

LEADING THE WAY WITH ENGINEERING EXCELLENCE

HOWDEN NORTH AMERICA



ACHIEVE MORE EFFICIENT OPERATIONS WITH THE EXPERTISE OF HOWDEN ENGINEERING



Powerful air and gas movement solutions designed to help you get more from your business are the essence of Howden. Through the vast technical expertise gained from years of service to the development and acquisition of leading technologies our team is ready to provide the custom engineered equipment and services that will help drive your profitability.



Numerous industries benefit from our unsurpassed engineering excellence including, but not limited to mining, power generation, biomass, refining and chemical processing. All types of heavy duty and industrial axial and centrifugal fans are engineered to efficiently and effectively move air and gas. Compressors, blowers, fluid drives, circulating oil systems, air preheaters and auxiliary equipment further support our customer's needs.



Knowing that Howden provides the highest levels of performance and reliability gives our customers the peace of mind they need along with the ability to focus their attention on other key business issues.



BUILDING A PREFERRED PARTNERSHIP REQUIRES A FULL SERVICE COMMITMENT AT EVERY PHASE, AT EVERY HOUR, THROUGH EVERY SOLUTION.

THE COMPLETE SCOPE OF SERVICES PROVIDED BY HOWDEN ASSURES OUR CUSTOMERS' PROJECTS ARE COMPLETED ON TIME AND ON BUDGET. IT ALSO GUARANTEES THAT HOWDEN WILL SUPPLY THEM WITH ALL THE BENEFITS OF A PREFERRED PARTNERSHIP.

▶ **IN-DEPTH NEEDS ANALYSIS**

Howden engineers carefully assess the needs of the customer and offer equipment packages that are best suited to these needs and give maximum cost recovery. The team is backed by sophisticated software programs, data collection and feasibility studies which often support this process.

▶ **FULL-SCALE PROJECT MANAGEMENT**

Howden provides a full capacity of services including planning and scheduling of resources; engineering, design and drafting; procurement and subcontracting; manufacture and supply of equipment or rework of existing equipment; and site management of installation and commissioning.

▶ **LIFE CYCLE MANAGEMENT**

Howden knows that throughout the life of a plant it is possible that a fan will be required to compensate for a change in operating conditions. That is why Howden maintains a parts and service portfolio which includes legacy brands, site services, spare parts, troubleshooting, upgrades and retrofits to ensure that your needs are met at every life stage.

▶ **ENGINEERING EXCELLENCE**

Howden's team of highly qualified and experienced professional engineers uses advanced technology and skill sets to ensure that all designs are optimal. Together with an in-depth understanding of your specific processes, the most cost-effective solutions are developed.

▶ **QUALITY ASSURANCE**

Howden actively maintains a quality management system and implements continuous improvement to ensure our customers receive the right product, at the right quality level, at the right time. This includes continuous conformance to AMCA , ASME , API , NQA -1, and ISO 9001:2008 industry standards.

CONTINUOUS CUSTOMER SERVICE

Howden customer service has no boundaries and is interwoven throughout all aspects of a preferred partnership. The Howden team is committed to providing an experience where your complete knowledge, understanding and satisfaction are of greatest concern. The team is committed to being your preferred partner.

A LEGACY OF ENGINEERING EXCELLENCE AND INNOVATION

THROUGHOUT ITS HISTORY, HOWDEN HAS ACQUIRED MANY WELL-KNOWN TECHNOLOGIES, COMPANIES AND BRANDS RELATED TO AIR AND GAS HANDLING.

TAURUS

AMERICAN BLOWER

SIROCCO WORKS

CANADIAN BLOWER & FORGE

DAVIDSON & COMPANY

JAMES HOWDEN

HVAC PRODUCTS

AEREX

AMERICAN DAVIDSON

BROWN BOVERI HOWDEN

BUFFALO FORGE COMPANY

HOWDEN SIROCCO™

HOWDEN HAS THE OEM DOCUMENTATION AND EXPERTISE TO SERVICE AND SUPPLY EQUIPMENT AND PARTS ORIGINALLY MANUFACTURED AS:

HOWDEN NORTH AMERICA TIMELINE



1854 James Howden



1878



1914 Willis Haviland Carrier



1916

1854

James Howden & Company founded

1898

Samuel Davidson perfects the Sirocco™ forward-bladed centrifugal fan

1910

Sturtevant develops the first backward inclined bladed centrifugal fan

1916

H. Corblin invents the metal diaphragm compressor

1921

Sturtevant produces the first backward curved centrifugal fan in large scale use

1927

Sturtevant develops, patents and produces the radial inlet-vane controls (VIV)

1935

Howden successfully manufactures and tests the first rotary screw compressor

1878

Buffalo Forge Company founded

1905

The Vulcan Company invents and develops the fluid coupling

1914

Buffalo Forge introduces the first edition of Fan Engineering – the industry standard reference work on air and gas handling

1920

Howden supplies the first commercial air preheater

1923

Howden – Ljungstrom joint-venture is established in Glasgow and Wellsville

1932

American Blower Corporation licensed to use the Vulcan-Sinclair couplings

1945

Howden develops the airfoil centrifugal fan for boiler use

HOWDEN COMBINES THE RESOURCES OF A GLOBAL LEADER WITH THE FAMILIARITY AND RESPONSIVENESS OF A PREFERRED PARTNER.

STURTEVANT ENGART
SHELDONS MANUFACTURING CORPORATION

TELLUS SMC VARIAX®
JAMES HOWDEN & PARSONS GREEN FANS

AMERICAN STANDARD, JOY FANS, NOVENCO, WESTINGHOUSE

LEVERAGE THE EXPERTISE

Operating in 17 countries and delivering equipment to over 100 countries, Howden possesses a depth of engineering expertise that is unmatched. Around the globe, Howden companies share this depth of knowledge and application experience with their customers offering solutions that save time and money and enhance reliability.

LEVERAGE THE POWER

Howden's experienced applications specialists, engineers, project managers, maintenance technicians and highly skilled manufacturing professionals make it the industry leader in engineered fan systems both locally and on a global scale.

LEVERAGE THE COMMITMENT

In addition to our longstanding commitment to supply quality air and gas movement solutions, we are also committed to improving our environmental, health and safety performance by adherence to standards such as ISO 14001 and OHSAS 18001. By conserving natural resources and maintaining safe and healthy work environments, Howden strives to continuously improve the world around us.

1949
Sturtevant develops the 4000 series airfoil centrifugal fan

1951
Howden develops the first variable pitch axial flow fan – VARIAX®

1960
Howden develops the air preheater with adjustable sealing

1961
Howden develops the world's first oil-injected controlled capacity compressors

1984
American Davidson purchases Sturtevant

1987
Joy Manufacturing and Green are combined and renamed Joy/Green Fan

1988
Howden acquires Davidson & Company which includes
• Berry
• Sturtevant
• American Blower
• Gyrol™
• Sirocco™

1993
Howden acquires Buffalo Forge Company

1997
Howden acquires New Philadelphia Fan Company (formerly Joy/Green Fans)

1999
Howden Fan Company is renamed Howden Buffalo Inc.

2010
Howden opens the Midwest Regional Service Center in Canton, Michigan

2010
Howden Buffalo is renamed Howden North America Inc.

PROVEN TECHNOLOGY THAT INCREASES EFFICIENCY AND COMPETITIVE ADVANTAGE.

WITH EVER-GREATER DEMANDS ON PRODUCTIVITY AND PERFORMANCE, IT IS ESSENTIAL THAT PLANT PERSONNEL HAVE CONFIDENCE IN THEIR EQUIPMENT. AT HOWDEN OUR PRIMARY OBJECTIVE IS TO PROVIDE OUR CUSTOMERS WITH THE PROVEN PERFORMANCE THEY CAN TRUST.

Fan performance is a critical factor when targeting improved operational efficiencies. Howden assures this performance with a team of experienced professional mechanical and aerodynamic engineers who are fully familiar with modern design techniques that include, but are not limited to finite element analysis and computer aided design. We understand that every measure of efficiency brings more to your bottom line and gives you the opportunity to gain an edge in the market.

As a preferred partner in the success of your operation, Howden assures product reliability over the entire life cycle. Your peace of mind comes from our regular monitoring and inspections as well as troubleshooting and emergency service. Retrofit and upgrade solutions are provided to further enhance operation efficiencies. This can include changing of performance, life extension/ longer service intervals, upgrading features and adding new features. We also offer a complete inventory of critical spare and replacement parts.

HOWDEN SOLUTIONS



Centrifugal Fans



VARIAX® Fans



Axial Fans



Cooling Fans



Blowers

CENTRIFUGAL FANS

Howden offers a wide range of custom engineered and pre-engineered centrifugal fans to satisfy the needs of a diverse range of applications. From light industrial to heavy duty power generation, various output control methods are offered to provide our customers with flexible and efficient performance.

VARIAX® FANS

The VARIAX® variable pitch axial fan combines one of the highest efficiency levels available today with an exceptionally flexible, customer focused design, manufacturing and aftermarket service. Modern high-pressure blade profiles have significantly reduced the size of the fan needed to perform a given function.

AXIAL FANS

Howden axial fans are found operating in industrial processes where performance, reliability and maintainability are of paramount importance. With a wide range of diameters and a variety of attributes, they form a comprehensive series of axial fans to satisfy virtually all industrial applications.

COOLING FANS

Found in numerous industrial and commercial applications, Howden cooling fans each have their own unique characteristics based on efficiency and noise level requirements. For over 50 years, Howden has developed some of the most reliable and quietest cooling fans available.

BLOWERS

Howden centrifugal blowers provide large volume, low pressure process air for power and industrial markets. They also incorporate fully fabricated impellers and casings which allows for an extremely wide range of readily welded materials to be considered for construction.

COMPRESSORS

Howden has over 100 years of experience designing and building compressors for extreme environments where performance and reliability are critical. Our compressors are built to last and can be manufactured to API or equivalent industry standards.



Compressors



Air Preheaters



Circulating Oil Systems



Fluid Drives



Parts

AIR PREHEATERS

With more than 80 years of experience, Howden air preheaters are a proven solution to ensure optimum boiler performance. In fact, upgrading or enhancing an air preheater is usually one of the most cost-effective ways of improving boiler performance.

CIRCULATING OIL SYSTEMS

Today's advanced circulating oil technologies are designed for optimal bearing performance. The systems can help your facility improve fan reliability, reduce unplanned shutdowns and ensure compliance with safety and emissions regulations.

FLUID DRIVES

Howden Gyrol® fluid drives are used to control speed, and to absorb shock and torsional vibration. These advantages enable the user to use a lower torque motor and can extend the life of the equipment. Fluid drives are also extremely reliable; they can be operational for decades at a time.

PARTS

Howden is the official parts and new build OEM supplier for a number of well-known brands, including Sturtevant, Buffalo Forge, and American Standard. Our supply chain management and quality control enable our customers to receive the highest quality equipment at the best value.

SERVICE

Howden offers a complete portfolio of services to support our products during installation and throughout the life of the plant that range from on-site technical support to site management of installation and commissioning. This includes retrofits and upgrades of all Howden and legacy brand products.



OUR SOLUTIONS ARE USED WHERE PERFORMANCE AND RELIABILITY ARE OF CRITICAL IMPORTANCE.

AT HOWDEN, WE ARE MEETING THE NEEDS OF INDUSTRY TODAY WHILE ANTICIPATING THE NEEDS OF TOMORROW.

Howden North America is supported by product experts in local offices. We know our markets intimately, and we are used to working in industries where exceptional quality and reliability are demanded. Our national supply chain and integrated operational structure allow us to stringently control project costs and optimize the customer's return on investment. Howden engineers are world renowned for their experience and knowledge of both products and applications, and they are skilled in delivering the most efficient and cost-effective responses to customer requirements.

Working with either end users or their main contractors as required, we treat every job as an individual project with individual parameters and constraints. In virtually every case, we can offer a route to improved plant performance.



SOME OF THE INDUSTRIES WE SERVE



Power Utility

POWER UTILITY

For over 100 years, Howden has been a key partner in power production. Our engineering capabilities, rotating equipment and customer support assist customers worldwide performance.



Oil & Gas

OIL & GAS

Howden provides a wide range of equipment and services suited to the high temperatures, saline atmospheres, and remote locations that challenge the oil & gas industry.



Nuclear

NUCLEAR

Howden is the leading supplier of safety and non safety-related equipment for the nuclear industry. Since 1958, our highly engineered equipment has addressed the nuclear industry's ventilation needs.



Cement

CEMENT

Howden offers a complete range of rotating equipment and services to cement plants, including solutions for emissions control, ventilation, and wet and dry kiln processes.



Navy & Marine

NAVY & MARINE

Howden is a recognized partner to maritime industries worldwide, supplying fans and extensive knowledge of their applications in both military and commercial naval industries.

PULP & PAPER

From production processes to on-site power production, Howden answers the industry's needs for service knowhow, engineering skills, intimate process knowledge, and strong emission control experience.

MINING

Howden offers a wide range of products and services that meet the mining industry's needs for ventilation safety, engineering support, and equipment reliability.

BIOMASS

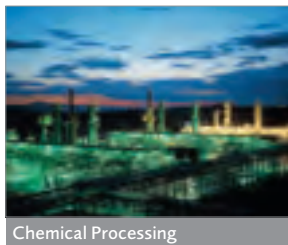
From landfill gas to energy applications to the conversion and construction of woody biomass processes, Howden has a wealth of products and knowledge to assist the biomass industry.



Mining



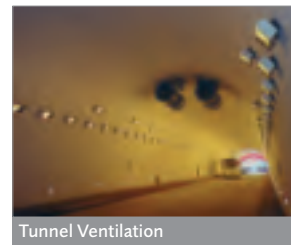
Transport



Chemical Processing



Iron & Steel



Tunnel Ventilation

TRANSPORT

Howden provides fans that meet the transportation sector's needs for high reliability. Our equipment is found in the locomotive and heavy equipment industries.

CHEMICAL PROCESSING

Howden's engineering strengths and adherence to API standards meet the industry requirements for equipment that withstands the highly corrosive and unstable environments of chemical production processes.

IRON & STEEL

Iron & steel manufacturing requires rotating equipment that can endure high temperature extremes and corrosive environments. Howden meets these requirements every day.

TUNNEL VENTILATION

Tunnel ventilation standards call for ventilation systems that perform safely and reliably in both normal and extreme conditions. Howden consistently meets these standards worldwide.

HVAC

Howden supplies centrifugal and axial fans and aftermarket support to meet the ventilation requirements of heating and cooling in industrial and commercial operations.

FROM THE ARRAY OF REGULATIONS TO THE EFFORTS TO SUSTAIN OUR ENVIRONMENT, TODAY'S INDUSTRIES HAVE A WIDE RANGE OF BUSINESS ISSUES. HOWDEN WORKS TO ENSURE THAT OUR SOLUTIONS COINCIDE WITH ALL THE NEEDS OF YOUR OPERATION.



HOWDEN – BUILDING PREFERRED PARTNERSHIPS THAT BUILD THE FUTURE

THE OPPORTUNITY IS HERE TO CREATE THE SOLUTIONS WE NEED FOR A CHANGING WORLD. HOWDEN IS READY TO RESPOND TO THOSE NEEDS...



▶ **...WITH PROVEN TECHNOLOGY**
Howden solutions are proven with more than 150 years of engineering excellence.



▶ **...WITH DEDICATED PROFESSIONALS**
Howden personnel are ready to engineer, supply and service every aspect of your project throughout its complete life cycle.



▶ **...WITH THE PREFERRED PARTNERSHIP YOU DESERVE**
Let's start a discussion today about your specific needs.



CONTACT US AT 1-800-327-8885 OR VISIT US ONLINE AT WWW.HOWDEN.COM TO LEARN MORE ABOUT HOW HOWDEN IS LEADING THE WAY WITH ENGINEERING EXCELLENCE.

Howden, founded in 1854, is the world's leading supplier of fans, blowers, compressors and rotary regenerative heat exchangers for a large range of industrial applications. Whether our fans are pre-engineered or custom built for each application, they are known throughout the world for their high levels of performance, reliability and innovation.

Combining our knowledge with our extensive applications experience, gained by our engineers on sites throughout the world, allows us to support our customers from initial project inception to end of plant life.



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