipment, engineering and fabrication, parts and aftermarket support, field services, trouble-shooting, fluid dynamics and specialty consulting.

INTEGRATED SOLUTIONS FOR A CLEAN ENVIRONMENT

The Hamon Group is a global source for engineering and contracting.

Its activities include the design, the manufacturing of critical components, the installation and the after-sale services of cooling systems, process heat exchangers, air pollution control (APC) systems, HRSG's and chimneys.

