



Complex Needs –  
**Smarter Solutions**



# Complex Needs – Smarter Solutions

## COMPRESSED AIR... IT'S NOT THAT SIMPLE

At first it seems simple. Your application requires a certain volume of air, compressed to a particular pressure, and at a given air quality. Any compressor that meets those specifications should work. Unfortunately, it is not that easy.

## QUESTION OF BALANCE

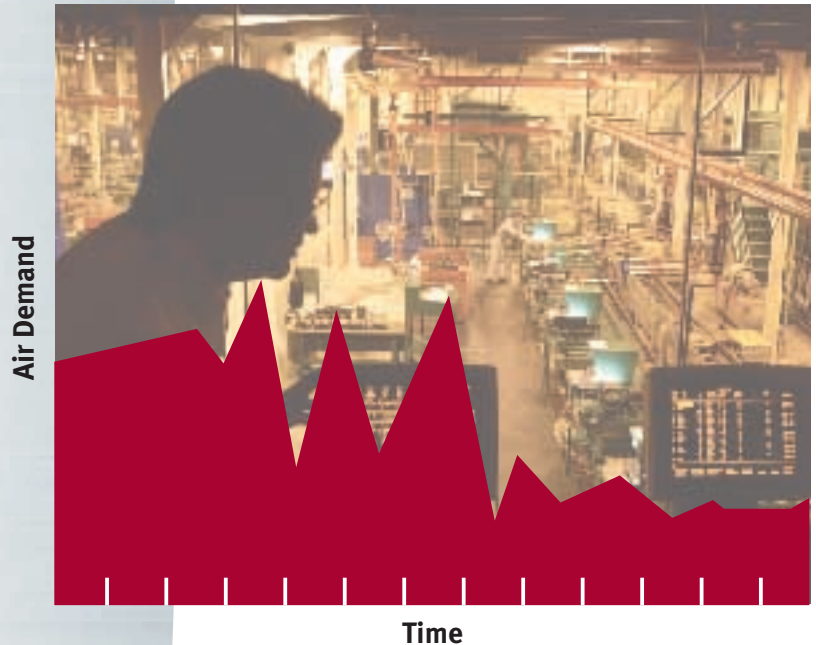
With air demands being inherently dynamic and always unique, it is critical to perfectly balance the supply of air with your constantly changing requirements. Choosing the wrong solution could result in low pressure and lost production.

*That's the first challenge.*

## THE WRONG SOLUTION IS EXPENSIVE

What do you do when you're asked to cut costs? Sacrifice valuable human resources?

*There is an alternative.  
Choose a solution that can turn  
air system inefficiencies into  
pure profit.*



# Conventional Wisdom vs. Smarter Solutions

**Conventional Wisdom** has held that occasional low pressure problems are solved with additional compressors.  
(More Power.)

**Smarter Solutions** are based on the ability to see and segment the problem so that appropriate resources are deployed at the appropriate time.

**Conventional wisdom** says that drier is better.

**Smarter Solutions** start at determining the actual process needs and designing purification methods to meet those needs.

**Conventional wisdom** says use one big compressor with an equal size back up.

**Smarter Solutions** may indicate deployment of smaller compressors providing enhanced operating efficiency and a smaller investment for back up.

**Conventional wisdom** says cover up an infrequent, short-lived, high demand event with additional compressor capacity.

**Smarter Solutions** are based on seeing and understanding the event, so that adding additional compressors can be avoided.

**Conventional wisdom** focuses on initial price.

**Smarter Solutions** are focused on attaining the lowest total COST (initial price + maintenance + energy consumption).

**Conventional wisdom** may delay routine maintenance in favor of emergency repair.

**Smarter Solutions** encourage maintenance based on actual equipment needs as determined by tracking and trending.



## **Conventional Wisdom**

- can result in lost revenue
- is often based on habitual recitation of old methods

## **Smarter Solutions**

- are fact-based solutions to solve your real-world needs.

# What makes Gardner Denver different?

## FOCUS ON THE BOTTOM LINE

Gardner Denver aligns its goals with your goals, which include paying attention to your bottom line and providing robust and reliable products that work for you rather than the other way around. Although our solutions tackle complex problems, our products and services are designed for ease of use.

## WE ANALYZE BEFORE WE ACT

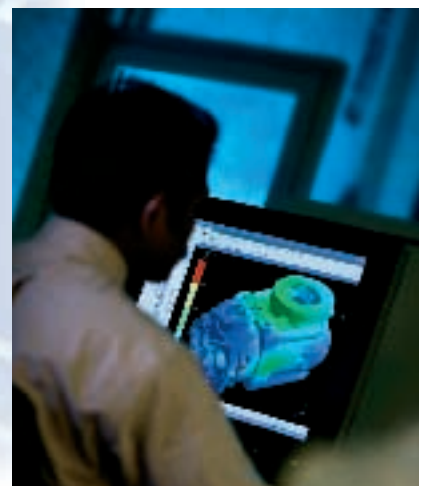
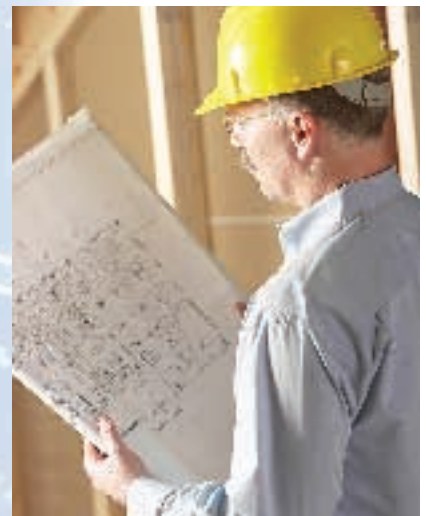
Since every air system is unique, there can be no one solution for all applications. By carefully analyzing your requirements and your existing assets we can design solutions that may surprise you.

*Sometimes, a SMARTER SOLUTION is making the most of the compressors you already have.*

It is always better to optimize your assets than to increase your capital spending. By analyzing your system we can recommend the solution that will have the greatest positive impact on your bottom line and your peace of mind.

## THE RIGHT SOLUTION REQUIRES AVAILABLE CHOICES

When new equipment is the answer, the wide breadth of our air system products and services guarantees that you will get an optimal, customized solution. Gardner Denver can handle everything from fixed capacity to variable volume requirements, at different pressures and air quality needs.



# The “Smart” in Smarter Solutions

In order to provide you with the most energy-efficient, reliable products on the market, we have a talented team of world-class engineers who have a relentless drive to develop our products. Here are some of the key technologies that have been integral in their success.

**Computational Fluid Dynamics (CFD)** is utilized to calculate and minimize pressure drop in a package, resulting in maximum performance and efficiency.

**Finite Element Analysis (FEA)** is used to calculate the strength of materials and components in various applications, which results in worry-free operation for you.

**Solid Modeling** not only improves our quality but also reduces engineering time, so that the most advanced products are available to you more quickly.

**Thermography** helps our engineers design packages with maximum heat transfer.

## SMART PARTNERS

Our strategic partnerships with industry leading companies around the world have resulted in superior products and services.

Around-the-clock service from the most dedicated, factory-trained distribution network in the world provides you with local support and expertise.



# How Smarter Solutions Drive Maximum Benefits For You

## LOWEST TOTAL COST OF OPERATION

Gardner Denver considers life-cycle cost of our products to be extremely important. We know this translates to increased profits for you. For a century and a half, this approach has satisfied customers all over the world.

## MAXIMUM UPTIME AND LONGER LIFE

First and foremost, compressors need to work... and work... and work. You will notice that in all of our product families, component selection and compressor design are focused on reliability. It just does not make sense to cut corners when downtime has such a significant impact on your bottom line.

## LOWEST ELECTRICAL COST OF OPERATION

Governments throughout the world are investing in programs to teach manufacturers how to improve the efficiency of compressed air systems.

Gardner Denver supports these efforts with state of the art research and development to produce compressors that save money with every hour of operation and services that help you manage your total air system.

**Smarter Solutions** based around power savings continues to be a way of life in all of our new generation products.



### TIME-SAVING MAINTENANCE

The phrase “Time Is Money” has never been more true than in today’s competitive environment. If your compressed air equipment is not operating, it is costing you money in lost production, missed deadlines, and upset customers.

Gardner Denver has designed **smarter solutions** that minimize the amount of time required to perform regular maintenance. If you can maximize your operating time and capacity you can realize a distinct advantage over your competitors.



### AVAILABILITY OF PRODUCT SUPPORT

Gardner Denver provides extensive product support through our factory trained and certified distributor network. Our distributors carry the parts needed to support the product after the sale, as well as the technical knowledge of how it works.

We support our distributors’ stocking efforts through Master Distribution Warehouses located in major logistics hubs around the globe. Additional support is provided via a “real time” web-based repository of technical information supplied by Gardner Denver product experts.



### AIR QUALITY

Gardner Denver is acutely aware that the quality of the air produced is equally as important as the quality of the equipment producing it. Our equipment is designed to produce the cleanest air possible.

We supply solutions that meet your expectations through ancillary equipment and products that provide the level of cleanliness your process requires.



***At Gardner Denver, we are committed to providing smarter solutions to your complex needs.***

## Smarter Solutions



### RIGHT PRODUCT, RIGHT SERVICE AT THE RIGHT TIME

Gardner Denver provides superior products for your total air system. From the smallest units used for automotive maintenance and repair to the larger compressors used to assist industrial manufacturing, our compressors are best known for their incomparable efficiency and durability measured in decades.

We also offer dryers and filters that can treat your air, no matter what the application. Our condensate drains can play a key role in keeping your system efficiency at its peak, while our condensate management products will help you handle the hazardous by-products of your air system.

One theme runs throughout all our products: Quality—it is what our company was built on, nearly 150 years ago, and, it is what continues to make us successful today.





# Service Support

While we are very proud of our compressors and ancillary products, we are equally excited about the services we can offer you to maximize your system's efficiency and maintain its productivity.

## COLLECT DATA

System performance enhancement starts with a comprehensive study (audit) of the compressed air system supply and demand relationship. This evaluation provides a baseline picture of the process demand and the compressor behavior and power consumption in reacting to the demand.

## EVALUATE

The collected data is used to generate Dynamic Efficiency Ratios and Time Weighted Demand Profiles, which provide the basis for current case cost and solution model analysis. A concise report presents the findings and solution options in a comparative summary with real time payback and cash flow information to financially qualify any solution implementations.

## IMPLEMENT SOLUTIONS

Several proven pre-engineered control algorithms are included to provide the compressed air system with Maximum Dynamic Efficiency. These solutions ensure that energy is appropriately used to provide the needed flow and pressure stability to support your unique process and production.

## TAKE CONTROL

ESP 20/20 – This system based control maximizes the operating efficiency of compressors. This is accomplished through intelligent air compressor supervision and system flow management.



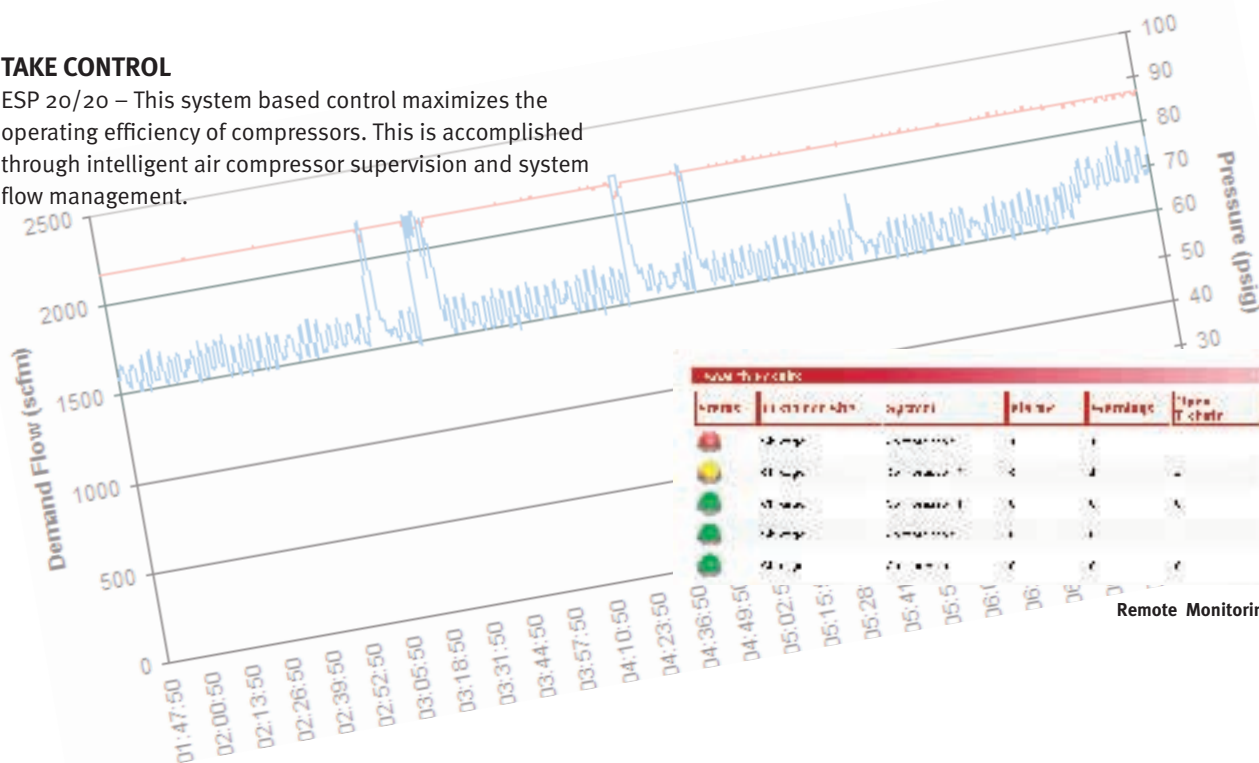
No matter what brands or types of compressors you have, the ESP 20/20 master controller can operate them all in sequence, ensuring the maximum energy savings for you.

## MONITOR

Remote Monitoring – In order to sustain the results of an enhanced system, it is necessary to continually measure and report system activity.

The Gardner Denver Remote Monitoring Service provides for web-based tracking of all supply side conditions from anywhere in the world. Day to day accountability of system performance is reported as well as notification if any problems are detected.

In addition, your local Gardner Denver authorized distributor can assist in the ongoing evaluation and preemptive resolution of otherwise expensive system failures and unplanned down time.



Remote Monitoring

# A Long History of Innovation and Excellence

For almost 150 years Gardner Denver has been a technology leader. With operations in 30 different countries on six continents, and a worldwide network of distributors and partners, Gardner Denver can make a difference in your profitability with its industrial products and services.

Gardner Denver products can be found in nearly every industry imaginable with an equally broad customer base and a continuously expanding instal base of applications. Gardner Denver's products can be readily found in the Industrial, Service/Food, Environmental, and Energy Sectors. Here are just a few such applications:

## Serving Our Customers in the **Industrial Sector**

- General Plant Air
- Locomotive Braking and Air Systems
- Pharmaceutical Manufacturing
- PET Bottle Blowing

## Serving Our Customers in the **Service/Food Sector**

- Medical and Dental
- Automotive Service and Rental
- Utility and Road Service Vehicles
- Food Service

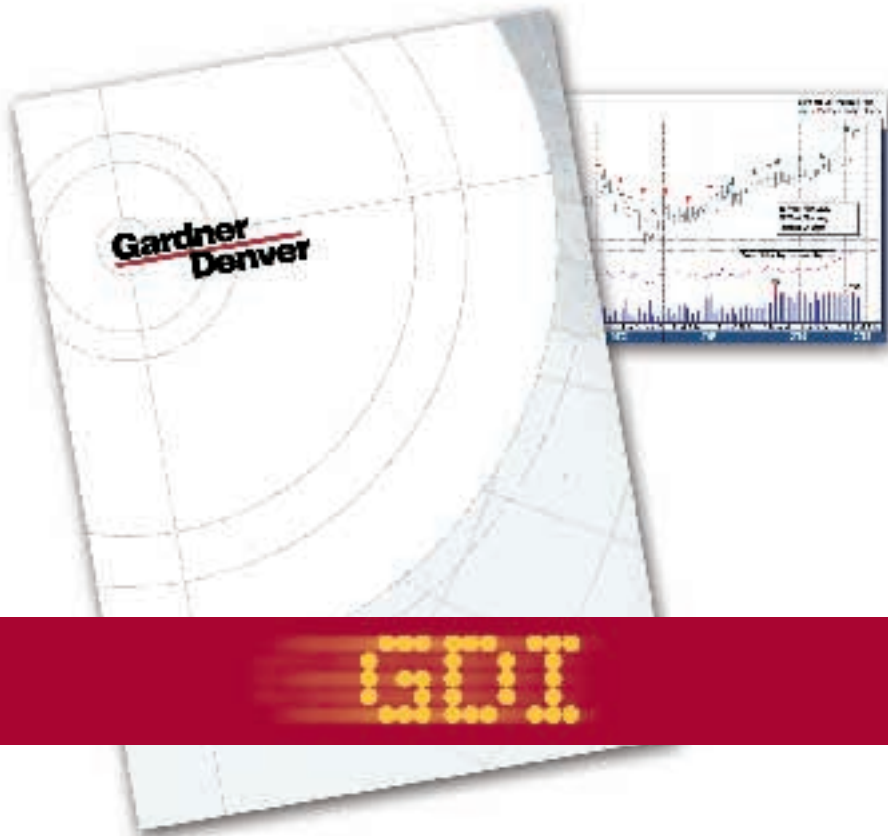
## Serving Our Customers in the **Environmental Sector**

- Soil Remediation
- Landfill Gas and Vapor Recovery

## Serving Our Customers in the **Energy Sector**

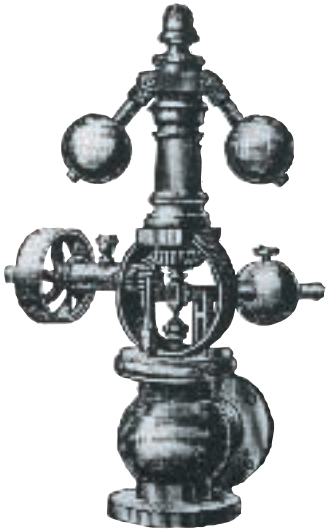
- Power Generation
- Natural Gas Compression and Movement

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**GD**

## Our Story



The foundation of the Gardner Company was laid in 1859 when Robert W. Gardner redesigned the “fly-ball” governor, providing speed control for steam engines. In the 1890s, Gardner ventured into steam pumps, and mud pumps used in the exploration for oil. Then, in 1901, Gardner introduced the company’s first air compressor. Gardner steadily built the company to be a major supplier of the highest quality industrial machinery.

The company got its name in 1927, when the Gardner Governor Company merged with the Denver Rock Drill Company, forming Gardner Denver. The company continued to grow until it was acquired in 1979 by Cooper Industries. Under the direction of Cooper Industries, the Gardner Denver Industrial Machinery Division continued to grow for fourteen successful years. Then, in October 1993, Gardner Denver was spun off from Cooper Industries in an initial public stock offering as a new entity, Gardner Denver, Inc.

Since then Gardner Denver, Inc. has continued to grow with fifteen successful acquisitions including the 1997 acquisition of Tamrotor®, based in Tampere, Finland, the 1998 acquisition of Champion® Pneumatic in Princeton, Illinois and the 2001 acquisition of Hamworthy Belliss & Morcom®. Each acquisition has furthered the global scope and product breadth of Gardner Denver.

Today Gardner Denver continues to grow via strategic acquisition, new product development, and global expansion. In total, Gardner Denver products include: Gardner Denver rotary and reciprocating compressors and ancillary products; Tamrotor rotary and marine compressors, Champion brand compressors, Wittig® sliding vane compressors, and the Syltone®, nash\_elmo® and Emco Wheaton® brands.

From successful global competition to truly local service and support, Gardner Denver has developed and acquired the technologies and companies to provide the highest quality product and services to customers, wherever they may be. Through it all, Gardner Denver thrives to address our customers Complex Needs with Smarter Solutions.



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**Smarter Solutions**

# Gardner Denver®

For additional information please  
contact your local representative or  
Gardner Denver Oy,  
P.O.Box 516, 33101 Tampere, Finland  
Telephone +358 (0) 205 44 141  
Telefax +358 (0) 205 44 140  
info@gardnerdenver.fi  
www.gardnerdenver.fi

