POSITIVE DISPLACEMENT BLOWERS & VACUUM PUMPS

Water & Wastewater Treatment Solutions
Water & Wastewater Treatment Solutions

Gardner Denver understands the complex needs and challenges of the water and wastewater industries and offers a unique range of bare blowers and blower packages known for their excellent performance and low maintenance.

- Energy-efficient rotary screw blowers
- Quiet helical tri-lobe blowers
- High performance straight-lobe blowers
- Pressure to 36 psi
- Air flow to 26,000 cfm
Wastewater Industry Processes

Grit Aeration
- Air is blown into the water, which creates a spiral flow of water
- Particles of a certain size drop to the bottom of the chamber, and are removed
- The wastewater is then moved onto the next process

Channel Aeration
- Air is pumped through diffusers into tanks containing wastewater
- The diffusers create bubbles, raising the level of dissolved oxygen
- The dissolved oxygen promotes the growth of bacteria that help remove the phosphates in the water

Aerobic Digestion
- Process of oxidizing and decomposing organic material, with the presence of oxygen
- Helps reduce mass and volume, as well as harmful microorganisms
- The most widely used wastewater treatment process for smaller plants

Sludge Digestion
- Digestion process with absence of oxygen
- Transforms organic material into gases, such as methane, which can then be used or sold as an energy source
- The most widely used wastewater treatment process for large plants, over 5 MGD

Filter Backwash
- Air is used to expand the filter bed, breaking up compacted material
- Clean backwash water is pumped in, suspending the loose particles
- The suspended particles are lifted into troughs and carried away
It’s all about... the Complete Package

Gardner Denver has more blower package options than anyone else. We can help you customize your system to meet your needs. More technology designs provide tailored options for you.

- Smart Design
- Easy Maintenance
- Compact Installation
- Quiet Operation
- Enclosed or Unenclosed Available
- Inverter Duty Motors for VFD Capabilities

IQ-RB

SIMPLE
Straight Tri-Lobe
Pressure to 15 PSI
Vacuum to 15 inHg
5,500 Max CFM
3–500 HP
Fixed Speed
Mechanical Gauges
SMART
Twisted Tri-Lobe
Pressure to 15 PSI
Vacuum to 17 inHg
1,500 max CFM
7.5–100 HP
Fixed Speed or VFD
AirSmart Controller

EFFICIENT
3×5 Helical Screw
Pressure to 36 PSI
5,625 Max CFM
7.5–500 HP
Fixed Speed
AirSmart G2 Controller

Patented Rotor Profile
High Efficiency up to 36 PSI
It’s all about the...

Reliable Monitoring

- AirSmart controls available on the IQ and IQ-HE
- Can communicate with various plant control systems including SCADA

Sequence up to
Eight Blower Packages

- Can be process or timer operated
- Allows distribution of operating hours
- Reduces downtime for maintenance
Protection

Constant monitoring with the AirSmart G2 Controller gives you peace of mind by offering the highest levels of protection and functionality to your blower package.

Customizable Maintenance Timers

- Track maintenance schedules
- Notify operator when routine service is required
It’s all about the...

Variable Helix

The CycloBlower VHX utilizes the world’s first variable helix rotor design

**Innovation is in our DNA.** Much like DNA, the rotor design of our blowers dictate what they become. Gardner Denver has a legacy of leadership developing the world’s best blowers.

The CycloBlower VHX utilizes the WORLD’S FIRST variable helix screw rotor design. By adding a variable helix to our helical screw rotor design, we achieve new, unmatched levels of blower performance and efficiency.

**Why Variable Helix?**

- Faster Internal Compression
- Significantly Larger Discharge Port
- Eliminates Air Losses
- Higher Efficiencies
- Efficient Turndown Capability
- Save up to 35% on your Energy Costs

### CYCLOBLOWER® VHX

<table>
<thead>
<tr>
<th>Technology</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 × 5 VARIABLE HELIX SCREW</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>CFM</th>
<th>PSI</th>
<th>InHg</th>
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</thead>
<tbody>
<tr>
<td>UP TO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>775</td>
<td></td>
<td>20</td>
<td>18</td>
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</tbody>
</table>

### HORSEPOWER SAVINGS

- **VHX RC1**
- **VHX RC2**
- **Tri-Lobe***
- **Bi-Lobe***
- **Fixed Helix Screw**

*Bi-Lobe & Tri-Lobe available to 15 psi Horsepower @ 600 cfm

*% horsepower savings when using the VHX compared to alternate technologies

Save up to **35%** on Your Energy Costs
It’s all about...

Saving Money

TOTAL COST OF BLOWER OWNERSHIP

- Energy consumption is typically the largest cost of ownership
- Save BIG with best-in-class energy efficiency
- Lower your bottom line, increase your profits

CYCLOBLOWER® H.E.

<table>
<thead>
<tr>
<th>TECHNOLOGY</th>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 x 5 HELICAL SCREW</td>
<td>Game changing patented design</td>
</tr>
<tr>
<td></td>
<td>Best-in-class energy efficiency</td>
</tr>
<tr>
<td></td>
<td>Built with the best-of-the-best components</td>
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<tr>
<td></td>
<td>Flexible options &amp; installation</td>
</tr>
<tr>
<td>UP TO 6,200 CFM</td>
<td></td>
</tr>
<tr>
<td>36 PSI</td>
<td></td>
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<tr>
<td>22 InHg</td>
<td></td>
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</table>
Innovation Working for You!

In many comparable applications, the CycloBlower operates more efficiently than other straight-lobe blowers. By requiring less brake horsepower (BHP) energy operating cost can be realized and greatly reduced.

## BRAKE HORSEPOWER REQUIREMENT COMPARISON
at 2000 CFM

<table>
<thead>
<tr>
<th>PSIG</th>
<th>BHP</th>
<th>TYPICAL STRAIGHT LOBE BLOWER</th>
<th>CYCLOBLOWER H.E.</th>
<th>ENERGY SAVINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>50</td>
<td>100</td>
<td>60</td>
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<td>6</td>
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<td>18</td>
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<td>450</td>
<td>400</td>
<td>50</td>
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<tr>
<td>20</td>
<td>450</td>
<td>500</td>
<td>450</td>
<td>50</td>
</tr>
</tbody>
</table>

## INVEST WISELY
REDUCE ENERGY

## Save Money

### CYCLOBLOWER H.E. VS. STRAIGHT LOBE

<table>
<thead>
<tr>
<th>BLOWER TECHNOLOGY</th>
<th>BHP USED @ 15 PSI</th>
<th>ENERGY COST PER YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Straight Lobe</td>
<td>163</td>
<td>$106,695</td>
</tr>
<tr>
<td>CycloBlower H.E.</td>
<td>129</td>
<td>$84,604</td>
</tr>
</tbody>
</table>

**$22,090 ANNUAL SAVINGS**

*Calculations based on the cost of providing 2,000 cfm of air for 8,760 hours (1 year of 24/7 operation) assuming motor drive efficiency of 90% and electricity cost of $0.09/kWh.*
It’s all about the...

Quiet Operation

A Strategic Solution, for Sound Management
Lower Noise

Discharge pulsation is the chief contributor to high noise levels. HeliFlow provides the lowest pressure pulse in the lobe blower market. This reduces noise levels by 4–7 dBA over similar sized, straight-lobe blowers.

Reduced Pulsations

HeliFlow provides more consistent flow variation, reducing the potential for damage to downstream valves and instrumentation.

Higher Reliability

Discharge pressure pulsation causes axial thrust and higher variations in torque resulting in reduced bearing life. The HeliFlow smooth pulse operation extends the life of the blower.

HELIFLOW®

<table>
<thead>
<tr>
<th>TECHNOLOGY</th>
<th>SPECIFICATIONS</th>
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<tbody>
<tr>
<td>TWISTED TRI-LOBE</td>
<td>■ Significant noise reduction over straight lobe technologies</td>
</tr>
<tr>
<td></td>
<td>■ Lowest pressure pulses in lobe blower market</td>
</tr>
<tr>
<td></td>
<td>■ Quiet, shock-free compression</td>
</tr>
<tr>
<td></td>
<td>■ Reduced Pulsations = Quieter Operation</td>
</tr>
<tr>
<td></td>
<td>■ Protect your employees hearing and improve safety</td>
</tr>
<tr>
<td></td>
<td>■ Increased efficiencies</td>
</tr>
<tr>
<td>UP TO 4,500 CFM</td>
<td></td>
</tr>
<tr>
<td>18 PSI</td>
<td></td>
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<tr>
<td>17 inHg</td>
<td></td>
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</tbody>
</table>
It’s all about...

the RBS Series

AVAILABLE IN 29 SIZES

OPTIONS

- Stainless Steel Options
- High Vacuum Options
- Force Feed Lubrication
- Pre-Package Availability
- Special Seal Options

RBS SERIES

<table>
<thead>
<tr>
<th>TECHNOLOGY</th>
<th>SPECIFICATIONS</th>
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<tbody>
<tr>
<td>STRAIGHT TRI-LOBE</td>
<td>Solid Tri-Lobe rotors offer quiet, efficient operation</td>
</tr>
<tr>
<td></td>
<td>Robust design for reliability</td>
</tr>
<tr>
<td></td>
<td>Flexible mounting options for easy drop in replacement</td>
</tr>
<tr>
<td></td>
<td>Dual splash lubrication</td>
</tr>
<tr>
<td></td>
<td>100,000 hour bearing life</td>
</tr>
<tr>
<td></td>
<td>Increased efficiencies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UP TO</th>
<th>CFM</th>
<th>PSI</th>
<th>InHg</th>
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</thead>
<tbody>
<tr>
<td>14,570</td>
<td></td>
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</tbody>
</table>
Design Advantages

Dual Splash Lubrication
Reliable dual splash lubrication on both the drive and gear ends for longer product life.

Helical Gears
Helical timing gears for smooth and quiet operation at all speeds.

Leak Free Operation
Piston rings and flinger maximize seal life in continuous severe duty applications.

Durable Shafts
High strength shafts that allow higher operating pressures and rotation speeds.

Long Life Bearings
Reinforced roller bearings are calculated for a lifespan of 100,000 hours under the most severe operating conditions.

Three-Lobe Rotors
Involute Three-Lobe Rotors offer the highest performances and efficiencies.

Single Piece Cylinder
High strength impeller case is heavily ribbed and machined from a single piece of cast iron to retain internal clearances and improve heat dissipation.
It’s all about…

Legenday Products

**SUTORBILT SERIES**

<table>
<thead>
<tr>
<th>TECHNOLOGY</th>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI-LOBE Sutorbilt</td>
<td>The most versatile blower available</td>
</tr>
<tr>
<td></td>
<td>Over 240 configuration options</td>
</tr>
<tr>
<td></td>
<td>Grease or dual splash lubrication</td>
</tr>
<tr>
<td></td>
<td>Quiet series option</td>
</tr>
</tbody>
</table>

**UP TO**

- **26,000 CFM**
- **15 PSI**
- **24 InHg**
Sutorbilt Legend
2–8" Gear Sizes

Tried & Trusted for Over 30 Years

■ Available dual splash lube
■ Optional Q-cylinder for quiet operation
■ Universal flex-mount design provides maximum installation versatility
■ Low up front cost
■ Thousands of units in operation

Sutorbilt 4500, 4800 Series
6–8" Gear Sizes

Setting the Industry Standard

■ Rated for continuous duty
■ Permits higher speeds and performance ratings
■ Advanced case design with increased vent areas
■ Heavy duty construction provides longer life

Sutorbilt 8000 Series
10–22" Gear Sizes

Large Air Solutions

■ Force feed lubrication available
■ Optional Q-cylinder for quiet operation
■ One piece steel shafts with dynamically balanced rotors
■ Wet vac option
It's all about…

the Network

TECH SUPPORT

FAST response

24 HOUR SERVICE

LOCAL RELATIONSHIPS

YOU

OEM PARTS

LOCAL SUPPLY

CERTIFIED Service
We’re Where You Need Us
Quality Promise

- Gardner Denver industrial blowers are manufactured under rigid ISO 9001 quality standards
- All models are thoroughly tested to meet the highest performance standards for unequalled service life under the most severe operating conditions

Genuine Gardner Denver Parts & Lubricants

- Maintain the Gardner Denver performance advantage and reliability with Genuine GD Replacement Parts available through authorized sales and service representatives
- Protect your Gardner Denver investment with AEON PD, the only lubricant specially formulated for all blowers in any environment
  - Now Available:
    >> AEON PD-XD (extreme duty)
    >> Designed specifically for high ambient and high discharge temperature applications
  - Also Available:
    >> AEON PD (standard applications)
    >> AEON PD-FG (food grade)

Distribution & Service Network

Gardner Denver is proud to offer the most extensive and qualified distributor network available. Local Distributors offer 24-hour service and technical support for all your needs.