



Bahnsen

Mechanical Systems
An EMCOR Company

A Major Facilities Services Provider

Offering a broad range of HVAC and full mechanical services to virtually every market segment for 100+ years. From manufacturing and power generation to commercial facilities and process plants, BMS provides engineered air systems to support specialized environments. →



Building
Environments
**Beyond
Expectations**

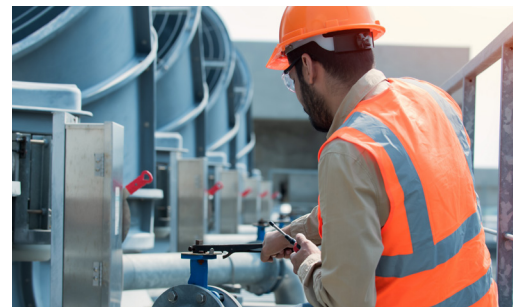
High-Performance Mechanical Systems and Services For Today's Most Demanding Environments.



For 100 + years, Bahnson Mechanical Systems (BMS) has been one of the Southeast's premier providers of single-source, complete mechanical services for commercial and industrial businesses. These professional services include engineering, design-build, construction, project management, fabrication, procurement, and preventive maintenance.

BMS also designs, supplies, installs, and services engineered air systems and components that help control temperature, relative humidity, cleanliness, and ventilation in a wide range of manufacturing, power generation, and commercial

facilities. BMS's broad range of facilities services and systems are specifically designed to help build, manage, and operate facilities more reliably and efficiently.



THE PROOF IS IN THE PROJECTS

BMS supplies in-plant environmental systems and mechanical services to a broad spectrum of customers, including:

Installations designed, fabricated, and installed for companies producing synthetic or regenerated chemical fibers, including almost 20 years continuously under contract to one major producer.

Systems for exact control of temperature and relative humidity in some of the world's largest cigarette manufacturing plants.

High-capacity industrial units to supply cooling and heating to several radial tire plants of large rubber companies. These custom design units fill a need for which there is no "off the shelf" equipment.

Giant prefabricated modular evaporative coolers supplying millions of cubic feet of air per minute to the turbine halls of fossil power plants.

Complete mechanical systems for manufacturing facilities, corporate headquarters buildings, and research centers of wellknown drug manufacturers.

Systems for exact control and uniformity of temperature and humidity in precision machining and machine tool manufacturing operations.





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Optimum Service. Sustained Performance.

Engineering

The BMS multidisciplinary engineering staff provides complete industrial and power generation engineering solutions. BMS's precisely engineered air and mechanical systems and components help control a wide array of process emissions and other factors. The result is integrated systems, engineered and designed to maintain precise conditions for efficient production while providing high-quality in-plant environments.

BMS specializes in:

- > Industrial air engineering
- > Dust control and filtration
- > Textile air engineering
- > BIM coordination

HVAC

BMS offers a complete range of HVAC and mechanical professional engineering and design services for in-plant environmental systems.

HVAC services include:

- > Capacity analysis
- > Conceptual engineering
- > Controls and instrumentation design
- > Facility management design
- > Feasibility studies
- > Green building technology (LEED)
- > HVAC design
- > Mechanical design
- > Value engineering

Construction

Construction operations have been a vital part of BMS's core business for over 50 years. Highly skilled craft and construction management experts are well versed in the knowledge of regulatory restrictions and labor laws/conditions. BMS has provided complex mechanical systems for virtually every market segment and applied "best practice" construction techniques across a diverse range of projects.

Preconstruction services include:

- > Constructability assessments
- > Design assistance
- > Final detailed estimates
- > Value engineering
- > BIM coordination

Construction services include:

- > Comfort HVAC systems
- > Controls and instrumentation
- > Environment, safety, and health programs
- > Field administration
- > Materials management, including procurement, warehousing, maintenance, and issuance
- > Process equipment millwright services
- > Process HVAC systems, including cleanrooms
- > Process piping, including:
 - Carbon and stainless steel – large and small bore piping
 - PVDF and Polypro fusion welded
- > Subcontract placement and management
- > Turnkey mechanical systems
- > Utility and service piping

Design-Build

BMS is a full-service design-build contractor able to provide end-to-end solutions for even the most demanding applications. The design-build method is ideal for clients seeking streamlined project delivery from a "one stop shop."

Advantages of the design-build project delivery model typically include:

- > Shorter delivery timelines
- > Reduced cost
- > Higher quality
- > Better risk management
- > Streamlined communication





Project Management

Our project managers work hard to meet client's complex engineering and construction needs, combining deep experience with cutting-edge tools and techniques. Their ability to balance time, costs, and quality with both identified and unidentified requirements helps us increase efficiency and effectiveness.

Fabrication

BMS fabricates specialty duct and piping components to meet stringent welding and testing standards, as well as near-zero-tolerance requirements. Preassembling components (including proprietary products) in the shop helps increase quality control, reduce jobsite clutter, and improve safety.

Building Information Modeling

We leverage the latest in BIM software and 3D scanning tools to help improve project quality and expedite schedules. Our integrated approach helps us avoid rework, identify constructability issues, leverage prefabrication opportunities, and facilitate collaboration across our team.

Comprehensive Service Solutions

BMS provides full-service preventive and predictive maintenance HVAC and mechanical solutions that can deliver exceptional value, regardless of the size or complexity of a client's facility. Technicians respond 24/7/365.

Services include:

- > HVAC, electrical, and mechanical service and repair
- > Design-build
- > Expert energy analysis, including efficiency testing and earmarking opportunities for upgrades
- > Preventive and predictive maintenance programs
- > Building automation systems

BMS maintenance services cover a wide range of systems and equipment, including:

- > HVAC systems
- > Chiller service and retrofits
- > Cooling towers
- > Computer room and data center cooling systems
- > Direct digital controls (DDC)
- > Energy services
- > Pneumatic and electric controls
- > Variable air volume systems
- > Steam and hot water boiler service and retrofit
- > Variable frequency drive applications and service

Preventive Maintenance

BMS offers customers 24/7 preventive maintenance and emergency services using a fleet of service vehicles throughout the Southeastern United States. BMS is a turnkey service provider with customized maintenance programs for specialized equipment that fall outside the realm of comfort cooling.

Services include:

- > Scheduled inspections tailored to specific client HVAC system needs
- > Annual, semi-annual, and quarterly tests and inspections
- > Monthly equipment performance inspections
- > Filter and belt maintenance including cleaning, aligning, calibrating, tightening, adjusting, and lubricating

Preventive maintenance benefits can include:

- > Energy savings
- > Minimal downtime
- > Lower operating costs
- > Extended equipment life
- > Consultative facility reviews
- > Advanced technology
- > Single-source solutions
- > Customer first philosophy



Predictive Maintenance

BMS uses maintenance techniques to determine the condition of in-service equipment and predict when maintenance should be performed.

These services include:

- > Vibration analysis, a highly precise procedure, detects deteriorating components that could eventually result in equipment downtime and disrupt operations.
- > Balancing rotating equipment keeps components steady, helping to avoid wear and tear that leads to equipment failures.
- > Laser alignment by our professionals re-aligns rotating parts and helps to keep equipment performing longer and more efficiently.
- > Infrared thermography highlights “hot spots.” Technicians see potential problems that can lead to safety hazards and expensive repairs.

Chiller Services

Properly maintained chillers provide critical comfort needs to building occupants, while helping reduce operating costs.

BMS chiller services include:

- > Centrifugal, reciprocating, and screw machines
- > Central plant optimization
- > Chiller replacement
- > Customized preventive maintenance programs
- > Non-destructive testing:
 - Eddy current tube analysis
 - Infrared scanning
 - Refrigerant analysis
 - Spectrographic oil analysis
 - Vibration analysis
- > Refrigerant conversion
- > Retubing
- > System and equipment retrofits
 - Energy savings solutions
 - VSD retrofits
 - Rooftop compressor retrofits
- > Tube cleaning
- > Temporary chiller installation

Cooling System Equipment Assessment

BMS can perform a chiller plant/cooling equipment health assessment that includes:

- > Standing leak test
- > Review running parameters
- > Review alarm history
- > Download database
- > Check system flows
- > Inspect electrical systems
- > Inspect control systems
- > Inspect cooling tower or condensers
- > Perform running inspection
- > Report findings and make recommendations to improve equipment operation

Building Automation & Controls

BMS provides air treatment systems and controls for all internal cleanroom and plant conditions—such as temperature, relative humidity, cleanliness, and ventilation, which can also include the cleaning of process emissions.

BMS controls and facility automation services include:

- > Complete system design and integration
- > Installation
- > Programming
- > Networking
- > Commissioning
- > Graphics
- > Preventive and emergency maintenance
- > Automated controls
- > Chillers
- > Electrical
- > Engineering
- > Facilities
- > Low temperature
- > Plumbing
- > Process piping
- > Refrigeration





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Grounded in Quality. Rooted in Safety. Safety and quality are engrained in the fabric of the BMS culture. Quality assurance procedures and guidelines help ensure that BMS and its subcontractors perform contract specifications and comply with current good manufacturing practices (cGMP). The standard operating procedures that have evolved from this process help ensure consistently high-quality installations and services.

**THOUSANDS OF PROJECTS.
SEVEN MAJOR MARKETS.
90%+ REPEAT BUSINESS.**

Commercial/Institutional

Government

Hospitals

Healthcare

Industrial/Infrastructure

- Heavy Manufacturing
 - Glass Manufacturing
 - Automotive
 - Non-wovens
 - Carpet
 - Pharmaceuticals
 - Fiberglass Conversions
 - Pulp and Paper
 - Textiles
 - Tobacco
 - Utility
 - Advanced Technologies
-

Life Sciences

Power

**Trained. Certified.
Compliant.**

- > Lead auditor certified to ANSI N45.2 and NQA-1
- > Quality control certified inspector-CWI and ASNT-TC-1A
- > Code of Federal Regulations, part 10, section 50, appendix B; part 10, section 830
- > American National Standards Institute, publication N45.2
- > American Society of Mechanical Engineers, publication NQA-1, base and supplemental requirements
- > U.S. Department of Energy order 414.1D

The BMS Advantage

- > Professional engineering services
- > 24-hour emergency service hotlines
- > Donaldson/Torit factory-authorized service center
- > Experienced project management
- > Extensive spare parts inventory
- > LEED certification
- > On-site training

WHAT CAN WE DO FOR YOU?

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