

Multistage Centrifugal Blowers/Exhausters



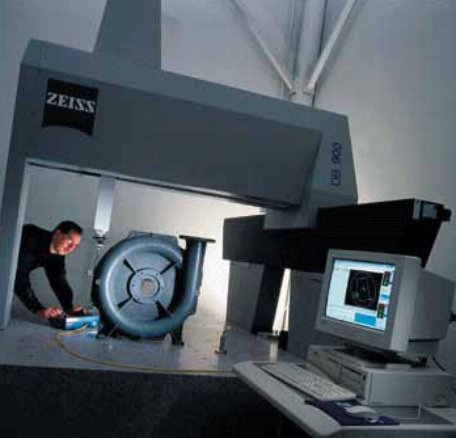
LAMSON 
A Gardner Denver Product

HOFFMAN 
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GD
GARDNER DENVER

Experience Proven Results™

One Plus One Equals Number One In Multistage Centrifugal Blowers



For more than 100 years, two names were synonymous with multistage centrifugal blowers: Lamson and Hoffman. Today, those legacies are joined under the Gardner Denver name, creating the most comprehensive multistage centrifugal blower offering in the world – the Gardner Denver Multistage Centrifugal brand.

Anchored in tradition, this new Gardner Denver Multistage Centrifugal line-up continues a century long commitment to providing customers with innovative blower design, a comprehensive product line, quality manufacturing and unparalleled responsiveness to customer requirements and service.

Today, as the largest manufacturer of blowers/ exhausters in the world, our number one priority continues to be developing long-term relationships with our customers. We are continually improving delivery and response times, while setting the highest performance standards in the industry.

Never in the history of multistage centrifugals has there been a company as capable of delivering great value, exceptional quality and quick turnaround on orders. So the next time you're evaluating options for multistage centrifugal blowers, call a Gardner Denver professional sales representative to assist you with your application challenges and requirements. Our factory trained representatives are conveniently located throughout the United States and around the world.

Blowers and Exhausters That Serve A Wide Range Of Applications

The range of applications for Gardner Denver® Lamson® and Hoffman® Centrifugal products is ever-expanding and is firmly illustrated with over 200,000 machines in operation. In the water treatment market, air is provided to water and wastewater aeration systems and air scouring/filter backwashing. Lamson and Hoffman blowers can be specified for coarse/fine bubble diffuser systems, reactor batch supplemental air, digester gas boosters, grit channels and sludge digestion applications. In the industrial market, our blowers provide air or gas for sulfur recovery, combustion air, process gas boosting, coal mine venting, fluidized bed combustion systems, vapor and gas extraction, composting, sludge incineration and printing systems, to name a few. Gardner Denver Engineered Vacuum Systems are used to pick up, convey and capture a myriad of materials ranging from aluminum granules to corn flakes. The experienced Gardner Denver team, backed by years of research and development, provides effective, affordable solutions for a variety of application needs.

Blowers and Exhausters

That Serve a Wide Range of Applications

Industrial Processing

Aeration Basins
 Air Drying
 Air Flotation and Sliding
 Air Knife Stripping
 Blow-off Systems
 Carbon Black
 Coal Gasification
 Combustion Air Blowers
 FGD – Forced Oxidation
 Fluidized Bed
 Gas Boosting
 – O₂, CO₂, N₂, etc.
 Gas Recovery
 Landfill Gas
 LNG Vaporizers
 Printing Operations
 – Turning Bars
 – Dryers
 – Binding Applications
 Pulp Dewatering
 Steel Plating Baths
 Sulfur Recovery
 Vapor Recompression

Water & Wastewater Treatment

Aeration
 Aerobic Digestion
 Biogas
 Digester Gas Boosters
 Filter Backwashing/
 Air Scouring
 Grit Chambers

Engineered Vacuum Systems

Clean Rooms
 Electronics
 Explosive Dust
 Collection
 Flux Recovery
 Housekeeping
 Nuisance Dust Collection
 Oral Evacuation
 OSHA Standard Required
 Pneumatic Conveying
 Powder Paint
 Product Reclamation
 Sanitary/Product Quality
 – Bakeries
 – Flour/Grain Mills
 – Food Products
 – Pharmaceuticals
 Source Capture

Your Application

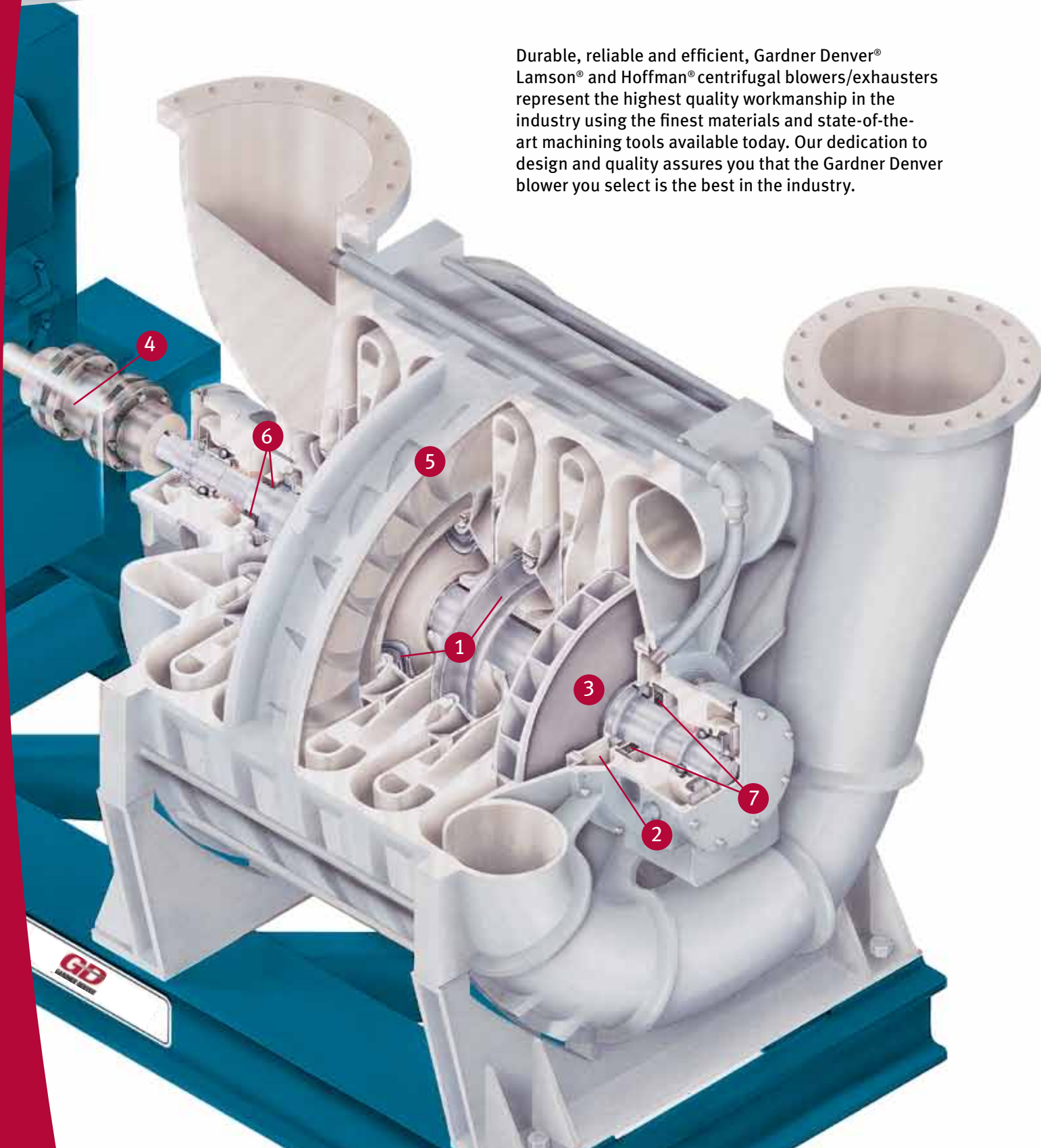
Contact us for design assistance for your unique application.



Superior Quality In Design, Materials, and Workmanship



Durable, reliable and efficient, Gardner Denver® Lamson® and Hoffman® centrifugal blowers/exhausters represent the highest quality workmanship in the industry using the finest materials and state-of-the-art machining tools available today. Our dedication to design and quality assures you that the Gardner Denver blower you select is the best in the industry.



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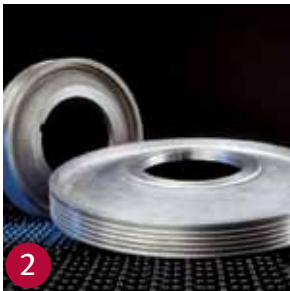
Multiple Baffle Rings

Many models feature our patented Multiple Baffle Rings (MBR™) which help turn airflow smoothly into the eye of the impeller, dramatically reducing inlet passage losses. MBR combined with the two-dimensional impeller design increases blower efficiency and pressure/vacuum capability.



Flexible Coupling

Blowers/exhausters connect directly to the power source with a precision aligned flexible coupling. This optimizes power transfer and minimizes bearing loads for longer life.



Balance Piston

A balance piston is located at the outlet end of the rotating impeller assembly to compensate for the axial force of the impellers on the inlet bearing. This greatly increases bearing life for longer, trouble-free operation.



Cast Housing

Blower housings are precision machined from high-grade cast iron. Smaller models are cast aluminum. The intermediate blower sections are assembled together using high strength steel tie rods. The blower and its driver are mounted together on a single steel baseplate. This assures long lasting performance and durability.



Multistage Shrouded Impellers

Two-dimensional shrouded cast aluminum impellers are balanced individually and keyed onto the shaft. On most blowers, the complete assembly is then balanced to achieve smooth operation with lowest vibration levels in the industry. Rotor assemblies are designed to operate well below first critical speeds for added reliability.



Labyrinth Seal

Non-contact, non-wearing labyrinth air seals are standard. This no-maintenance seal is used in most air and some gas applications (purge option available).

Carbon Ring Seal

For special air and gas applications requiring superior sealing, optional carbon ring seals are available with purge option.

Performance & Specifications



Models to 41,000 cfm

Gardner Denver offers the most complete range of Lamson and Hoffman multistage centrifugal blower/exhauster models to meet your needs. Each base model presents its own unique performance characteristics and design features that are illustrated in the chart below and the air maps on the following pages.

CF Select™ Precision Sizing Service

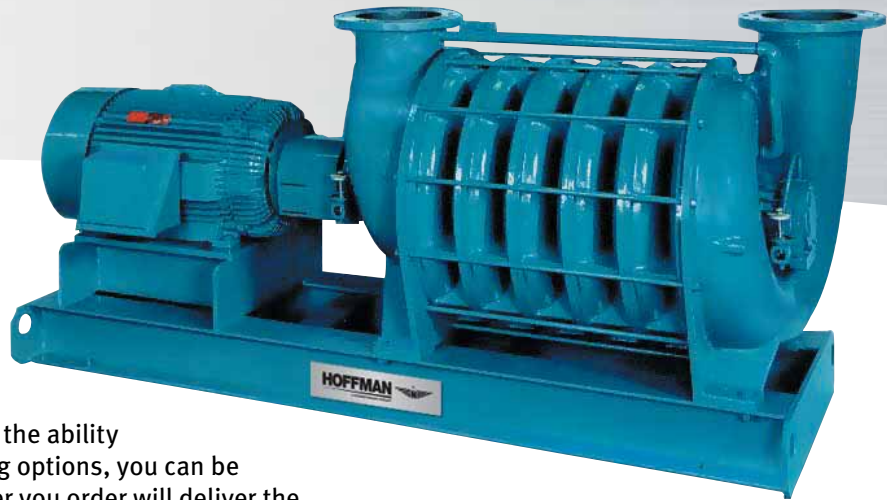
To help customers select the optimal blower or exhauster for their operation, Lamson and Hoffman engineers use Gardner Denver CF Select, a computerized sizing service. CF Select software can create an infinite number of performance curves for pressure, efficiency, temperature and power consumption. Based on the specific gas mixture, inlet conditions, flow and pressure/vacuum requirements, CF Select selects the most appropriate model, impeller design, operating speeds or throttling options.

Gardner Denver Performance Specifications

	260	310	400	510	725	550	42	732	850	741	870
Blower/Exhauster Capacity											
Minimum Flow (cfm)	100	60	70	150	150	200	50	400	550	650	1,000
Maximum Flow (cfm)	440	450	1,050	1,300	1,310	1,300	1,200	2,400	3,200	4,400	5,500
Minimum Flow (m ³ /h)	170	405	120	255	250	340	85	650	935	1,100	1,700
Maximum Flow (m ³ /h)	680	765	1,785	2,210	2,200	2,210	2,050	4,100	5,440	7,500	9,350
Maximum Pressure (psig)	8.6	7.4	7.2	11.8	16.5	11.8	9.75	15.2	14.7	16	17
Maximum Pressure (bar)	0.6	0.6	0.51	0.81	1.14	0.81	0.67	1.05	1.01	1.1	1.17
Maximum Vacuum ("Hg)	11.2	11.2	9.9	13.7	16	13.7	12	15	15.2	15.5	16
Maximum Vacuum (mm Hg)	284	284	251	348	400	348	300	380	386	380	406
Maximum Number of Stage	5	11	10	10	7	10	8	10	9	9	9/10*
Design Benefits											
Single Baffle Ring						□		□	□	□	□
Multiple Baffle Rings (MBR)								□		□	□
Balance Piston											
Lubrication	Grease	Grease	Grease	Gr/Oil	Oil	Gr/Oil	Gr/Oil	Gr/Oil	Gr/Oil	Gr/Oil	Gr/Oil
Labyrinth Seal	□	□	□	□		□		□	□	□	□
Carbon Ring Seal				○	□	○	□	○	○	○	○
Connections											
Inlet (125# ANSI)	2 1/2"	3"	5"	5"	6"	6"	6"	6"	8"	8"	10"
Outlet (125# ANSI)	2 1/2"	3"	5"	5"	5"	5"	6"	6"	8"	8"	8"

Size and Performance To Fit Your Application

With 22 models to choose from and the ability to specify a variety of manufacturing options, you can be assured that the blower or exhauster you order will deliver the performance you expect. In addition to the base models available, customers can choose from a variety of design options such as special coatings, alternative component materials, oil or grease lubrication, special seals, drive couplings and power sources. The Gardner Denver Lamson and Hoffman blower/exhauster you specify is then manufactured according to your unique application and requirements.



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Gardner Denver Performance Testing Lab

Lamson and Hoffman blowers and exhausters are tested in our state-of-the-art test facility in Peachtree City, Georgia. Using the most sophisticated testing equipment available in the industry, we test units up to 3,000 horsepower in accordance with the latest edition of the ASME test code PTC-10, ISO and all other applicable international standards. Units are brought into this two-story laboratory and connected to a specialized power unit and precision monitoring equipment. The blower/exhauster is then tested and evaluated for performance characteristics, noise level and vibration. Overall performance data is captured in real time for performance curve evaluation and documentation. We frequently host performance testing for customers and inspectors from all over the world.



	742	751	1260	752	1270	761	1400	1600	1875	2000	2400
Blower/Exhauster Capacity											
Minimum Flow (cfm)	700	950	1,250	3,250	1,175	1,250	2,300	3,000	3,000	5,000	10,000
Maximum Flow (cfm)	4,800	8,500	8,000	9,000	8,500	14,500	14,500	12,000	15,000	24,000	40,000
Minimum Flow (m ³ /h)	1,200	1,600	2,125	5,500	2,000	2,100	3,900	5,100	5,100	8,500	17,000
Maximum Flow (m ³ /h)	8,100	14,500	13,600	15,300	14,400	24,600	24,650	20,400	25,500	40,800	68,000
Maximum Pressure (psig)	20.8	12.5	14.3	19.5	17.3	13	12.6	17	19	19	22
Maximum Pressure (bar)	1.43	0.86	0.99	1.34	1.2	0.9	0.87	1.17	1.31	1.31	1.52
Maximum Vacuum ("Hg)	18	13.7	14.8	17	16.2	14	13.8	16	17	17	17.6
Maximum Vacuum (mm Hg)	450	350	375	425	412	350	351	406	432	432	447
MAXimum Number of Stages	11	7	8	10	8/9*	7	7/8*	7/8*	7	7/8*	5/6*
Design Benefits											
Single Baffle Ring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>				
Multiple Baffle Rings (MBR)					<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Balance Piston	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lubrication	Gr/Oil	Oil	Oil	Oil	Oil	Oil	Oil	Oil	Oil	Oil	Oil
Labyrinth Seal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carbon Ring Seal	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Connections											
Inlet (125# ANSI)	10"	12"	12"	14"	14"	14"	18"	16"	20"	20"	24"
Outlet (125# ANSI)	8"	12"	12"	10"	12"	14"	14"	14"	18"	18"	20"

Air map data is representative of maximum RPM design for each model with standard conditions at 60 Hz.
 *Maximum stages at 50 Hz. ** 2 7/8" as cast O.D. (standard), 2 1/2" male N.P.T. or 2 1/2" threaded ANSI flange. Standard Optional
 Contact your Gardner Denver Representative for job specific blower sizing.



Choose From Multiple Drive Options

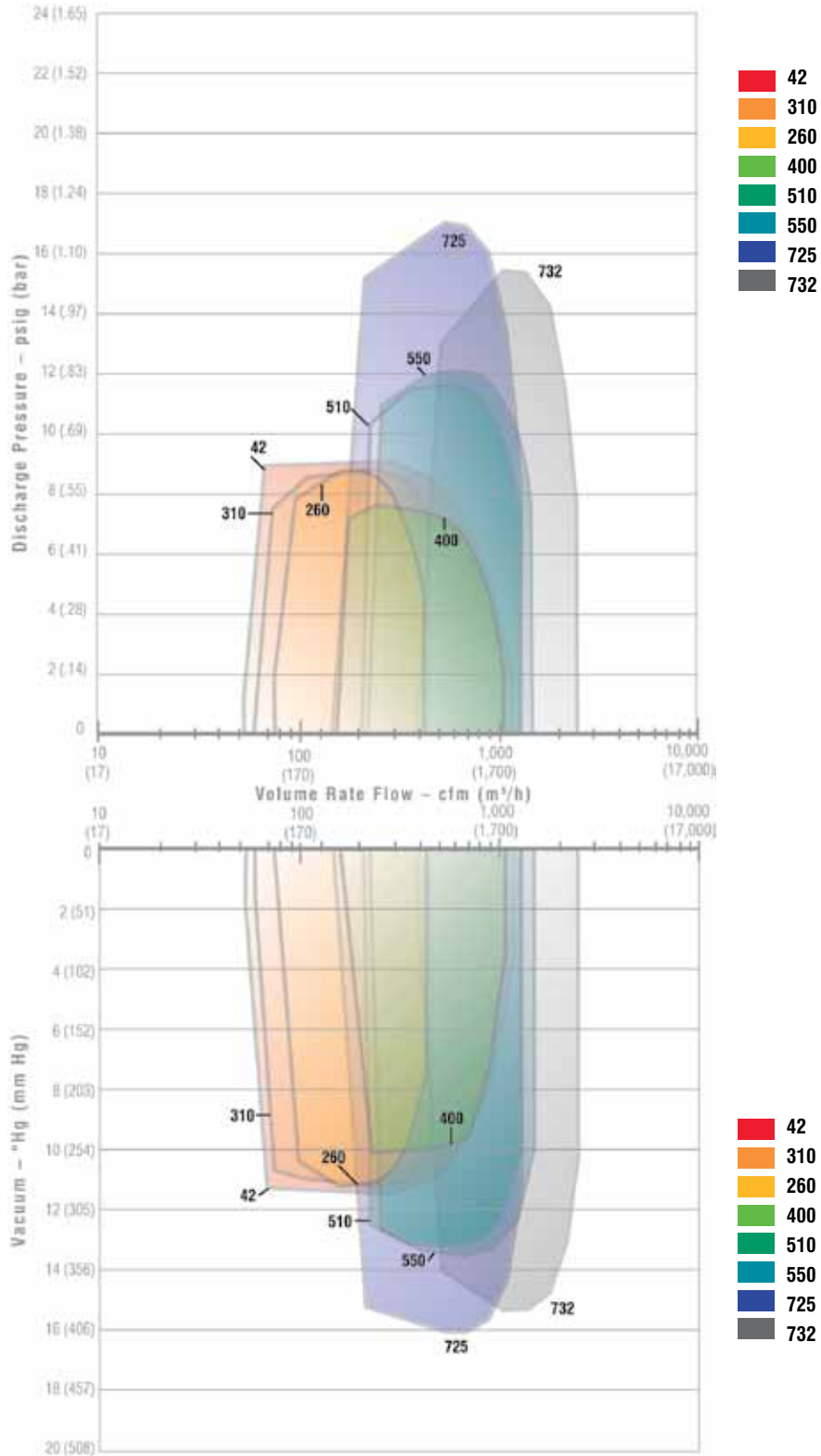
Lamson and Hoffman blowers and exhausters may be direct driven, V-belt driven or gearbox driven with an electric motor. Alternative drivers include steam turbines, diesel engines, gasoline engines and liquid petroleum or methane gas engines. Also available is the Gardner Denver ESP™ (Energy Saving Performance) variable frequency drive system. The ESP system automatically adjusts airflow output to match the actual airflow demand. The blower/exhauster power requirement adjusts automatically resulting in energy savings. Your Gardner Denver representative can work with you to determine the best drive option and configuration to match your application.

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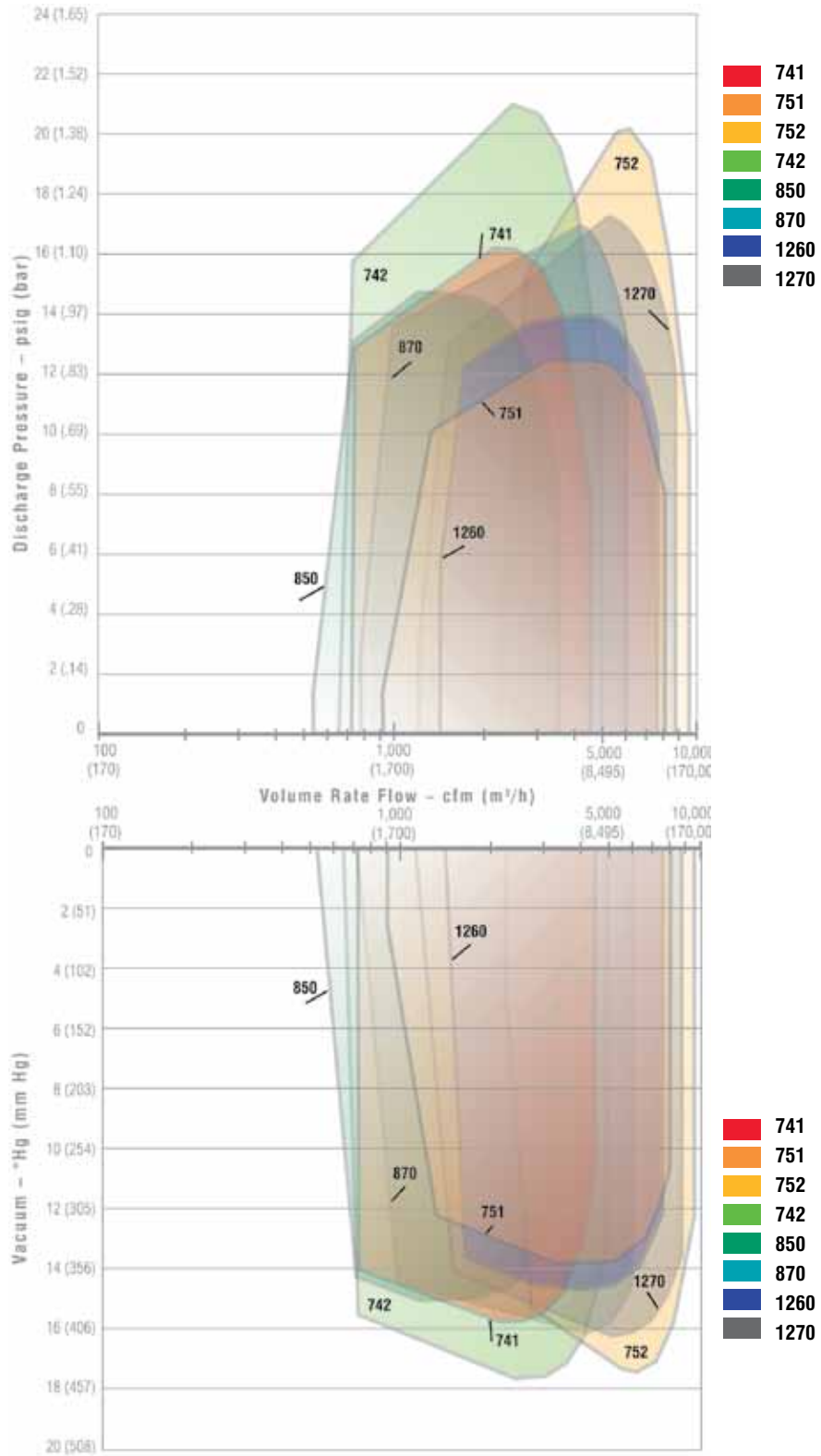
Air Maps

Gardner Denver Models 42-732

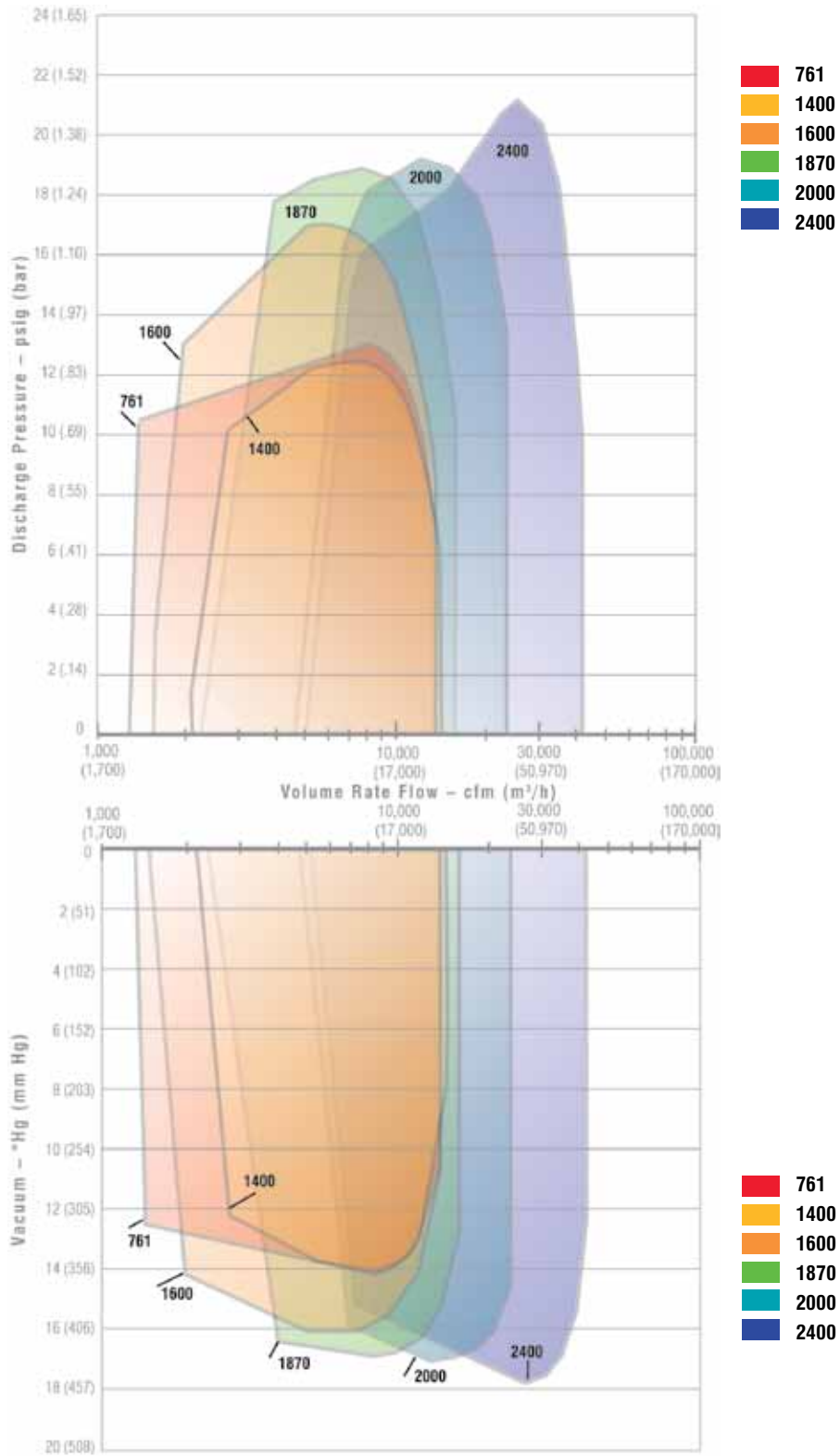


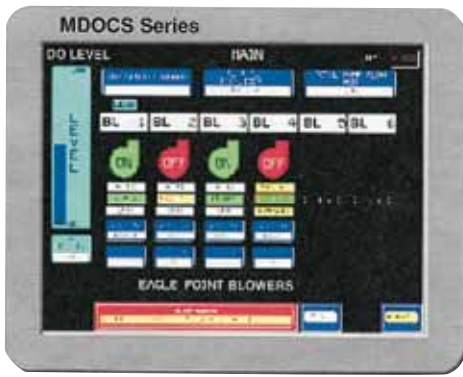
Air Maps

Gardner Denver Models 741-1270



Gardner Denver Models 761-2400





Gardner Denver® Monitoring and Control Systems

Whether you're responsible for a wastewater treatment plant, the smelting operation at a foundry or the precise material handling needs of a manufacturing facility, Gardner Denver offers control systems to properly operate your Lamson and Hoffman blowers and exhausters and protect them from conditions that may lead to catastrophic mechanical failure, costly downtime or voiding your manufacturer's warranty. At Gardner Denver we engineer a variety of control

systems and monitors capable of providing you with the protection and information you need to keep your operation running at peak efficiency.

Our control systems can monitor a variety of conditions that include motor current, motor temperature, blower vibration, bearing temperature, bearing oil level, discharge air temperature, inlet vacuum and outlet pressure.



Genuine Gardner Denver Factory Service and Parts

- Factory Trained Service Professionals
- On-site, On-Demand Service
- System Optimization
- Blower Remanufacturing
- Training, Troubleshooting and Consulting
- Warranty Renewal Programs
- Genuine GD Quality Replacement Parts
- Highest Quality Lubricants
 - AEON® Centrifugal Lubricating Grease
 - AEON CF-46 Centrifugal Blower Oil



Accessories

- Engines
- Motors
- Turbines
- Variable Frequency Drives
- Butterfly Valves
- Check Valves
- Filters
- Silencers
- Expansion Joints
- Gauges
- SmartMeter
- Blower Control Panels

Gardner Denver®

www.GardnerDenverProducts.com cf.blowers@gardnerdenver.com

Gardner Denver, Inc. 100 Gardner Park, Peachtree City, GA 30269

New Equipment Sales: (800) 543-7736 Phone: (770) 632-5000 Fax: (700) 486-5628
 Aftermarket Parts Sales: (800) 982-3009 Phone: (770) 632-5000 Fax: (700) 486-5530



Member



Please recycle after use.

Specifications subject to change without notice

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