

## 4500 Series

Positive Displacement Blowers  
& Vacuum Pumps



GARDNER  
DENVER

1859

2009

SESQUICENTENNIAL

**GD**  
GARDNER DENVER

Experience Proven Results

## 4500 Series

### Setting the Industry Standard

Gardner Denver's 4500 Series of rotary positive displacement lobe blowers and vacuum pumps are the result of more than seventy years experience in the design, manufacture and support of superior industrial equipment.

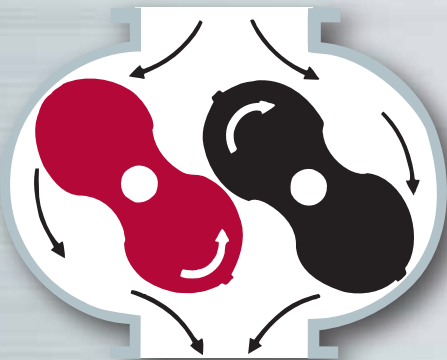
#### 4500 SERIES PERFORMANCE RANGE DELIVERS

- Pressure to 15 psig
- Vacuum to 16" Hg or greater
- Continuous duty service
- Discharge temperatures up to 325°F (short case units to 360°F)
- Mechanical seals are available for gas service applications



### The 4500 Series Cycle

With every rotation of the blower drive shaft, two lobe impellers turn in opposite directions transferring a constant volume of air or gas from inlet to discharge.



#### 4500 SERIES DESIGN FEATURES

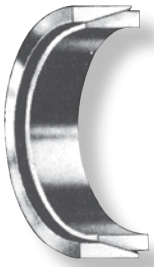
- Rated for continuous duty in all industrial applications
- Provides longer life, simplified maintenance and reduced service intervals
- Permits higher speeds and performance ratings

#### RUGGED CONSTRUCTION

- Compact, heavy-duty, and produced from high strength materials
- Advanced case design with increased vent areas
- The impeller case is precision machined from a single cast of high tensile iron and ribbed externally to prevent distortion
- Ductile iron impellers equipped with one-piece alloy steel shafts
- Equipped with bearings designed for heavy duty applications and durability

## THE 4500 SERIES INCORPORATES SIMPLIFIED TIMING

- Simple and precise timing gears maintain proper clearance between the impellers



- Grip rings replace conventional timing hubs and guarantee the timing gears are mounted square and concentric to the shaft, resulting in minimum gear noise and wear
- Located between the gear and the shaft, grip rings are sets of two complementary wedge section rings

- Grip rings expand against the bore of the gear and contract on the shaft, ensuring an immovable friction fit

## NOISE REDUCTION

- Elliptical shaped inlet port minimizes inrush air noise
- An outlet port permits gradual release of downstream air and noise
- These ports significantly reduce air noise, minimize mechanical loading, and control vibration

## LUBRICATION

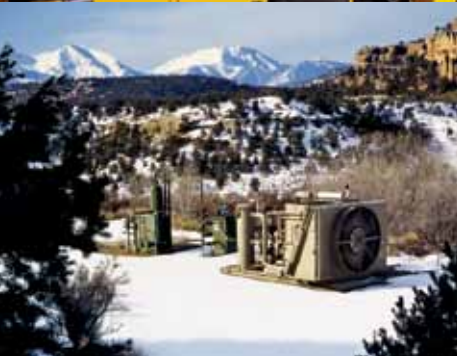
- Timing gears and anti-friction bearings utilize abundant, **dual-splash lubrication**
- Dual-splash lubrication eliminates the need for the customary pump, sump and vulnerable external tubing
- Visual oil level indicators are located at both ends

## BEARINGS

- Anti-friction bearings are locked against shoulders on both impeller shafts at gear end
- These bearings maintain factory-set clearances between headplates and impellers
- Bearings are sized so the drive shaft may be direct or belt driven



# Quality Products and Superior Service



## WHY CHOOSE THE GARDNER DENVER FAMILY OF BLOWERS AND VACUUM PUMPS?

- Backed by one of the largest distributor networks in the industry
- Every 4500 Series blower/vacuum pump is built under rigid ISO 9001:2008 quality standards
- Each machine is individually tested to meet rigorous performance specifications
- Requested by leading Original Equipment Manufacturers (OEMs) worldwide for a wide range of applications
- Every 4500 Series blower/vacuum pump is covered by a warranty of 18 months from the date of shipment or 12 months from the date of installation, whichever occurs first

## SUPERIOR LOCAL SALES AND SERVICE

- Extensive network of authorized Gardner Denver distributors
- Offering the most convenient local sales and service support in the industry
- Factory trained professionals are experts in blower/vacuum pump technology
- These professionals provide system installation guidance, troubleshooting and optimization recommendations for new or existing applications

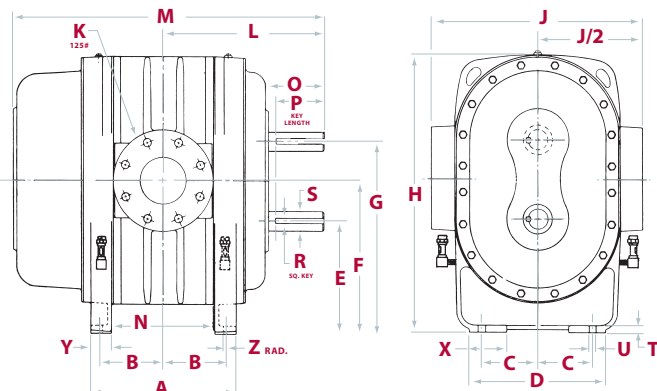
INDUSTRY	APPLICATION
Aquaculture	Aeration
Cement & Lime	Fluidization & Conveying
Chemical	Vacuum Processing & Conveying
Coal Bed/Landfill	Methane Gas Recovery
Dairy	Automated Milking
Dry Bulk Hauling	Trailer Unloading & Aeration
Environmental Services	Sewer Cleaning & Portable Restroom Services
Industrial	Material Vacuuming
Milling & Baking	Blending & Conveying
Oil & Gas	Gas Collection & Sparging
Power Generation	Fly Ash Conveying & Aeration
Process Gas	Gas Boosting
Pulp & Paper	Chip Conveying & Process Vacuum
Resin & Plastic	Processing & Conveying
Soil Remediation	Vacuum Extraction & Sparging
Vacuum Excavation	Potholing & Slurry Recovery
Wastewater	Aeration & Backwashing

The table at left illustrates industries which depend upon the 4500 Series to deliver clean, oil-free air to a wide range of global applications.

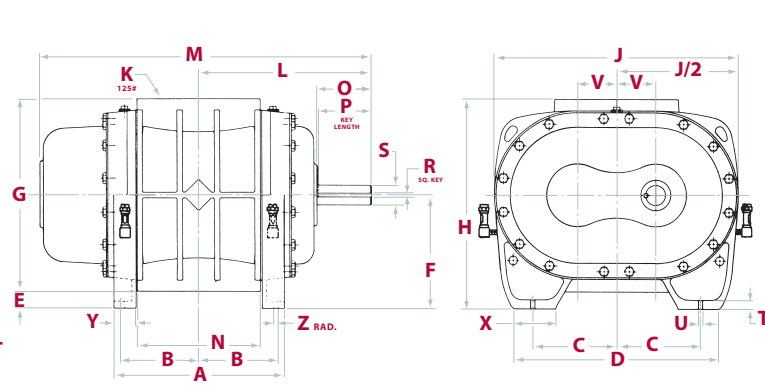
# Dimensional Data

## Vertical Configurations

Model	WT.	A	B	C	D	E	F	G	H	J	J/2	K	L	M	N	O	P	R	S	T	U	X	Y	Z
608	540	12	5 1/16	4	10	9	12	15	21 1/4	18	9	6	12 3/4	23 3/8	8	4 1/2	4 1/4	3/8	1 1/16	7/8	3/4	3	1 7/8	3/8
612	620	16	7 1/16	4	10	9	12	15	21 1/4	18	9	8	14 3/4	27 3/8	12	4 1/2	4 1/4	3/8	1 1/16	7/8	3/4	3	1 7/8	3/8
615	680	19	8 13/16	4	10	9	12	15	21 1/4	18	9	8	16 1/4	30 3/8	15	4 1/2	4 1/4	3/8	1 1/16	7/8	3/4	3	1 7/8	3/8
618	740	22	10 1/16	4	10	9	12	15	21 1/4	18	9	8	17 3/4	33 3/8	18	4 1/2	4 1/4	3/8	1 1/16	7/8	3/4	3	1 7/8	3/8
711	790	15 1/4	7 1/16	5 1/4	12 1/4	10	13 1/2	17	24 1/2	20	10	8	15 3/8	29 3/8	11	4 7/8	4 3/4	3/8	1 3/4	13/14	3/4	3 3/8	2	3/8
713	850	17 1/4	8 1/16	5 1/4	12 1/4	10	13 1/2	17	24 1/2	20	10	8	16 3/8	31 3/8	13	4 7/8	4 3/4	3/8	1 3/4	13/14	3/4	3 3/8	2	3/8
716	940	20 1/4	9 1/16	5 1/4	12 1/4	10	13 1/2	17	24 1/2	20	10	10	17 7/8	34 3/8	16	4 7/8	4 3/4	3/8	1 3/4	13/14	3/4	3 3/8	2	3/8
721	1090	25 1/4	12 1/16	5 1/4	12 1/4	10	13 1/2	17	24 1/2	20	10	10	20 3/8	39 3/8	21	4 7/8	4 3/4	3/8	1 3/4	13/14	3/4	3 3/8	2	3/8
812	1050	18 3/4	8	6	15	12 1/2	16 1/2	20 1/2	29 3/8	22	11	8	18 1/8	34	12	6 3/4	6 1/2	1/2	1 7/8	1	7/8	4 3/8	3 1/4	7/16
816	1180	22 3/4	10	6	15	12 1/2	16 1/2	20 1/2	29 3/8	22	11	10	20 1/8	38	16	6 3/4	6 1/2	1/2	1 7/8	1	7/8	4 3/8	3 1/4	7/16
820	1370	26 3/4	12	6	15	12 1/2	16 1/2	20 1/2	29 3/8	22	11	12	22 1/8	42	20	6 3/4	6 1/2	1/2	1 7/8	1	7/8	4 3/8	3 1/4	7/16
824	1625	30 3/4	14	6	15	12 1/2	16 1/2	20 1/2	29 3/8	22	11	12	24 1/8	46	24	6 3/4	6 1/2	1/2	1 7/8	1	7/8	4 3/8	3 1/4	7/16



Vertical Configurations



Horizontal Configurations

## Horizontal Configurations

Model	WT.	A	B	C	D	E	F	G	H	J	J/2	K	L	M	N	O	P	R	S	T	U	V	X	Y	Z
608	540	12	5 1/16	6	14 3/4	0	9	18	18	18 1/2	9 1/4	6	12 3/4	23 3/8	8	4 1/2	4 1/4	3/8	1 1/16	7/8	3/4	3	1 7/8	1 7/8	3/8
612	620	16	7 1/16	6	14 3/4	0	9	18	18	18 1/2	9 1/4	8	14 3/4	27 3/8	12	4 1/2	4 1/4	3/8	1 1/16	7/8	3/4	3	3 1/4	1 7/8	3/8
615	680	19	8 13/16	6	14 3/4	0	9	18	18	18 1/2	9 1/4	8	16 1/4	30 3/8	15	4 1/2	4 1/4	3/8	1 1/16	7/8	3/4	3	3 1/4	1 7/8	3/8
618	740	22	10 1/16	6	14 3/4	0	9	18	18	18 1/2	9 1/4	8	17 3/4	33 3/8	18	4 1/2	4 1/4	3/8	1 1/16	7/8	3/4	3	3 1/4	1 7/8	3/8
711	790	15 1/4	7 1/16	7 1/2	18 1/4	0	10	20	20	22	11	8	15 3/8	29 3/8	11	4 7/8	4 3/4	3/8	1 3/4	13/16	3/4	3 1/2	3 5/8	2	3/8
713	850	17 1/4	8 1/16	7 1/2	18 1/4	0	10	20	20	22	11	8	16 3/8	31 3/8	13	4 7/8	4 3/4	3/8	1 3/4	13/16	3/4	3 1/2	3 3/8	2	3/8
716	940	20 1/4	9 1/16	7 1/2	18 1/4	0	10	20	20	22	11	10	17 7/8	34 3/8	16	4 7/8	4 3/4	3/8	1 3/4	13/16	3/4	3 1/2	3 5/8	2	3/8
721	1090	25 1/4	12 1/16	7 1/2	18 1/4	0	10	20	20	22	11	10	20 3/8	39 3/8	21	4 7/8	4 3/4	3/8	1 3/4	13/16	3/4	3 1/2	3 5/8	2	3/8
812	1050	18 3/4	8	8	21 1/2	1 1/2	12 1/2	22	23 1/2	25 1/4	12 3/8	8	18 1/8	34	12	6 3/4	6 1/2	1/2	1 7/8	1	7/8	4	5 1/4	3 1/4	7/16
816	1180	22 3/4	10	8	21 1/2	1 1/2	12 1/2	22	23 1/2	25 1/4	12 3/8	10	20 1/8	38	16	6 3/4	6 1/2	1/2	1 7/8	1	7/8	4	5 1/4	3 1/4	7/16
820	1370	26 3/4	12	8	21 1/2	1 1/2	12 1/2	22	23 1/2	25 1/4	12 3/8	12	22 1/8	42	20	6 3/4	6 1/2	1/2	1 7/8	1	7/8	4	5 1/4	3 1/4	7/16
824	1625	30 3/4	14	8	21 1/2	1 1/2	12 1/2	22	23 1/2	25 1/4	12 3/8	12	24 1/8	46	24	6 3/4	6 1/2	1/2	1 7/8	1	7/8	4	5 1/4	3 1/4	7/16

Dimensions are in inches. Weights are in pounds and approximate.



## 4500 Series Pressure Performance Data

Model	CFR	RPM	6 PSI		8 PSI		10 PSI		12 PSI		15 PSI	
			CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
<b>608</b>	0.39	1460	396	15.4	369	20.4	345	25.3	323	30.3	416	46.0
		1770	516	18.9	490	25.0	466	31.0	444	37.0		
		2150	665	23.5	638	30.8	614	38.1	593	45.5		
		2330	735	25.8	708	33.7	684	41.6	663	49.6		
		2880	949	33.2	923	43.0	899	52.8	877	62.6		
<b>612</b>	0.59	1460	648	23.2	615	30.7	585	38.2				
		1770	830	28.5	797	37.7	768	46.8				
		2150	1055	35.4	1021	46.5	992	57.5				
		2330	1161	38.8	1128	50.8	1099	62.7				
		2880	1485	49.8	1452	64.6	1423	79.4				
<b>615</b>	0.73	1460	807	28.8	767	38.1						
		1770	1033	35.5	993	46.8						
		2150	1310	44.1	1270	57.8						
		2330	1442	48.4	1401	63.2						
		2880	1843	62.4	1803	80.7						
<b>618</b>	0.88	1460	994	34.9								
		1770	1267	43.1								
		2150	1601	53.7								
		2330	1759	59.0								
		2880	2244	76.4								
<b>711</b>	0.73	1170	636	23.0	602	30.4	572	37.9	546	45.3	509	56.5
		1460	848	29.1	814	38.4	784	47.7	757	57.0	721	70.9
		1770	1074	36.0	1040	47.2	1010	58.5	984	69.8	947	86.7
		2100	1315	43.7	1281	57.1	1251	70.5	1224	83.8	1188	103.9
		2440	1563	52.3	1529	67.8	1500	83.4	1473	98.9	1436	122.2
<b>713</b>	0.87	1170	769	27.5	730	36.3	696	45.2				
		1460	1021	34.8	982	45.9	948	57.0				
		1770	1291	43.1	1252	56.6	1218	70.0				
		2100	1578	52.6	1539	68.5	1505	84.4				
		2440	1874	63.0	1835	81.5	1801	100.1				
<b>716</b>	1.06	1170	952	33.3	908	44.1						
		1460	1259	42.2	1215	55.7						
		1770	1588	52.1	1543	68.5						
		2100	1938	63.3	1893	82.7						
		2440	2298	75.6	2254	98.1						
<b>721</b>	1.40	1170	1268	44.2								
		1460	1674	56.1								
		1770	2108	69.5								
		2100	2570	84.8								
		2440	3046	101.7								
<b>812</b>	1.04	1170	957	33.2	917	43.8	882	54.4	850	65.0	806	80.9
		1460	1259	42.4	1218	55.6	1183	68.9	1151	82.1	1107	102.0
		1770	1581	52.9	1541	68.9	1505	85.0	1473	101.0	1430	125.1
		1910	1727	57.9	1686	75.2	1651	92.6	1619	109.9	1575	135.9
		2100	1924	65.0	1884	84.1	1849	103.1	1817	122.2	1773	150.7
<b>816</b>	1.39	1170	1299	44.2	1249	58.4	1205	72.6				
		1460	1702	56.3	1652	74.0	1607	91.7				
		1770	2133	70.1	2083	91.6	2038	113.0				
		1910	2328	76.7	2277	99.8	2233	123.0				
		2100	2592	86.0	2542	111.4	2497	136.9				
<b>820</b>	1.74	1170	1640	55.2	1578	72.9						
		1460	2144	70.2	2083	92.3						
		1770	2683	87.2	2622	114.0						
		1910	2927	95.2	2866	124.2						
		2100	3258	106.6	3197	138.5						
<b>824</b>	2.09	1170	1985	66.5								
		1460	2591	84.8								
		1770	3238	105.6								
		1910	3531	115.5								
		2100	3929	129.5								

Dark shaded areas are subject to temperature and drive limitations and must be referred to PD Blower Customer Service for proper application. Capacities and horsepower based on standard air at inlet.

## 4500 Series Vacuum Performance Data

Model	CFR	RPM	8 "Hg		10 "Hg		12 "Hg		15 "Hg		16 "Hg	
			CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
608	0.39	1460	405	10.1	377	12.5	347	14.9				
		1770	526	12.5	497	15.4	468	18.3	417	22.6		
		2150	674	15.5	646	19.0	616	22.5	566	27.7		
		2330	744	17.0	716	20.8	686	24.6	636	30.2	617	32.1
		2880	959	22.0	930	26.6	900	31.1	850	38.0	831	40.3
612	0.59	1460	659	15.3	624	18.9	587	22.6				
		1770	842	18.8	807	23.2	770	27.6	709	34.2		
		2150	1066	23.3	1031	28.6	995	33.9	933	41.8		
		2330	1172	25.6	1137	31.3	1101	37.0	1039	45.6		
		2880	1497	33.0	1462	39.9	1425	46.9	1363	57.2	1340	60.7
615	0.73	1460	821	19.0	778	23.5	734	28.0				
		1770	1047	23.4	1005	28.8	960	34.2	885	42.4		
		2150	1324	29.1	1282	35.7	1237	42.2	1163	52.0		
		2330	1456	32.0	1413	39.0	1369	46.1	1294	56.6		
		2880	1857	41.4	1815	50.0	1770	58.5	1695	71.2	1667	75.5
618	0.88	1460	1010	23.0	962	28.4	912	33.8				
		1770	1282	28.4	1235	34.9	1185	41.4				
		2150	1617	35.5	1569	43.3	1519	51.1				
		2330	1775	39.0	1728	47.5	1678	55.9				
		2880	2259	50.8	2212	61.0	2162	71.2				
711	0.73	1170	648	15.1	612	18.7	575	22.3	512	27.8		
		1460	860	19.2	824	23.6	786	28.1	723	34.8	699	37.1
		1770	1086	23.7	1050	29.1	1013	34.5	950	42.6	926	45.3
		2100	1327	28.9	1291	35.2	1254	41.6	1191	51.1	1166	54.2
		2440	1575	34.7	1539	41.9	1502	49.2	1439	60.1	1415	63.7
713	0.87	1170	782	18.0	741	22.4	699	26.7				
		1460	1034	22.9	994	28.3	951	33.6	879	41.6		
		1770	1304	28.5	1263	34.9	1221	41.3	1149	50.9		
		2100	1591	34.8	1550	42.3	1507	49.8	1436	61.1	1409	64.8
		2440	1887	41.9	1846	50.5	1803	59.0	1731	71.9	1704	76.2
716	1.06	1170	968	21.9	921	27.1	871	32.4				
		1460	1275	27.8	1228	34.3	1178	40.8	1095	50.6		
		1770	1604	34.4	1557	42.2	1507	50.0	1424	61.8		
		2100	1953	41.8	1906	51.0	1857	60.2	1774	74.0	1742	78.6
		2440	2314	50.1	2267	60.6	2217	71.2	2134	87.0	2103	92.3
721	1.4	1170	1288	29.1	1227	36.0	1164	42.9				
		1460	1694	37.0	1633	45.5	1569	54.1				
		1770	2128	45.9	2067	56.2	2004	66.5				
		2100	2590	56.1	2529	68.2	2465	80.3				
		2440	3066	67.5	3005	81.3	2942	95.2				
812	1.04	1170	971	21.8	929	27.0	884	32.1	809	39.8		
		1460	1273	28.0	1230	34.3	1185	40.6	1111	50.1	1082	53.3
		1770	1595	35.0	1553	42.6	1508	50.1	1433	61.5	1405	65.3
		1910	1741	38.4	1698	46.5	1654	54.6	1579	66.8	1550	70.8
		2100	1938	43.2	1896	52.0	1851	60.9	1776	74.1	1748	78.5
816	1.39	1170	1317	29.1	1264	35.9	1208	42.8	1113	53.1		
		1460	1720	37.1	1667	45.6	1611	54.1	1516	66.8		
		1770	2151	46.4	2098	56.5	2042	66.7	1947	81.9	1912	87.0
		1910	2346	50.8	2292	61.7	2236	72.6	2142	88.9	2106	94.3
		2100	2610	57.1	2556	68.9	2500	80.8	2406	98.6	2370	104.5
820	1.74	1170	1661	36.3	1596	44.9	1528	53.5	1414	66.3		
		1460	2166	46.2	2101	56.9	2032	67.5	1918	83.5		
		1770	2705	57.6	2640	70.3	2572	83.1	2458	102.2	2415	108.6
		1910	2949	63.0	2884	76.7	2816	90.4	2701	110.9	2658	117.7
		2100	3279	70.7	3214	85.6	3146	100.5	3032	122.9	2989	130.3
824	2.09	1170	2010	43.8	1934	54.1	1855	64.4				
		1460	2616	55.9	2540	68.6	2461	81.4				
		1770	3264	69.8	3188	85.1	3109	100.3				
		1910	3556	76.5	3481	92.9	3402	109.2				
		2100	3953	86.0	3878	103.8	3799	121.6				

## Protect your Gardner Denver investment with AEON® PD, the only lubricant specially formulated for all blowers in any environment

- 100% synthetic for matchless service life
- AEON PD retains its superior lubricating properties a minimum of four times longer than a premium grade mineral oil at most operating conditions
- Eliminates seasonal oil viscosity grade changes
- Superior lubrication in severe, high temperature applications
- Available from your local authorized Gardner Denver distributor in convenient sizes to meet your needs
- Food grade lubricant available



## Retain your 4500 Series Advantage with Genuine Gardner Denver Replacement Parts

- Gardner Denver guarantees to supply the proper parts for your specific blower every time
- Replacement parts incorporate the most recent design upgrades
- All parts meet Gardner Denver original manufacturing specifications and tolerances for guaranteed fit and function
- Pre-packaged overhaul kits with detailed service manuals are available from your local authorized distributor



# Gardner Denver®

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