## AC Corporation

## **Statement of Qualifications**



#### Your Complete Source for Commercial and Industrial Systems

- · Design/Build
- Mechanical/HVAC
- · Plumbing/Piping
- Electrical
- Process Systems
- Custom Fabrication
- Maintenance & Service
- · Parts Supply

#### Greensboro

301 Creek Ridge Road Greensboro, NC 27406 Phone: (336) 273-4472 Fax: (336) 274-6035

#### Winston-Salem

2550 Viceroy Drive Winston-Salem, NC 27103 Phone: (336) 765-0416

## Raleigh

8205 Brownleigh Drive Raleigh, NC 27617 Phone: (919) 943-6116

#### Rural Hall

1020 Supply Road Rural Hall, NC 27045 Phone: (336) 245-4582

# Quality Performance Since 1935

accorporation.com

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**Project Experience** 

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#### Services

- ▶ Engineering and Design
- Pre-construction
- Custom Fabrication
- ▶ Contracting
- ▶ Maintenance

#### Accomplishments

- AC Corporation is licensed for mechanical and electrical construction in several states.
- Developed first type of cleanroom technology.
- AC Corporation holds numerous patents and is committed to a leadership role in technological advancement.

#### Advantages

- ➤ Over 86 years experience in developing advanced systems.
- Single source for design, fabrication, construction and maintenance.

## **Profile**

AC Corporation is your complete source for commercial and industrial HVAC, Electrical, Plumbing, Process Piping, Metal Fabrication, Process Systems, and Service.

AC Corporation is staffed by over 500 employees consisting of approximately 345 shop and field personnel supported by professional engineers, project managers, estimators and administrative staff.

#### Mechanical

- Custom Fabrication and Manufacturing
- Heating, Ventilating and Air Conditioning
- Cleanrooms
- Process Piping and Plumbing
- Rendering and Food Processing Equipment and Systems
- ▶ Heat Transfer and Recovery Equipment and Systems





- Electrical, Power Distribution and Control Wiring
- Building Automation and Facility Management
- Instrumentation and Controls
- Interior and Exterior Lighting
- Medium Voltage
- Communication System Wiring
- Fiber Optics
- Factory Service Center

#### Maintenance and Repair Services

- Preventive Maintenance Agreements for HVAC Systems
- Electrical System Maintenance and Testing
- Microprocessor Control System Upgrades
- HVAC System Parts and Components
- Specialized Training



#### Introduction

AC Corporation is a North Carolina corporation founded in 1935. We provide HVAC, electrical, plumbing, process piping, controls, equipment design and fabrication, and service needs for industrial and commercial markets throughout the United States. Our skilled shop and field technicians are supported by a staff of accomplished engineers, project managers, estimators and administrative personnel. Our experienced professional engineers are registered in many states across the United States. AC Corporation is headquartered in Greensboro, North Carolina with offices located in Winston-Salem, North Carolina; Raleigh, North Carolina; and Rural Hall, North Carolina. We are well positioned to provide engineering, project management, shop, field and service personnel to meet the needs of industry and commerce.

AC Corporation has excellent capabilities for design and installation of heating, ventilating, and air conditioning systems associated with many types of facilities. In addition, AC Corporation fabricates metal from light gauges (duct work) to heavier gauges, including plate and structural fabrication. Our piping capabilities include the design, fabrication, and installation of chilled water, hot water, steam and condensate, process, refrigerant, specialty gases, chemicals and ultra pure piping. Our welding and pipe fabrication facilities are authorized to install and stamp the ASME Code designation, pressure piping (PP), unfired pressure vessels (Code U), and the repair of a coded vessel (R). We also support our customers with equipment installation and millwright work. Our company has also been active for many years in designing and applying systems to reclaim and reuse heat from waste sources in various phases of the manufacturing process or to provide heating for the entire plant.

AC Corporation offers the most complete and durable industrial custom-built air handling units on the market. We custom design our units to fit the client's extra requirement, whether it is for cleanroom applications, textile, paper, food processing or pharmaceutical manufacturing (FDA or USDA) facilities. Our expertise ranges from single section units with coils, air washers, pumps, filters, fans, controls and electrical to a multi-section unit complete with chiller and motor control center that will interface with a client's existing control system.

The Electrical Division offers current design and installation of required disciplines for all types of commercial and industrial facilities. Systems provided include power distribution, emergency power, UPS systems, interior and exterior lighting, communication, CATV, fire alarm, data/communications including fiber optics, etc. Design will comply with all governing federal, state and local codes.

## *Introduction (Cont.)*

The Electrical Division has service technicians who are factory trained for tele/com, UPS systems, variable frequency drives, as well as normal types of electrical service.

Our Service Control Division is able to design and install Direct Digital Control (DDC) systems to control temperature and relative humidity. Additionally, our Controls group can provide complete design and installation services for various types of PLC, multi-loop and PC based control systems for building automation and process control. The scope of supply can include HMI programming and networking for a wide range of products and systems.

AC Corporation is a recognized industry leader in odor control systems, beginning in 1990, we have designed, manufactured and installed hundreds of successful odor control systems. This experience has evolved into a global leadership position for the company in a variety of air pollution controls applications. AC Corporation manufactures a number of related proprietary system components including air cooled condensers, ASME coded shell-and-tube and spray type condensers and a variety of air scrubbers and rotary strainers. Our standard scrubbers are typically utilized for odor control, absorption of gaseous contaminants, and particulate removal. We also have the engineering, manufacturing and installation capabilities to provide solutions to complex air pollution problems.

With a network of experienced technicians and an extensive parts inventory in support of their activities, the Service Division complements the design and installation capabilities of our company. We service equipment and controls from the major HVAC manufacturers, including reciprocating and centrifugal chillers; packaged and split systems; Liebert Environmental Systems; and a variety of pneumatic and DDC control systems. We also participate in the manufacturers' programs for providing up-to-date technical information on new applications as well as on upgrades of older equipment. We offer a variety of preventive and total maintenance service agreements and our technicians are available twenty-four hours a day for emergency response.

The vast majority of our work is performed by personnel on our regular payroll, and we are able to concentrate large forces on projects requiring fast-track scheduling. The flexibility of our open shop and the accessibility of our project managers allow us to meet the diverse and challenging needs of our customer. We are proud of our distinguished list of long-term customers, which includes leaders in the electronics, food processing, pharmaceutical, pulp and paper, consumer products, textile, furniture, chemical and tobacco industries, as well as service to educational and financial institutions, shopping center complexes, hotels, theaters, and exhibition facilities.

## **Current Staffing**

#### **Designers** – AC Corporation has designers in the following key positions:

Mechanical Engineers / Designers	6	Electrical Engineers / Designers	1
Plumbing Engineers / Designers	1	CAD / BIM Staff	8

**Project Managers** – AC Corporation's experienced staff of project managers, directors, and knowledgeable shop and field superintendents supplement our design capabilities.

Mechanical	21
Plumbing	1
Electrical	3

A design review committee comprised of seasoned engineers and designers, along with project specific directors and trade superintendents are available to oversee the design effort and assist with any problems.

Our diversity, size and experience allow us the flexibility to meet demanding schedules.

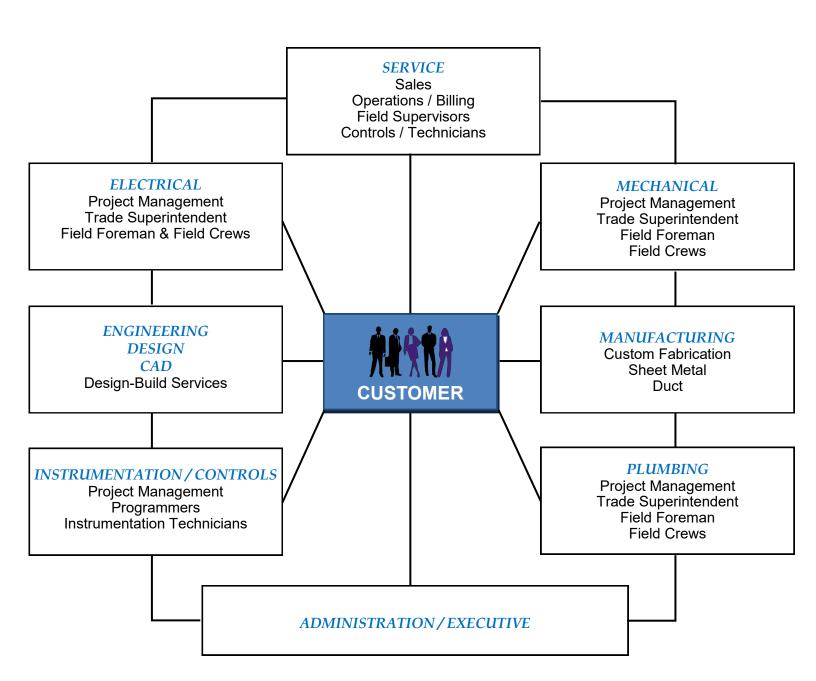
Mechanics by Trade – With in-house professional engineers, designers, project managers, and knowledgeable shop and field mechanics, AC Corporation offers the client significant opportunities for value engineering. It is customary to provide value engineering during the schematic phase, the preliminary design phase, and the working drawing stage. Even during the actual construction phase, AC Corporation looks for opportunities to improve the process.

Professional Engineers	8
Office / Administrative	34
Procurement	2
Sales / Estimating	10
Quality Assurance	2
Quality Control / Inspection	2
Field Supervision	89
Service Technician	47
Work Force (typical)	240



Our extensive experience allows us to offer value engineering at every stage of the project. With over 400 employees, AC Corporation has the resources to place the proper number of employees and skill level on the job to meet the demanding schedule.

## Organization



AC Corporation is built around the ability to design, build, install and service a project. Each employee is charged with the responsibility to communicate problems or opportunities for improvement with all other groups within our organization. This exchange of information makes AC Corporation better able to meet the ever-changing needs of our customers.

AC Corporation has a safety team that consists of three full time employees. Our EHS Manager leads the department and has many industry related certifications such as OSHA 510 and 500, CHST, CPR/AED & Frist Aid Trainor, Scaffold Competent, Hazwoper and OSHA 30. He has many years of experience in Construction safety as well as hands-on experience in the field.

The AC Corporation safety program includes new-hire orientation for supervisors, foremen, and field tradesmen. Training covers topics such as Confined Space Entry, Excavations, Electrical Safety, Fire Watch, Fall Protection, Haz Com/Right-to-Know, Personal Protective Equipment, Lock-Out/Tag-out and Hand Tool Safety.

Daily and weekly project site training is provided by the use of safety task assignment sheets and "toolbox meeting" format, which is presented by each site foreman. A two year First Aid/CPR/AED training is provided to field, shop, and service technician employees.

Illegal substance screening is a prerequisite for employment with AC Corporation. Drug testing is arranged by the Human Resources department.

Safety audits are completed weekly by craft superintendents and deficiencies are corrected immediately. Our EHS team also performs safety audits at least weekly and deficiencies are corrected immediately. Our EHS team will also support projects that involve additional risk before the project begins to make sure all equipment and processes are safe.

The AC Corporation management team welcomes inquiries concerning our safety program. Do not hesitate to contact us for assistance with safety issues. Safety is everyone's responsibility.

#### Safety Data for the Past Three Years:

<b>Year</b>	<b>EMR Rate</b>	<b>Incident Rate</b>
2024	.82	0.15
2023	.70	0.82
2022	.75	1.82

## Officers & Directors

Name Title

Mr. Mike Garibay Senior Advisor / Board Member

Mr. John Peschieri President

Mr. Trip Walker Vice President

Mr. Jonathan Bethel Chief Financial Officer

Ms. Mary Garner Assistant Secretary

## Key Individuals

#### Greensboro

John Peschieri President

Jonathan Bethel Chief Financial Officer

Mary Garner Assistant Secretary

Trip Walker Vice President and Division Manager of Process Systems

Tim Mundy Vice President of Operations

Tim Boyles Senior Director of Sales

Brad Poe Senior Director of Pre-Construction and Strategic Accounts

David Williams Operations Manager of Electrical

David Alvarez EHS Director

Keith Harrison Director of Purchasing

Casey Stevenson Field Construction Manager

Corey Anderson Superintendent - Sheetmetal

Raymond Cox Superintendent - Plumbing

David Hayes Superintendent - Pneumatics & Controls

Steve Corum Superintendent - Electrical

Ricky Kepley Service Department Manager

## Key Individuals (Cont.)

#### Winston Salem

**Chris Harris** Operations Manager

Brian Sizemore Service Operations Manager

Danny Fenstermaker Superintendent - Piping

#### Raleigh

John Williamson Vice President of Business Development

Chuck Kennedy Operations Manager

Matt Cooper Superintendent - Sheetmetal

Tony Cheek Superintendent - Plumbing

#### RJR

David Jones Superintendent

## Professional Engineering Licenses

Name	State	License Number	Field
AC Corporation	AL	3597	COA
	AR	2426	COA
	GA	PEF006232	COA
	MD	54109	COA
	NC	F-0120	COA
	SC	202	COA
	TN	5507	COA
	TX	4969	COA
	VA	0407001535	COA
	WI	6087-11	COA
Tim Boyles	GA	29718	ME
Tim Boyloo	NC	25055	ME
	VA	43370	ME
	•//	10010	
James Chandler	AL	29653	ME
	AR	13472	ME
	GA	33283	ME
	NC	27904	ME
	SC	26640	ME
	TN	112595	ME
	VA	45180	ME
	WI	39770	ME
Jeremiah DeWitt	AR	22186	ME
	GA	051084	ME
	MD	61778	ME
	NC	057023	ME
	SC	41949E	ME
	TN	129132	ME
	TX	150672	ME
	VA	0402067422	ME
	WI	100340	ME

## Professional Engineering Licenses

Name	State	License Number	Field
Mike Garibay	NC	18926	ME
	sc	19965	ME
	TX	80807	ME
	VA	33931	ME
	WI	29999	ME
Richard Krumhansl	NC	034884	ME
John Peschieri	MD	53942	ME
	NC	45205	ME
	NH	15406	ME
	VT	101020	ME
Bobby Simpson	FL	98039	EL
	GA	PE048845	EL
	KY	39461	EL
	NC	053956	EL
	ОН	PE90278	EL
	SC	40197	EL
	TN	126687	EL
	TX	151431	EL
	VA	0402065164	EL
Trip Walker	sc	20263	ME

## State Contracting Licenses

State	License Type	Number
Alabama	M-S: Heating, Ventilation & Air Conditioning	17958
	Heating & Air Conditioning & Refrigeration Contractor	2011187
	Plumbing & Gas Fitting	MPG -2818
Arkansas	Contracting – HVAC, Refrigeration, Unlimited	0039770724
	Boiler Sale & Installation License, P P	l1182
	Class 'A' (HVACR)	1043540
California	C-20 Warm Air, HVAC, C-4 Boiler, Hot Water Heating & Steam Fitting	491941
	Steam Fitting	
Delaware	Master HVACR	HM - 0000654
Georgia	Conditioned Air Contractor – Non-Restricted	CN208536
	Conditioned Air	CN208863
Louisiana	Mechanical Contractor	5206
Maryland	HVACR	92542
Michigan	Mechanical Contractor	7113633

## State Contracting Licenses (Cont.)

State	License Type	Number
Mississippi	Mechanical Work (HVAC and Plumbing)	07268-MC
North Carolina	General Contracting Unlimited	14546
(Greensboro)	PU (Water and Sewer Lines)	
	Heating, A/C, Plumbing	1471
	Electrical	14173U
	Refrigeration	2898
(Winston-Salem)	Heating, A/C	24824
(Rural Hall)	Plumbing	34061
South Carolina	A/C, Heating, Electrical, Packaged Units Plumbing,	M4445
	Process Piping	M1115
	General Contractor	G98480
	Modular Building Manufacturer	2310
	Modular Factory Representative	1230
Tennessee	BC-B Commercial Contractor	7335
	CE Electrical Contractor	
	CMC-A Mechanical Plumbing	
	CMC-B Process Piping	
	CMC-C Mechanical—HVAC/Refrigeration	

## State Contracting Licenses (Cont.)

243140

State	License Type	Number
Texas	AC & Refrigeration Contractor	TACLA28368C
	Contractor	29853
	Master Electrician	292896
Utah	HVAC Contractor—with LRF, S350	6848664 - 5501
Virginia	Master - Plumbing, HVAC, GFC	2710049542
	Electrical	2710025003
	Electrical	2710084140
	Journeyman HVAC	2710037325
	Contractor	2701031769

Wisconsin

**HVAC Contractor** 

## NC Individual Contracting Licenses

#### **PLUMBING**

NC License 01471 (Greensboro)	19468	Rich Arnesen
	24510	James Chandler
	28787	David L. Martin
NC License 34061 (Rural Hall)	34061	Jeff Fletcher
AIR-CONDITIONING/HEATING		
NC License 01471 (Greensboro)	1471	Timothy J. Mundy
	14995	Rick Lilly
	24510	James Chandler
	33382	Joseph M. Garibay
NC License 24824 (Winston-Salem)	24824	Chris Harris
ELECTRICAL		
NC License 14173 (Greensboro)	14173U	AC Corporation
	8397	David F. Williams
	14710	<b>Bobby Simpson</b>
	9902	Alan Pritchett

## NC Individual Contracting Licenses (Cont.)

#### **REFRIGERATION**

NC License 2898 (Greensboro)	2898	Joseph M. Garibay
	3917	Ivan Vass
GENERAL CONTRACTING		
Public Utilities (Water & Sewer Lines)	14546	James R. Chandler
Building	14546	David F. Williams
Building	14546	James R. Chandler



#### **HVAC Services**

- Air Quality Control
- Cleanroom Systems
- Laboratory Systems
- Evaluation and Upgrade of Existing Systems
- Heat Recovery Systems
- Facility Automation Systems
- Energy Efficient Systems Data Centers

## Piping and Plumbing Services

- Plumbing and Site Utilities
- Process Piping
- Ultra-Clean Piping Systems
- ASME Certified Welding
- Orbital Welding Services

#### **Contact**

AC Corporation 301 Creek Ridge Road Greensboro, N.C. 27406 Phone: (336) 273-4472 Fax: (336) 274-6035

## HVAC/Piping/Plumbing

AC Corporation's Mechanical Division is comprised of professionals with extensive experience dating back to 1935. This group designs, builds, and installs complete systems for industrial and commercial customers.

#### **HVAC Systems**

The Mechanical group offers design and installation of HVAC systems for various facilities, including:

- ▶ Plant processes spacing requiring humidity control.
- Design/build custom fabricated air handling units of any size.
- Systems for reclaim and reuse heat from waste sources in the manufacturing process.

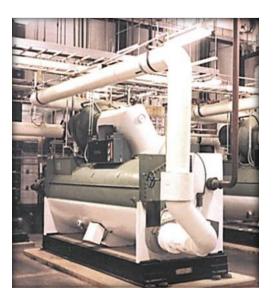


### Piping and Plumbing

In addition to HVAC systems, AC Corporation offers process and facility piping systems for water, steam, gases and chemicals. Our experience also includes high purity piping.

Our welding and fabrication facilities are authorized by ASME to register and affix the following codes:

- Unfired Pressure Vessels
- PP Pressure Piping
- Repair of Pressure Vessels and Piping



Our plumbing capabilities include design and installation of sanitary sewer, storm drainage, industrial waste, domestic water, and site utility systems.



#### Services

- High Voltage Systems
- Power Distribution
- Lighting
- ▶ Fire Alarm Systems
- Multiplex Controls
- Process Control Systems
- Material Handling Controls and Programmable Controls
- UPS Factory Service
- Data/Com
- HVAC Controls and Instrumentation Wiring
- Fiber Optics
- Factory Service Center
- Preventive Maintenance

# Industry / Project Types

- Pharmaceutical
- Electronic Plating
- Automotive
- Food Processing
- Textile
- Tobacco Processing
- Protein Recovery
- ▶ Hotels, Convention Centers
- Retail/Commercial
- ▶ Health Care
- Transportation

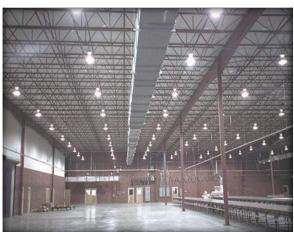
#### For 24-Hour Emergency Service

1-800-4AC-SERVICE 1-800-422-7378

#### Electrical

AC Corporation's Electrical Division is comprised of experienced professionals who continually strive to exceed the expectations of the client. We are staffed to service both the design/build and plan-specification markets.

Quality is the constant focus. Our professional Engineers begin the quality process during the conceptual phase while collaborating with architects, owners, developers and general contractors to insure the most effective and innovative methods and materials are utilized.



Our seasoned team of estimators and project managers continue the quality process while focusing on controlling cost. We are able to accomplish this task through precise coordination of construction schedules, material procurement, and timely delivery.



The construction phase is completed by our experienced high skilled craftsmen again utilizing total quality management to insure a finished product that exceeds the clients expectations.

#### Cost Control

Cost control begins prior to construction in the preliminary budgeting phase and continues throughout the duration of the project.



#### **Process Systems**

- Venturi Scrubber
- Packed Bed Scrubber
- Cross Flow Scrubber
- Air Cooled Condenser
- ▶ Rotabed™ Fluidized Bed Scrubber
- Barometric Jet and Spray Contact Condenser
- ▶ Mist Eliminator
- Ductwork and Custom Fabrication
- Hanging Room Ventilation
- Motor Control Center and Control Panel
- High Pressure Condensate Return System
- Perc Pan, Trap Tank, and Cyclone Separator
- Mechanical Waste Water Skimmer and Rotary Strainer
- Raw and Finished Material Handling Hopper
- Heat Recovery System

#### Odor Abatement Features

- Low Initial and Operating Cost
- High Efficiency
- Minimum Maintenance
- Stainless Steel
- Lightweight
- Large Air Capacity

# Process Systems and Odor Abatement

AC Corporation's Process Division offers design and installation services of fabricated process equipment and odor abatement equipment for rendering and meat packing industries throughout the United States.

#### **Process Systems**

The Process group offers design and installation of process systems using a field staff of sheet metal engineers, piping engineers, and electricians. AC Corporation fabricates the specially-designed process equipment in-house and can deliver and install individual pieces of equipment or complete a turnkey plant installation.



Batch Cooker System Percolator

#### **Odor Abatement Systems**

Along with the ability to fabricate and install process equipment, the Process Division has developed an odor abatement system to control the emission of odors, fumes, and particulate matter from manufacturing facilities with large exhaust air quantities.





# HVAC System Service Capabilities

- Planned Preventive Maintenance
- On-site Mechanical Maintenance
- ▶ 24-Hour Emergency Service
- System Diagnostics and Troubleshooting
- Specialized Filtration and Air Flow Analysis
- Refrigerant Conversions
- Mechanical Room Upgrades

#### Support Services

- Customer Training Programs
- Spectrographic Oil Analysis
- ▶ Eddy Current Tube Analysis
- ▶ Tube Replacement
- Replacement Parts
- Water Balancing
- Air Balancing
- Water Treatment
- Vibration Analysis
- Infra-red Scanning

#### For 24-Hour Emergency Service

1-800-4AC-SERVICE 1-800-422-7378

#### Service and Maintenance

AC Corporation offers professional maintenance and repair services for HVAC systems and equipment, HVAC controls, and building automation systems covered under HVAC. These services include: preventive maintenance agreements for HVAC systems; electrical system maintenance and testing; microprocessor control system upgrades; HVAC systems parts and components; and specialized training and seminars.

#### Maintenance

AC Corporation's professional maintenance technicians provide preventive maintenance for the following system types:

- HVAC Systems
  - Packaged, Rooftop, and Split Systems
  - Built-up Systems
  - Compressor Field Overhauls
- Centrifugal Chillers
  - Annual Shutdown and Startup Service
  - Field Overhauls and Bearing Inspections
  - Starter, Control, and Machine Upgrades
- Controlled Environment Systems
  - Computer Room Systems
  - Liebert Factory Certification
  - Cleanroom Systems
  - ASTM Laboratory Systems
  - Air Washer and Humidity Control Systems
- HVAC Controls and Building Automation Systems
- Boiler and Heating Systems





#### Services

- ▶ Technical Support
- On-site Visits
- Sourcing and Researching
- ▶ Integrated Supply
- ▶ Pump, Valves and Motor Repair
- ▶ Electronic Components and Drive Repair

#### Advantages

- ▶ EDI Compatible
- ▶ E-mail Ordering
- ▶ Single Source Procurement
- ▶ Over 150 years Combined **Industry Experience**
- Unlimited Product Offering
- ▶ Over \$1 Million in Inventory

#### **Products**

- ▶ AC Corporation Custom Parts and Equipment
- Standard Manufacturers Equipment
- ▶ Foreign and Domestic Parts and Equipment
- ▶ Pneumatic
- Process and HVAC Filtration
- ▶ Heat Transfer
- ▶ Building and Process Automation

## Parts and Components

AC Corporation's Parts Division maintains an extensive inventory for repair and replacement parts. We have also developed alliances with many of the major manufacturers for AC equipment, compressors and accessories, controls, valves, motors, filters, etc. Thus, over the years, we have grown into a major sales center by selling replacement parts directly to our customers.





Using the combined buying power of our company, the Parts Division has negotiated excellent pricing for these parts. These pricing opportunities are available to all of our customers. AC Corporation provides customers a vehicle whereby they can order multiple product lines via one purchase order from a single source, greatly reducing procurement costs.

The Parts Division also provides technical assistance by site visit or telephone support. We stand ready to assist you with over 150 years combined experience.





#### **Products**

- Custom HVAC Equipment
- Air Handling Equipment
- Air Cooled Heat Exchangers
- Odor Abatement Systems
- Air Cooled Condensers
- Air Scrubbers
- Fume Incinerators
- Enclosures

#### **Custom Items**

- ▶ Boiler Fire Box Incineration
- Hanging Room Ventilation Systems
- Mechanical Waste Water Skimmers
- ► Tanks, Quench Boxes, Conveyor Components
- Necropsy Tables and Animal Cages
- Cyclone and Trap Tanks, Raw and Finished Material Hoppers
- Belt Guards, Cat Walks, Ladders, Handrails, Guardrails, Spiral Stairs
- Exhaust Hoods, Access Doors, Dampers, Louvers, Filters, Racks, V-Cell Filters
- Pneumatic Control Valves, Poppet Valves

# Custom Fabrication and Manufacturing

AC Corporation utilizes the latest applied technologies in the fabrication of products designed by in-house or custom engineers. Some of the manufacturing capabilities AC Corporation uses include:

- ASME Certification:R, U, and PP Stamps
- ▶ Laser Table: ½" SS, 1" Black
- ▶ Hi-Def Plasma Table: 1 ½" SS, 2" Black
- ▶ Shearing: 1/4" x 14' SS, 3/4" Black
- Braking: 1/4" X 16' SS, 3/8" x 16' Black
- ► Rolling Capacity: <sup>3</sup>/<sub>16</sub>" x 10'
- Sand Blasting
- Paint Room
- Custom Designed Insulated Panels:
  - 2", 3", 4" thick and 55" x 15' 7"
- Automated Duct Fabrication, Transverse Duct Flange (TDF): 18 GA SS, 10' x 10'
- Welded Duct
- Over 100,000 SF of Manufacturing Space



Our skilled craftsmen utilize the latest applied technologies, including plasma arc cutting and computerized layout equipment to ensure the quality of our products.





#### **Applications**

- Pharmaceutical
- Chemical
- Fiber Optics
- Food Processing
- Synthetic Fibers
- Cleanrooms
- Rendering
- Textile
- Tissue
- ▶ Tobacco
- Utility

#### Components

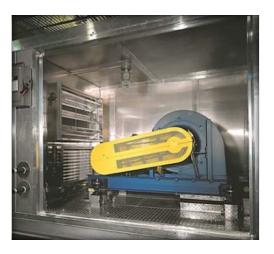
- Evaporative Cooling
- Direct Expansion Cooling
- Filtration
- Humidifying
- Dehumidifying
- Heating
- Water Cooling

#### Advantages

- Total System Knowledge
- ▶ Total System Responsibility
- Single Source for Design, Installation, and Maintenance

## Custom Air Handling Units

AC Corporation offers the most complete and durable industrial custombuilt air handling units designed to meet specific customer requirements. The units are fabricated and assembled in our state-of-the-art facility and constructed on a rigid structural frame. Experienced AC Corporation field crews are available for complete installation including electrical and controls, start-up, training and service.



#### **Configurations**

Custom configurations include single and multi-section units with coils, process sprays, pumps, filters, controls and electrical. Multi-section units are complete with chiller and motor control center to interface with an existing control system. Units are prewired, pre-piped and ready to set in place.

#### Air Treatment Systems

AC Corporation offers Low Velocity Air Washers, Hungate<sup>™</sup> High Velocity Air Washers, and the Z-92000 Air Treatment System.

The Low Velocity Air Washers offer an efficient and economical method of conditioning air. Units typically operate at 600 FPM and can be configured for evaporative cooling alone or with refrigeration.

The Hungate™ High Velocity Air Washers (AC Corporation patented) are designed specifically for facilities requiring large quantities of air with close temperature and humidity control. The patented eliminator separates water



particles from the air stream at velocities up to 2,350 FPM. The compact design and light operating weight simplifies installation and reduces building construction cost.

The Z-92000 air treatment system provides a means to keep precise environmental control of temperature, humidity and cleanliness at the lowest cost. The Z-92000 works with open chilled water systems for new or retrofit applications on low or high velocity systems.



#### **Products**

- Custom HVAC Equipment
- Air Handling Equipment
- Air Cooled Heat Exchangers
- Odor Abatement Systems
- Air Cooled Condensers
- Air Scrubbers
- Fume Incinerators
- ▶ Electrical Panel and Enclosures

#### **Custom Items**

- ▶ Boiler Fire Box Incineration
- Hanging Room Ventilation Systems
- Mechanical Waste Water Skimmers
- Tanks, Quench Boxes, Conveyor Components
- Necropsy Tables and Animal Cages
- Cyclone and Trap Tanks,
   Raw and Finished Material
   Hoppers
- Belt Guards, Cat Walks, Ladders, Handrails, Guardrails, Spiral Stairs
- Exhaust Hoods, Access Doors, Dampers, Louvers, Filters, Racks, V-Cell Filters
- Pneumatic Control Valves, Poppet Valves

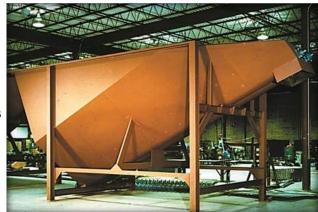
# Partial List of Equipment and Systems

- ▶ High Velocity Air Washers 38,000 CFM through 150,000 CFM
- ► High Velocity Eliminators Stationary eliminators for replacing rotating eliminator

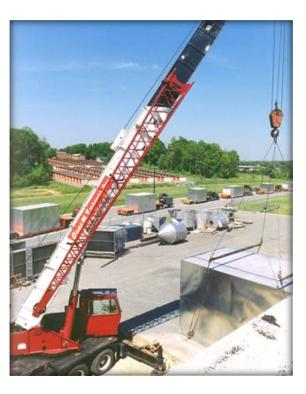
wheels.

- ► Rotating Water Strainer - Flow rates of 300 GPM through 3,175 GPM
- Crossflow Scrubbers

   High velocity plant
   air odor abatement
   and ventilation. Up
   to three stages and
   150,000 CFM in a
   single unit.



- ▶ Packed Bed Scrubbers Medium and high efficiency plant air and concentrated odor abatement and/or VOC removal.
- Venturi Scrubbers Particulate removal and vapor cooling.
- ▶ Air Cooled Condensers Up to 50,000 pounds fluid per hour in a single unit. ASME coded when applicable.
- Shell and Tube Condensers ASME coded and built for vapor condensing and heat recovery.



- Spray Contact Condensers -Barometric, jet, and spray types.
- Fume Incinerators -Thermal oxidizers with energy recovery for destruction of high intensity odors and VOC's.
- High Pressure Condensate Return System - Built-in deaerator and float controls. Returns condensate directly to boiler from process pressures.



#### Services

- Design
- Manufacturing
- Construction
- Maintenance
- Start-up and service

#### Accomplishments

- Developed first type of cleanroom technology.
- AC Corporation holds numerous patents and is committed to a leadership role in technological advancement.
- AC Corporation is licensed for mechanical and electrical construction in several states.

#### Advantages

- Over 45 years of experience in cleanroom design and implementation.
- Experience in Class 1 to Class 100,000 cleanrooms.
- Single source for design, fabrication, construction and maintenance.

### Cleanrooms, Old and New

AC Corporation's experience with cleanroom technology began in 1954 with Western Electric Company in Winston-Salem, North Carolina. It was the first known production-size cleanroom in the

world.

Western Electric's gyroscopes supplied to the Nike missile program were being rejected at a rate of 99 out of 100, with each gyroscope costing \$20,000/. The culprit was identified to be dust. Therefore, Western Electric set out to build a "dust-free" environment. AC Corporation was commissioned to design

and install this "dust-



Western Electric "dust-free" gyro assembly room in 1955

free" room. After the cleanroom was completed, Western Electric's rate of rejection dropped to one out of 100.

AC Corporation is proud of our involvement in developing this first type of cleanroom technology. For the past 45 years, we have performed dependably and accurately with the expertise to meet our customers' needs.



ITT gallium arsenide chip manufacturing process, which represents a "modern" Class 10 cleanroom system

Since the original cleanroom project at AT&T Western Electric, we have installed many turnkey cleanrooms among a variety of industries, including:

- Microelectronics
- Fiber Optics
- Pharmaceuticals
- Research and Development
- Toxicology Research Facilities
- Synthetic Fibers
- Compact Disk
- Medical
- Textiles
- Computers
- Military

AC Corporation has design engineers and technical personnel experienced and highly skilled in cleanroom applications.



#### **Industries Served**

- Fiber Optics
- Microelectronics
- Food and Drug

#### **Materials**

- Stainless Steel
- Copper
- Monel
- Hastelloy
- Titanium
- Carbon Steel
- Nickel

## High Purity Piping

AC Corporation's Mechanical Division includes ASME certified shop and field personnel who are trained and experienced in the operation of Automatic Tube Welding. This process consists of fusing two sections of tube together while using a high purity Argon purge on the inside and outside of the welds. There is no filler

material introduced into the welds.

Automatic Tube Welding is used mainly on high purity and critical applications where weld integrity is crucial. As industries become more familiar with the process, they are discovering economical benefits for other process applications as well.



#### **Capabilities**

AC Corporation maintains a vast inventory of equipment and materials in order to support our high purity piping capabilities. Our Mechanical Division is capable of welding:

- ▶ Stainless steel OD tubing from 1/8" up to 6"
- ▶ Schedule 10 stainless steel pipe through 1 1/2"
- ► Schedule 40 stainless steel pipe through 1"





#### Large Air Capacity

- ► Four (4) unit sizes ranging from 38,000 to 150,000 CFM.
- Custom configurations and sizes are available.

#### Lightweight

The compact design and light operating weight simplify installation and reduce building construction cost.

#### Minimum Maintenance

Self-cleaning action of the spray nozzles and flushing action of the spray water often eliminate the need for air filters.

## Total Moisture Elimination

Patented eliminator separates water particles from the air stream at velocities up to 2,350 ft. per minute.

## High Velocity Air Washer

The Hungate<sup>™</sup> High Velocity Air Washers (AC Corporation patented) are designed specifically for facilities requiring large quantities of air with close temperature and humidity control. Units are designed to meet specific customer requirements.

#### **Configurations**

Units consist of a fan, diffuser, baffle, spray, access section, and eliminator. The diffuser is designed for high efficiency regain of static pressure. The spray section includes multiple rows of high density sprays for efficient heat transfer.

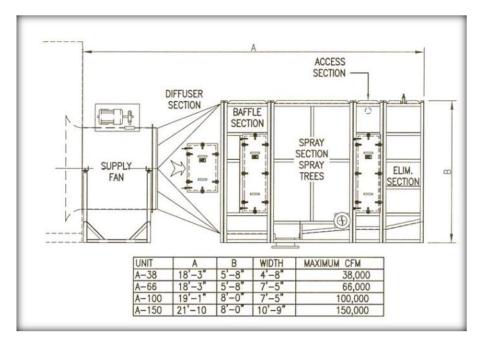


The patented high velocity stationary eliminator removes all water droplets without moister carryover.

Units can be provided as blowthrough or draw-through with either axial flow or centrifugal fans.

Units are fabricated on a rigid structural frame and are prewired and pre-piped ready to set in place.

#### **Unit Sizes**





#### Moisture Elimination

Total moisture elimination is accomplished when operated in accordance with the manufacturer's instructions.

#### Minimum Maintenance

- Blades are designed for easy cleaning.
- A cleaning kit is available for special applications.
- There are no bearings to grease or wear out.
- There is no speed switch to maintain.

#### Lightweight

The absence of a shaft, bearings and hub causes the replacement assembly to have less weight.

#### Energy Conserver

Normally, the air pressure drop is less than the rotating wheel, resulting in less horsepower, or increased CFM if desired.

# Stationary Blade Eliminator Rotating Wheel Eliminator Replacement

AC Corporation invented the high velocity stationary blade eliminator, which provides a way to retain the features of a high velocity rotating wheel eliminator without carry-over and without moving parts.

As a result of the invention, AC Corporation patented and began manufacturing the Hungate<sup>™</sup> High Velocity Air Washers. Hundreds of these units have operated successfully at velocities up to 2,350 FPM.

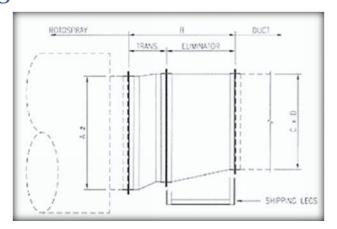
The long life stationary blade eliminator saves the cost of replacing the rotating wheel, the physical replacement cost and the down time for wheel replacement.



#### Advantages

- Stainless Steel
- Low Initial Cost
- Energy Conserver
- Stationary Eliminator
- Low Maintenance Cost
- Adaptable To All Sizes

#### Configuration



Unit Size	Α	В	С	D
ACCD10 (10,000 CFM)	30-3/8" ID	42-3/16"	28"	10-11/16"
ACCD15 (15,000 CFM)	35-1/8" ID	42-3/16"	28"	40-11/16"
ACCD21 (21,000 CFM)	39-1/8" ID	42-3/16"	38-1/2"	55-11/16"
ACCD30 (30,000 CFM)	45-1/2" ID	42-3/16"	38-1/2"	55-11/16"
ACCD45 (45,000 CFM)	56-1/2" ID	45-3/16"	51-1/16"	62"



#### **Configurations**

- Fabricated and assembled in our factory and shipped as a single unit or shipped in modular sections for final assembly at the job site.
- Enclosures are fabricated on a rigid structural frame with removable lifting devices.
- Can be designed for installation on roofs, within plants, or stand-alone.
- Enclosures are pre-wired, pre-piped and ready to set in place.

#### Construction

- Patented foam insulating panels consist of Delta-Polyurethane foam between two sheets of metal.
- Inner and outer sheet metal skin selected to meet customer requirements.
- The foam density is 2.2 lbs. per cubic foot and the panels qualify as Class 1 material.

## Custom Equipment Enclosures

AC Corporation offers custom fabricated equipment enclosures to meet specific customer requirements. The enclosures are fabricated and assembled in our state-of-the-art facility and constructed on a rigid structural frame. Experienced field crews are available for complete installation including electrical and controls, start-up, training and service.



#### **Built to Customer Specifications**

- ▶ Electrical and mechanical systems are installed to meet customer specifications and to comply with the National Electrical Code.
- ▶ Enclosures can include electrical, generator, grounding, cabling, heating and cooling.
- System options include power distribution, emergency power, UPS systems, communication, CATV, fire alarm, data / communications including fiber optics, etc.

#### Available Features

- ▶ Vandal resistant, bullet resistant to 30.06 rifle fired from 15 feet per UL 752.
- Earthquake resistant to Zone 4 conditions.
- Wind resistant to 150 mph.
- Noncombustible shelter 2-N type available in one or two hour fire rating.

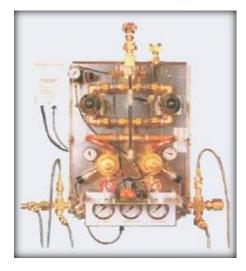


Can be designed and manufactured for classified areas.



#### **Industries Served**

- ▶ Hospitals
- ▶ Dental Clinics
- Veterinaries
- Laboratories



*Inside of a Beacon Medaes automatic* switch over manifold.

#### Contact

Mr. Tim Mundy Vice President of Operations (336) 271-6336

AC Corporation 301 Creek Ridge Road Greensboro, NC 27406 Phone: (336) 273-4472 Fax: (336) 274-6035

## Medical Gas Piping

AC Corporation's Mechanical Division includes field personnel who are trained and certified in the installation of Medical Gas Piping. This process entails brazing cleaned and capped pipe together while using a clean Nitrogen NF purge gas on the inside of the pipe. Flux and soldering is not allowed in order to ensure a clean and durable installation.



Piping loop valve assembly at a coronary heart hospital.

#### **Capabilities**

We keep an inventory of commonly used pipe and fittings on site in order to serve our customers in an emergency situation. AC Corporation can provide pricing for a complete scope of work including purchasing of all equipment such as medical air compressors, vacuum pumps, piping, alarms, and outlets. We have 19 Certified Medical Gas installers and 3 Certified Inspectors. Third party verification would be subcontracted to qualify our installation.



Nitrogen and nitrous oxide gas pipe.

## Project Experience

CUSTOMER		CHA			STON STON	AR IR	AND THE PROJECT  Manufacturing Plant
Caterpillar Athens, GA	<b>✓</b>		<b>✓</b>				Manufacturing Plant
Caterpillar Winston-Salem, NC	✓		<b>✓</b>				Manufacturing Plant
Clearwater Paper Shelby, NC				✓			Manufacturing Plant
First Quality Tissue Anderson, SC				<b>✓</b>			Manufacturing Plant
John Deere-Hitachi Kernersville, NC	<b>✓</b>						Manufacturing Plant
Kimberly-Clark AR				<b>✓</b>			Manufacturing Plant
Kimberly-Clark SC				<b>✓</b>			Manufacturing Plant
Procter & Gamble Brown Summit, NC	<b>✓</b>	✓	<b>✓</b>	<b>✓</b>	<b>✓</b>		Manufacturing Plant
Procter & Gamble Greensboro, NC	<b>✓</b>	<b>✓</b>	<b>✓</b>		<b>✓</b>		Manufacturing Plant
RJ Reynolds Tobaccoville, NC	<b>✓</b>	<b>√</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>		Air Washers and Duct Installation
Thomas Built Bus High Point, NC	<b>✓</b>	<b>√</b>			<b>✓</b>		Manufacturing Plant
Valley Proteins	✓			✓		✓	Manufacturing Plant
Wake Forest University Winston-Salem, NC	<b>√</b>		<b>√</b>				Chiller Plant
Wake Forest University Winston-Salem, NC	✓						Dorm Renovations
Wake Forest University Winston-Salem, NC	✓						Sports Performance Center
Wake Forest University Winston-Salem, NC	<b>✓</b>						Dorm Renovations

## References

#### Customers

### Alamance Regional Medical Center

Mike Cooke 1240 Huffman Mill Road Burlington, NC 27215 Phone: (336) 832-1766

#### Forsyth Medical Center Novant Health

Todd Reed 3333 Silas Creek Parkway Winston-Salem, NC 27103 Phone: (336) 718-5018

## High Point Regional Medical Center

Gary Morris 601 North Elm Street High Point, NC 27262 Phone: (336) 781-2373

#### Customers

## Kimberly-Clark Corporation

Caleb Curtis 2100 County Road II Neenah, WI 54956 Phone: (920) 721-2676

## Kimberly-Clark Corporation

John Garcia 2100 County Road II Neenah, WI 54956 Phone: (920) 721-2063

## Laughlin-Sutton Construction Company

Joey Steele 5855 Rudd Station Road Browns Summit, NC Phone: (336) 375-0095

#### Customers

#### **Procter & Gamble**

Keith Santamassino 6200 Bryan Park Road Browns Summit, NC 27214 Phone: (336) 954-5219

#### Qualicaps, Inc.

Wayne Venable 6505 Franz Warner Parkway Whitsett, NC 27377 Phone: (336) 449-3900

## Research Triangle Institute

Janelle Griffin 3040 East Cornwallis Road RTP, NC 27709 Phone: (919) 541-8724

#### Customers

#### RJ Reynolds Tobacco

Tim Flinchum 7855 King Road Tobaccoville, NC 27050 Phone: (336) 741-1502

#### Syngenta

Thomas Grigaliunas 410 South Swing Road Greensboro, NC 27409 Phone: (336) 804-0523

#### Wake Forest University

Doug Ecklund 1834 Wake Forest Road Winston-Salem, NC 27106 Phone: (336) 758-4001

## References (Cont.)

#### Trade

#### James M. Pleasants

Sam Kirkman 603 Diamond Hill Court Greensboro, NC 27416 Phone: (336) 378-9911

## State Electric Supply Company

Rick Sheets 2709 Patterson Street Greensboro, NC 27407 Phone: (336) 855-8200

#### **The Trane Company**

Jack Krawczyk 1915 Church Street Greensboro, NC 27415 Phone: (336) 207-9990

#### • Bank

#### **Bank of America**

Treasury Fulfillment Service Operations FL9-200-03-05 9000 Southside Blvd. Jacksonville, FL 32256 Phone: (888) 715-1000 ext. 22007

#### **Bond Information**

#### Aon

Nicholas Kyprianou PO Box 6178 Somerset, NJ 08875

### Confidential Disclosure Agreement

As a provider of services or products (Vendor) to AC Corporation, you may be exposed to information which AC Corporation regards as proprietary and confidential. Such information will be disclosed to you in order to advance this vendor-vendee relationship. You, therefore, agree to maintain all information in strict confidence and to use such information only for the purpose of this Agreement and for no other purpose. You further agree to limit dissemination of such information to employees of your company on a need-to-know basis and to inform such employees of the nature and existence of this Agreement and its applicability to them.

The aforesaid obligations of non-disclosure and non-use shall not apply to information which you can demonstrate: (a) at the time of disclosure is generally known to the public, or after disclosure becomes generally known to the public other then by a breach of this Agreement by you; (b) is already in your possession at the time of disclosure by AC Corporation and not acquired or indirectly from AC Corporation; or (c) is later received on a non-confidential basis from a third party having rights to impart such information.

Either party may at any time, upon written notice to the other, terminate this Agreement. However, termination shall not relieve you of the obligations of non-disclosure and non-use. All written, printed or tangible documents or materials submitted to you or prepared by you for the benefit of AC Corporation, and all copies thereof, shall remain the property of AC Corporation and shall be returned to AC Corporation upon request or upon termination of this Agreement.

Nothing in this Agreement shall be understood as requiring AC Corporation to purchase, or you to supply, any goods, materials, apparatus, machinery, services, etc.

This Agreement shall be governed by the laws of the State of North Carolina.

Please indicate your assent to this Agreement by signing both copies and returning them to us. A completed copy will then be returned to you for your records.

ACCEPTED AND AGREED TO:	
Company	AC CORPORATION
Ву	Ву
Title	Title
Date	Date

<u>PRODUCTS</u> AC Corporation (AC) expressly warrants products manufactured by AC to be free from defects in material and workmanship under normal use and service for a period of one (1) year from the date of initial operation or eighteen (18) months from the date of shipment, whichever occurs first. AC will repair or replace at its option, F.O.B. point of manufacture, any such product which AC determines to be defective during the warranty period.

SOFTWARE AC expressly warrants that application software written by AC will perform functionally and be free of defects for one (1) year from the date of delivery, provided that such software has not been misused or modified and incorporates all program enhancements and corrections supplied by AC. AC will correct or replace, at its option, any such software that AC determines to be defective during the warranty period. Notwithstanding the foregoing, AC will not be responsible for (a) erroneous or incomplete data files, (b) malfunctions in hardware, operating systems, or third party software, (c) problems caused by modifications to originally installed operating systems or configurations, (d) problems or malfunctions caused by computer viruses, malware, worms, or other harmful or malicious programs of any kind, or (e) other problems or malfunctions outside of AC's control.

<u>INSTALLATION SERVICES</u> AC expressly warrants that, for a period of one (1) year from the date of substantial completion or eighteen (18) months from the work commencement date, whichever occurs first, AC's work will be free from defects not inherent in the quality required or permitted and will conform to any plans and specifications on which AC's job quotation is based. AC will repair work that AC determines to be defective during the warranty period.

SYSTEM PERFORMANCE In jobs where AC has exclusive control over design, furnishing of materials and products, installation, and commissioning, AC expressly warrants that its systems will perform to AC's established standards for the variables (temperature, relative humidity, light level, etc.) and limits specified in the proposal document, at the point of control, for a period of one (1) year from date of substantial completion or eighteen (18) months from the work commencement date, whichever occurs first. AC will make all corrections to the performance of the system that become necessary during the warranty period. This warranty will apply only if all items that affect system performance (such as heat producing equipment, vapor barriers, colors, etc.) are as represented to AC at the time of design and the customer follows all recommendations (such as insulating, vapor proofing, etc.) made by AC. No warranty, express or implied, shall exist for the performance of any variables or limits not specifically stated in the proposal document. This warranty does not include testing or analysis of the system unless an out-of-limit condition caused by system performance is found by AC. AC shall not be liable for any design, materials, products, or services not included in AC's proposal document.

<u>DISCLAIMER OF WARRANTY FOR REPAIR AND MAINTENANCE SERVICE</u> Except to the extent one of the foregoing warranties is applicable, AC makes no warranty whatever, express or implied, relating to its performance of repair or maintenance services or the condition or operation of any equipment or machinery repaired or maintained by it.

<u>ASSIGNMENT OF OTHER WARRANTIES</u> To the extent assignable, AC assigns to the customer any and all warranties made by the manufacturer of a product or software that is furnished but not manufactured or developed by AC. AC makes no warranty whatever, express or implied, relating to any product or software which is not manufactured or developed by AC.

<u>LIMITATION OF WARRANTY</u> These warranties do not cover damage or defects caused by abuse, modifications not executed by AC, improper or insufficient maintenance, improper operation, failure to follow operating manuals or procedures, or normal wear and tear under normal usage. AC will not be responsible for damage from water, chemicals, steam, freezing, voltage variations, electrical service interruptions, abuse, unsuitable soil conditions, environmentally unsafe conditions, errors in the customer's drawings, plans, or specifications, or other causes not within the control of AC. AC makes no warranty whatever, express or implied, relating to asbestos, PCB, or any other hazardous or toxic substances or environmentally unsafe materials.

<u>LIMITATION OF REMEDIES</u> The remedies described above shall be the SOLE AND EXCLUSIVE remedies under these warranties. AC shall not be liable for any special, indirect, incidental, or consequential damages arising out of any defects, including without limitation transportation or labor charges to locate, remove, or reinstall defective components, lost profits or sales, or injury to person or property. AC's total liability for breach of any warranty shall not exceed the contract price.

NO OTHER WARRANTIES These warranties shall extend only to the original customer and cannot be assigned. AC MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF HABITABILITY, IMPLIED WARRANTIES OF WORKMANSHIP, IMPLIED WARRANTIES OF LIVABILITY, AND IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE HEREBY

DISCLAIMED. If any court imposes an implied warranty on AC, it shall have the same time duration as the applicable express warranty listed above. These warranties shall be construed and enforced in accordance with North Carolina law, and North Carolina shall have sole and exclusive jurisdiction over any dispute regarding these warranties.

MODIFICATION These warranties may not be modified except by written agreement signed by an officer of AC.

# Safety Program

AC Corporation is committed to initiating and maintaining all safety programs as may be necessary to comply with requirements set forth by the Occupational Safety and Health Administration and any other local, state, or federal agency and in creating a safe work environment with the goal to be accident free. Enforcement of all safety programs will be provided by site supervision that will be held accountable for the actions of our employees. In addition, AC Corporation will provide site inspections as deemed necessary by the AC Corporate Safety Director to insure a high level of Safety awareness by our employees at all times.

It will be the responsibility of AC Corporation to provide all materials and personal protective equipment needed to perform tasks in a safe manner and to be in compliance with all regulatory requirements. To comply with these requirements the following will be required:

**Personal Protective Equipment** - As mandated under the Occupational Safety and Health Standards Subpart I of 29 CFR 1910.132 thru 139 for General Industry and Subpart E of 29 CFR 1926.95 thru 107 for the Construction Industry, the employer is responsible for meeting the Personal Protective Equipment requirements for their employees.

In addition, as stated under CFR 29 1926.28 (a) of the Construction Standard, requirements of the Employer are as follows:

"The employer is responsible for requiring and ensuring the wearing of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions or where this part indicates a need for using such equipment to reduce the hazards to the employees."

The General Safety Rules and Regulations for AC Corporation are:

Adequate protective equipment and clothing will be worn by AC Corporation employees at all times.

Protective clothing and equipment should be suitable for the type of work performed, kept in good repair, and kept free of possible oil and grease.

It is the Company policy that fall protection will be provided and worn on all jobs that require it. It is the responsibility of the employer to ensure compliance of the fall protection program. It is the responsibility of the job foreman, superintendents, and project managers to see that these rules are enforced. Failure to abide by or to enforce these rules will result in disciplinary action, up to and including discharge.

**Mandatory Personal Protection** - The following personal protective items will be required to be used by all employees of AC Corporation:

- 1. Only leather work boots, leather dress or safety shoes will be acceptable footwear on all projects. The use of tennis shoes, soft-toed canvas, fabric shoes, open-toed shoe-like sandals, or high heels will not be permitted.
- 2. Hard hats will be required to be worn at all times on all jobs that are new construction, renovation work, or as required by the customer or General Contractor. All hard hat liners will have back straps to aid in keeping the helmet on while working in an overhead position.
- 3. Eye protection will be required to be worn at all times while on construction projects. The use of cutting glasses (Shade 3.0) will be required for soldering and cutting with acetylene torch outfits. SUNGLASSES ARE NOT SUITABLE FOR CUTTING.

These rules are the minimum requirements on all projects. All AC Corporation supervision will be required to enforce these rules and every employee of AC Corporation is expected to abide by them.

*Eye Protection* - Safety glasses and or additional protective eye equipment will be worn at all times within the Shop and Stockroom areas during normal working hours. The exception to this will be within the individual offices within the Shop area.

Safety glasses and/or additional eye protection will also be worn at all times on construction projects and where required by the plant or general contractor.

Employees and visitors, while in designated areas (shops and construction projects) WILL WEAR safety glasses or visitor glasses.

VIOLATORS NOT WEARING SAFETY GLASSES IN THE SHOP OR CONSTRUCTION PROJECTS, AS REQUIRED, WILL BE ASKED TO LEAVE.

Confined Space Entry Program - When working in confined spaces, AC Corporation will adhere to OSHA guidelines as outlined in OSHA 29 CFR 1910.94 (d) (9) (vi) and (d) (11) (v), 29 CFR 1910.134 (e) (3) (i-iii), 29 CFR 1910.252 (f) (4), 29 CFR 1915.4 (p), and 29 CFR 1926 subpart AA.

A confined space is defined as a space that has any one of the following hazardous characteristics:

- ▶ LIMITED OPENINGS FOR ENTRY AND EXIT—Confined space openings are limited primarily by size or location.
- ▶ UNFAVORABLE NATURAL VENTILATION—Because air does not naturally circulate well in confined spaces, the atmosphere inside a space is potentially dangerous or even life threatening.

- ▶ Deadly gases may be trapped in an area; oxygen may be depleted to a level that will not support life; or an area may be so oxygen enriched that it increases the chance of explosion.
- ▶ AREA NOT DESIGNED FOR CONTINUOUS WORKER OCCUPANCY—Because confined spaces are generally designed for material storage or process, confined space entry is often difficult or dangerous due to chemical or physical hazards within the space.

Boilers, cupolas, degreasers, furnaces, pipelines, pits, pumping stations, reaction or process vessels, septic tanks, sewage digesters, sewers, silos, storage tanks, utility vaults, vats, and other similar types of enclosures are examples of confined spaces.

Lack of natural air movement can result in:

- ▶ HAZARDOUS ATMOSPHERE
- ▶ OXYGEN DEFICIENT ATMOSPHERE
- ▶ FLAMMABLE ATMOSPHERE
- ▶ TOXIC ATMOSPHERE
- ▶ AN ATMOSPHERE WITH LESS THAN 19.5% OXYGEN SHOULD NOT BE ENTERED WITHOUT AN APPROVED SELF-CONTAINED BREATHING APPARATUS (SCBA).
- ▶ AN OXYGEN ENRICHED ATMOSPHERE (ABOVE 23.51%) CAN RESULT IN VIOLENT IGNITIONS.
- ▶ PURE OXYGEN SHOULD NEVER BE USED TO VENTILATE A CONFINED SPACE.

Toxic atmosphere can result from products stored in the space, work being performed in the space, or areas adjacent to the confined space.

**Testing the Atmosphere**— Prior to entering any confined space, the space must be tested with a properly calibrated testing instrument (equipment available in the Safety Director's office) to determine what atmospheric hazards are present.

If testing determines that an area is oxygen deficient or there is the presence of toxic gases or vapors, the space must be ventilated. If ventilation is not possible, workers must have appropriate respiratory protection, or not be permitted to enter the confined Space.

VENTILATION by a blower or fan may be necessary to remove harmful gases and vapors from a confined space.

▶ ISOLATION of a confined space is a process where the space is removed from service by:

LOCK-OUT

4. SECURING

2. BLANKING & BLEEDING

5. RESPIRATORS

3. DISCONNECTING

Respirators are devices that can allow workers to safely breath without inhaling toxic gases or particles. There are two basic types of respirators, (1) air-purifying, which filters dangerous substances from the air;(2) air-supplying, which delivers a supply of safe breathing air from a tank or a non-contaminated area nearby.

ONLY A NIOSH APPROVED PRESSURE-DEMAND SCBAS OR PRESSURE-DEMAND AIR LINE RESPIRATORS WITH ESCAPE PROVISIONS ARE TO BE USED IN OXYGEN DEFICIENT ATMOSPHERES.

**Standby/Rescue**— A standby person must be assigned to remain on the outside of the confined space and must remain in constant contact (visual or speech) with the workers in the space. This person should have no other assigned duties and should be trained in emergency notification, proper rescue procedures, and use of appropriate equipment and techniques.

*General / Physical Hazards* — In addition to the previously discussed dangers, evaluation of a confined space should also consider the following potential hazards:

1. Temperature extremes

4. Slick/wet surfaces

2. Engulfment hazards

Falling objects

3. Noise

6. Shock Hazards

**Permit** — The permit is an authorization and written approval that specifies the location and type of work to be done and certifies that all existing hazards have been evaluated by the qualified person, and necessary protective measures have been taken to ensure the safety of each worker.

BEFORE ANYONE ENTERS THE PERMIT REQUIRED SPACE, THE AUTHORIZED PERSON WILL GO THROUGH THE PERMIT CHECK LIST TO VERIFY THAT ALL NECESSARY SAFETY STEPS HAVE BEEN TAKEN.

Most permits will include the following information:

- 1. Which permit space it covers
- 2. The purpose of the entry
- 3. The date of entry, and in many cases, the time
- 4. How long the authorization is valid
- 5. The workers authorized to enter the space
- 6. The workers who can serve as attendants
- 7. The people who will be in charge of the work
- 8. Special permits required
- 9. Emergency telephone numbers
- 10. Lock-out/tag-out procedures required

**Training** — The person authorizing the entry to a confined space, the attendant, and the permit space entrant will be thoroughly trained regarding the hazards of confined space entry and in the use of all appropriate testing and rescue equipment and techniques.

AC Corporation will take the following steps to control the hazards regarding confined space entry:

- 1. Identifying all permit spaces in the work place
- 2. Post warning signs and put up barriers
- 3. Identify all hazards of each permit space
- 4. Adopt ways of controlling the hazards
- 5. Teach employees to use safe control measures
- 6. Supply any needed safety equipment and personal protective equipment
- 7. Provide for a trained and equipped rescue team
- 8. Provide list of emergency contact numbers

**Policy for Hearing Conservation**—AC Corporation will provide all employees with a safe and healthful work environment and will assure that the hearing of all employees is properly protected. The hearing conservation program is the joint responsibility of the company and employees.

All employees will be included in a continuing effective hearing conservation program. This program will meet all federal and state regulations to prevent noise-induced occupational hearing loss and provide medical referral to employees suffering from all types of hearing loss.

In order to be in full compliance with the OSHA Noise Standard, the following requirements will be implemented:

### Company Requirements

- 1. A copy of the OSHA Noise Standard will be posted in a central location.
- 2. A sound survey will be conducted every year and results will be posted in a central location.
- 3. A written Hearing Conservation Policy will be available and a copy will be distributed to all employees.
- 4. Mandatory hearing tests will be administered annually by a certified Industrial Audiometric Technician to employees exposed to noise levels of 85 dBA or greater.
- 5. Hearing protection education will be administered annually to employees exposed to noise levels of 85 dBA or greater.
- 6. A minimum of two styles of hearing protection will be available to employees.

The superintendents and field foreman will be responsible for the enforcement of this policy.

**Trenching and Excavation Program** — OSHA has made trenching safety a major point of national emphasis, and we should expect to see OSHA on job sites where trenching is taking place. Our work that requires excavation at a depth of 4 feet or greater will be governed by regulations under Subpart P of 29 CFR Part 126.

The following point needs to be stressed to and understood by all employees:

AC Corporation is required to have a "competent person" on every job site where trenching occurs. Competent person means "one who is capable of identifying existing and predictable hazards in their surrounding or working conditions which are unsanitary, hazardous to employees and who has authorization to take prompt corrective measures to eliminate them." This employee has been trained in making site evaluations, classifying soil in order to determine slope or shoring needs, in identifying hazards, and has the authority to stop work in an unsafe trench and take corrective action.

In the event that a backhoe operator or foreman determines a trench to be unsafe, he cannot be overruled by a superintendent or project manager until the conditions have been reviewed. If a disagreement cannot be resolved by the parties at the job site, they should call the Safety Director for guidance.

#### **Excavation Standards**

- ▶ A stairway, ladder, ramp or other safe means of egress shall be located in trench excavations that are 4 feet or more in depth.
- ▶ Ladders must be within 25 feet of employees when working.
- ▶ Employees exposed to vehicular traffic shall be provided with and shall wear warning vests or other suitable highly visible garments.
- ▶ No employee shall be under heavy loads handled by earth moving equipment (should be out of that area of excavation!).
- ▶ When mobile equipment is operating around excavations, filling with stone, etc., and the operator does not have a clear and direct view of the edge of the excavation, a warning system such as barricades or hand signals must be used.
- ▶ When excavating in hazardous areas where oxygen deficient atmospheres could exist (landfills, near flammable liquid storage), the atmosphere will be tested if greater that 4 feet in depth.
- ▶ 19.5% oxygen is the lowest permissible level.
- ▶ Testing will be conducted as often as necessary to ensure that atmospheres remain safe.
- ▶ Emergency rescue equipment (SCBA, safety harness, basket stretcher) shall be available and attended when work is being done in a potentially hazardous environment.
- ▶ Employees entering bell-bottom pier holes or other similar deep and confining excavations shall wear as harness with a lifeline securely attached to it used only to extricate the wearer and is to be attended at all times.
- ▶ Excavations need to be protected from water run-off.
- ▶ Employees shall not work in excavations exposed to water accumulation or heavy run-off unless adequately protected. Excavations will be monitored and inspected by a competent person before allowing entry into the excavation.
- ▶ Undermining of any sidewalls, pavements, etc., needs to be supported if undermined.
- ▶ Daily inspections of excavations shall be made by a competent person and additional inspections will be conducted during inclement weather.
- ▶ All bridges or walkways over excavations will be provided with handrails.
- ▶ All remotely located excavations shall have adequate barriers or protection from falls.
- ▶ Spoil piles should be located at least 2 feet from the edge of the excavation, or have a retaining device that is sufficient to prevent materials or equipment from falling or rolling into the excavation.
- ▶ All members of a shield or support system must be tied together (nailed, etc.).

- ▶ All employees are not permitted to work on slopes at levels above other employees unless those employees are adequately protected.
- ▶ All soil types, precautions and steps necessary will be based on type "C" soil.

**Cave-in Protection**— Necessary when greater than 5 feet in depth unless indication of cave-in exists.

Any time a trench exceeds 20 feet in depth, the trench and its protective features must be designed by a registered professional engineer.

#### Excavation options:

- 1. Slope at an angle of 1-1/2 horizontal to 1 vertical (38 degrees).
- 2. Design using other tabulated data.
- 3. Designed by a registered professional engineer.

### Lock-Out Program and Procedures — Plant Lock-Out Program

- ▶ Machinery or equipment which is being repaired or cleaned, and which might cause injury to an employee if switches, valves, starting devices, etc., were accidentally turned on, WILL BE LOCKED-OUT.
- ▶ Maintenance employees and other selected employees whose job activities might include cleaning, servicing, or repairing machinery will have access to labeled pad locks for locking-out equipment.
- ▶ Plant supervisors will instruct employees on use of padlocks and lock-out procedures.
- ▶ Failure to lock-out machinery or equipment when so required or specified is cause for disciplinary action.
- ▶ Notify all concerned that work is to be performed on a specific piece of equipment and obtain permission to Lock-Out equipment.
- ▶ Stop machine and/or cut off necessary services.
- ▶ Obtain lock-out lock and guard if necessary.
- ▶ Place lock and/or guard device on appropriate control switch, control valve, circuit breaker and/or hand switch.
- ▶ Inspect machinery to ensure all moving parts have come to a complete stop.

- ▶ Take all precautions to render safe all necessary services according to any special procedures.
- ▶ Test the lock-out prior to starting to work on equipment.
- ▶ When work is complete, notify all concerned that machinery or service is being reenergized and remove lock.
- ▶ Be sure area is clear before starting machinery.
- ▶ After equipment is restarted and checked out, release equipment back to service.

### Crystalline Silica

The Respirable Crystalline Silica Program was developed to prevent employee exposure to hazardous levels of Respirable Crystalline Silica that could result through construction activities or nearby construction activities occurring on worksites. Respirable Crystalline Silica exposure at hazardous levels can lead to lung cancer, silicosis, chronic obstructive pulmonary disease, and kidney disease. It is intended to meet the requirements of the Respirable Crystalline Silica Construction Standard (29 CFR 1926.1153) established by the Occupational Safety and Health Administration (OSHA).

All work involving chipping, cutting, drilling, grinding, or similar activities on materials containing Crystalline Silica can lead to the release of respirable-sized particles of Crystalline Silica (i.e. Respirable Crystalline Silica). Crystalline Silica is a basic component of soil, sand, granite and many other minerals. Quartz is the most common form of Crystalline Silica. Many materials found on constructions sites include Crystalline Silica; including but not limited to – cement, concrete, asphalt, pre-formed structures (inlets, pipe, etc.) and others. Consequently, this program has been developed to address and control these potential exposures to prevent our employees from experiencing the effects of occupational illnesses related to Respirable Crystalline Silica exposure.

The Respirable Crystalline Silica Program applies to all employees who have the potential to be exposed to Respirable Crystalline Silica when covered by the OSHA Standard. The OSHA Respirable Crystalline Silica Construction Standard applies to all occupational exposures to Respirable Crystalline Silica in construction work, except where employee exposure will remain below 25 micrograms of Respirable Crystalline Silica per cubic meter of air  $(25 \, \mu g/m^3)$  as an 8-hour time-weighted average (TWA) under any foreseeable conditions.

#### VENTING OF REFRIGERANT TO THE ATMOSPHERE

Effective July 1992, Section 608 of the Clean Air Act makes it unlawful for any person in the course of maintaining, servicing, repairing, or disposing of any type of equipment, to knowingly vent or otherwise knowingly release or dispose of any refrigerant in a manner which permits such substance to enter the environment. The penalty for intentionally releasing refrigerant to the atmosphere is \$25,000 per day.

It is mandatory that refrigerant be pumped into containment vessels and be reused on the same job or be "reclaimed" (cleaned up) by a licensed agency. AC Corporation's Service Department has invested in the necessary equipment and technicians have been trained to handle the refrigerant in accordance with EPA guidelines. Please consult the Service Department if you have any questions regarding refrigerant recovery.

The EPA recently clarified the proposed penalties for knowingly venting refrigerant. The \$25,000 per day penalty can be assessed against the company and the individual technician or mechanic. If the company can document that you have been properly notified of these guidelines and that the company has provided the necessary equipment, then you could be solely liable for the \$25,000 per day fine.

Failure to follow proper procedures for the anti-venting guidelines will constitute a serious violation of company policy and will result in disciplinary action which could include termination.

#### ANTI-VENTING ACKNOWLEDGMENT

**Print Name** 

I acknowledge that I have been informed of Section 608 of the Clean Air Act that makes it unlawful to knowingly release or dispose of any refrigerant in a manner which permits such substance to enter the atmosphere.

I understand that AC Corporation has purchased the necessary pump-out equipment for high pressure and low pressure machines and that Service Technicians have been trained to handle refrigerant in accordance with EPA guidelines.

Failure to follow proper procedures will constitute of disciplinary action up to and including terminate	te a serious violation of company policy and will subject meation.
Signature	Date

**Employee Number**