



C. Emery Nelson, Inc.

INDUSTRIAL AND POWER PLANT EQUIPMENT

7631 Commerce Street, Hamel, MN 55340
Ph: 763/420-3844 Fax: 763/420-2542

CycloBlower® Industrial Series

Positive Displacement Blowers
& Vacuum Pumps



Experience Proven Results™



50 Years of Proven Results

The Gardner Denver CycloBlower Industrial Series offers significant advantages:

- Efficiency
- Quality
- Durability
- The CycloBlower Industrial Series delivers:
 - Pressure to 20 psig
 - Dry Vacuum to 17" Hg
 - Wet Vacuum to 24" Hg
 - Airflow to 6700 cfm

Efficient, Shock-Free Compression

- Helical screw rotors generate a balanced compression cycle
- Providing a smooth and steady discharge, eliminating the sudden release of trapped pockets of air into the line
- Contoured inlet and discharge ports minimize turbulence



Model 7CDL14P

Dependable Quality

- Superior and consistent quality can be found in every CycloBlower as a result of:
 - Continual investment in the training of world-class manufacturing personnel
 - Quality inspections throughout the entire manufacturing process
- Compact design utilizing optimum performance materials
- Reduced vibrations result in longer service of critical blower components

High Capacity

- Industry unique rotor profile and accurately maintained tolerances allow the CycloBlower to be operated at high speeds for increased capacity

Clean Air/Gas Delivery

- Contact-less rotors removes the need for lubrication within the compression chamber
- Outboard position of rotor bearings allows atmospheric venting between the compression chamber and the bearings and gears
- Prevents gear and bearing lubricants from contaminating the compression chamber for clean air/gas delivery

Installation Flexibility

- Units can be powered by various types of drives including electric motors, constant or variable, gasoline and diesel engines, or steam turbines
- May be connected through a variable frequency drive (VFD), V-belt, or direct drive

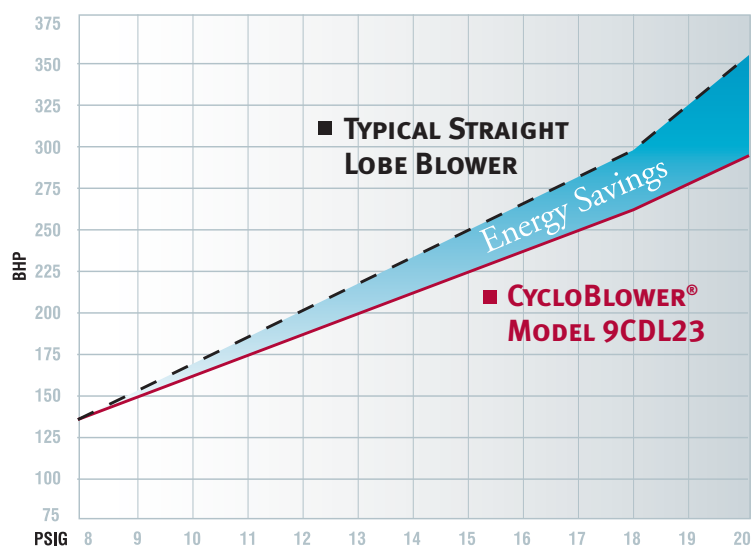
Low Installation Cost

- A special foundation is not required
- CycloBlower requires a minimum of floor space
- Remanufactured units available

The Efficiency Leader

High Efficiency for Improved Energy Savings

Brake Horsepower Requirement Comparison



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

TOP CHART shows a comparison of the BHP for a typical straight-lobe blower versus a CycloBlower 9CDL23. The CycloBlower requires less BHP to produce 3,000 CFM at pressures from 8 to 20 PSIG.

Annual Energy Cost Savings

| PSI | Bhp Requirement For 3,000 CFM | | Assuming Motor/Drive Efficiency = .90 Cost/Kwh = \$.09 | |
|-----|-------------------------------|--------------------|---|--------------------------|
| | Typical Straight Lobe | Cycloblower 9CDL23 | Percent Bhp Reduction | Annual Estimated Savings |
| 8 | 130 | 125 | 3.8% | \$ 3,257 |
| 9 | 145 | 140 | 3.4% | \$ 3,257 |
| 10 | 162 | 154 | 4.9% | \$ 5,212 |
| 11 | 180 | 167 | 7.2% | \$ 8,469 |
| 12 | 195 | 180 | 7.7% | \$ 9,772 |
| 13 | 212 | 195 | 8.0% | \$ 11,075 |
| 14 | 230 | 210 | 8.7% | \$ 13,029 |
| 15 | 245 | 222 | 9.4% | \$ 14,983 |
| 16 | 260 | 235 | 10.0% | \$ 16,286 |
| 17 | 276 | 249 | 10.5% | \$ 17,589 |
| 18 | 294 | 264 | 11.6% | \$ 19,544 |
| 19 | 340 | 278 | 18.0% | \$ 40,390 |
| 20 | 360 | 291 | 19.1% | \$ 44,950 |

BOTTOM CHART translates the resulting BHP comparison reduction into annual energy cost savings. Calculations are based on the cost of providing 3,000 CFM of air for 8,736 hours, approximately 1 year, of operation assuming motor/drive efficiency = .90, and energy cost per kilowatt-hour = \$.09.

Unique CycloBlower Design Features

Optimum Efficiency, Proven Results

The CycloBlower stands out as the premium PD blower/vacuum pump in the market. The meshing of two helical lobe rotors synchronized by timing gears provides controlled compression of air for unmatched efficiency and shock-free discharge. State-of-the-art manufacturing techniques, improved assembly methods, and enhanced internal clearances allow the CycloBlower to operate at higher operating speeds for increased flow capacities. For optimal performance, we recommend AEON® PD and AEON® PD-XD (Extreme Duty for high ambient and/or high discharge temperatures) lubricants.



Critical Component Inspections = Quality Products

Rotors — Helical four-flute gate rotor and two-lobe main rotor are milled from high tensile strength ductile iron, stress relieved and dynamically balanced.

Housing — One piece, high strength housing resists deflection to retain accurate running tolerances between rotors. Contoured porting provides smooth air flow.

Bearings — Anti-friction bearings carry the shaft loads in all models. CycloBlowers use pairs of angular contact ball bearings on the discharge end and cylindrical roller bearings or single-row ball bearings on the gear end. (Not standard on 3CDL models.)

Timing Gears — Synchronization of rotors is through a pair of helical timing gears. Precision alloy steel gears provide quiet, accurate operation.

Air/Gas Seals — Labyrinth-type shaft seals provide a minimum of controlled leakage of air or gas. Purged labyrinth seals or mechanical seals are available with units handling gas, where leakage cannot be tolerated. (Mechanical seals not available on 3CDL and A5CDL models.)

Dual-Splash Lubrication — Gears and bearings are lubricated by a splash oil system. (Not standard on A5CDL models.)

Oil Seals — All CycloBlowers are fitted with proprietary bearing isolator seals. Our unique design developed in partnership with Inpro/Seal offers outstanding performance and longevity. (Not available on the 3CDL and A5CDL models.)



Inpro Seals



INPRO/SEAL®
A DOVER COMPANY

Delivering clean, oil-free air to a wide range of global applications

INDUSTRIAL PROCESSING

Recovery Air of Gas
 Combustion Air
 Air Drying
 Air Flotation and Sliding
 Blow-off Systems/Drying/Can Drying
 Carbon Black
 Coal Gasification
 Coke Oven Gas
 Gas Boosting
 Vacuum Systems
 Air Knife Stripping

WATER TREATMENT

Pond Aeration, Municipal or Industrial
 Wastewater Treatment
 Aeration
 Air Scouring
 Digester Gas Boosters
 Filter Backwashing

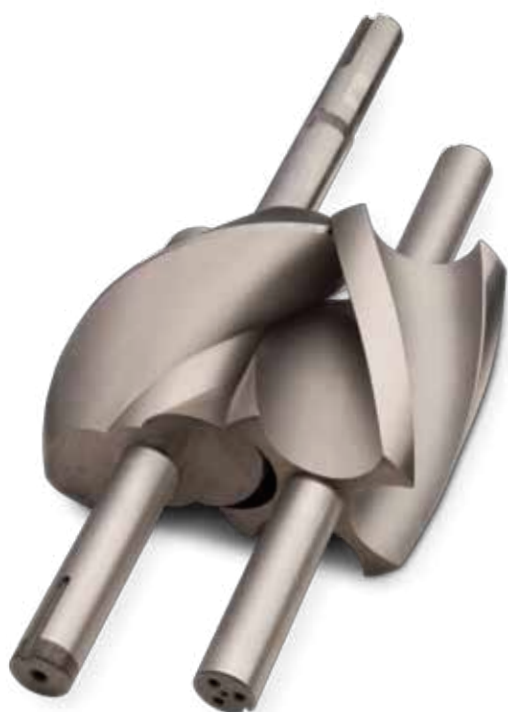
PARTICULATE HANDLING

Clean Rooms
 Clean-Up
 Pneumatic Conveying
 Dry Bulk
 Fly Ash
 Source Capture

Dimensional Data

| Model | L | W | H | Size & Type Ports | WT |
|---------|--------------------------------|--------------------------------|--------------------------------|---|------|
| 3CDL5 | 19 ¹ / ₈ | 10 ¹ / ₂ | 11 ¹ / ₂ | 2.5" NPT, Both Ports | 165 |
| 3CDL8 | 22 ¹ / ₈ | 10 ¹ / ₂ | 11 ¹ / ₂ | 3" NPT, Both Ports | 185 |
| A5CDL5 | 19 ¹ / ₄ | 15 | 15 ¹ / ₄ | 3" NPT, Both Ports | 237 |
| A5CDL9 | 23 ¹ / ₄ | 15 | 15 ¹ / ₄ | 5" Flange, 10" OD, Both Ports | 310 |
| A5CDL13 | 27 ¹ / ₄ | 15 | 15 ¹ / ₄ | 5" Flange, 10" OD, Both Ports | 361 |
| 5CDL5 | 28 ³ / ₄ | 15 | 15 ¹ / ₄ | 3" Flange, 7.5" OD, Both Ports | 372 |
| 5CDL9 | 32 ³ / ₄ | 15 | 15 ¹ / ₄ | 5" Flange, 10" OD, Both Ports | 441 |
| 5CDL13 | 36 ³ / ₄ | 15 | 15 ¹ / ₄ | 5" Flange, 10" OD, Both Ports | 500 |
| 7CDL11 | 36 ¹ / ₂ | 20 ¹ / ₂ | 19 ³ / ₄ | 8" Flange, 13.5" OD, Both Ports | 867 |
| 7CDL14 | 39 ¹ / ₂ | 20 ¹ / ₂ | 19 ³ / ₄ | 8" Flange, 13.5" OD, Both Ports | 911 |
| 7CDL17 | 42 ¹ / ₂ | 20 ¹ / ₂ | 19 ³ / ₄ | 8" Flange, 13.5" OD, Both Ports | 1016 |
| 9CDL13 | 40 ³ / ₈ | 25 ³ / ₄ | 23 | 8" Flange, 13.5" OD, Both Ports | 1500 |
| 9CDL18 | 44 ¹ / ₂ | 25 ³ / ₄ | 23 | Inlet – 10" Flange, 16" OD Discharge – 8" Flange, 13.5" OD | 1673 |
| 9CDL23 | 49 ¹ / ₂ | 25 ³ / ₄ | 23 | Inlet – 10" Flange, 16" OD Discharge – 8" Flange, 13.5" OD | 1843 |
| 11CDL23 | 53 | 33 | 29 | Inlet – 14" Flange, 21" OD Discharge – 12" Flange, 19" OD | 3150 |
| 11CDL27 | 57 | 33 | 29 | Inlet – 14" Flange, 21" OD Discharge – 12" Flange, 19" OD | 3340 |
| 11CDL31 | 61 | 33 | 29 | Inlet – 14" Flange, 21" OD Discharge – 12" Flange, 19" OD | 3530 |

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



CycloBlower—
Industry unique rotor profile

CycloBlower Performance Data

| Blower Model | Speed RPM | Pressure | | | | | | | | | | | | Vacuum | | | | | | | | |
|--------------|-----------|----------|------|--------|------|---------|------|---------|------|---------|------|---------|------|--------|------|--------|------|--------|------|--------|------|--|
| | | 5 PSIG | | 9 PSIG | | 12 PSIG | | 15 PSIG | | 18 PSIG | | 20 PSIG | | 8" Hg | | 12" Hg | | 16" Hg | | 17" Hg | | |
| | | CFM | BHP | CFM | BHP | CFM | BHP | CFM | BHP | CFM | BHP | CFM | BHP | CFM | BHP | CFM | BHP | CFM | BHP | CFM | BHP | |
| 3CDL5 | 1000 | 62 | 1.8 | 48 | 3.2 | 38 | 4.1 | 26 | 5.5 | | | | | 56 | 1.8 | | | | | | | |
| | 1500 | 108 | 3.4 | 94 | 5.6 | 84 | 7.0 | 74 | 9.0 | | | | | 105 | 2.9 | 92 | 3.8 | | | | | |
| | 2000 | 153 | 5.0 | 104 | 8.0 | 131 | 10.0 | 121 | 12.4 | 111 | 14.5 | | | 155 | 4.0 | 142 | 5.4 | 125 | 6.8 | | | |
| | 2500 | 198 | 6.7 | 186 | 10.4 | 178 | 13.0 | 168 | 15.8 | 159 | 18.5 | | | 206 | 5.1 | 192 | 7.0 | 175 | 8.9 | | | |
| | 3000 | 243 | 8.4 | 232 | 12.6 | 225 | 16.0 | 216 | 19.2 | 207 | 22.5 | | | 254 | 6.2 | 241 | 8.6 | 223 | 10.9 | | | |
| | 3500 | 289 | 10.0 | 278 | 15.0 | 272 | 18.9 | 264 | 22.6 | 256 | 26.5 | | | 304 | 7.3 | 292 | 10.2 | 273 | 13.0 | | | |
| 3CDL8 | 1000 | 85 | 2.6 | 61 | 4.9 | 53 | 6.5 | 42 | 8.7 | | | | | 80 | 2.4 | | | | | | | |
| | 1500 | 152 | 4.5 | 144 | 7.9 | 134 | 10.5 | 120 | 13.1 | | | | | 155 | 3.9 | 135 | 5.3 | | | | | |
| | 2000 | 220 | 6.5 | 200 | 11.0 | 188 | 14.2 | 175 | 17.5 | 160 | 20.8 | | | 228 | 5.4 | 208 | 7.4 | 188 | 9.4 | | | |
| | 2500 | 287 | 8.5 | 265 | 14.0 | 256 | 18.0 | 242 | 21.8 | 228 | 26.0 | | | 304 | 7.0 | 284 | 9.3 | 262 | 12.0 | | | |
| | 3000 | 355 | 10.5 | 332 | 17.0 | 322 | 22.0 | 311 | 26.3 | 296 | 31.4 | | | 378 | 8.5 | 358 | 11.2 | 338 | 14.4 | | | |
| | 3500 | 422 | 12.3 | 400 | 20.1 | 388 | 25.6 | 378 | 30.6 | 362 | 36.6 | | | 452 | 9.9 | 432 | 13.2 | 412 | 16.8 | | | |
| A5CDL5 | 1500 | 97 | 3.5 | 78 | 6.0 | | | | | | | | | 108 | 3.0 | 90 | 4.1 | | | | | |
| | 2000 | 143 | 4.5 | 124 | 8.0 | 112 | 10.0 | | | | | | | 158 | 3.9 | 141 | 5.3 | | | | | |
| | 2500 | 190 | 6.5 | 171 | 10.5 | 159 | 13.5 | | | | | | | 210 | 4.9 | 193 | 6.6 | | | | | |
| | 3000 | 238 | 8.0 | 218 | 13.2 | 205 | 17.0 | | | | | | | 261 | 6.2 | 244 | 8.1 | | | | | |
| | 3500 | 283 | 10.1 | 265 | 16.0 | 252 | 20.2 | | | | | | | 312 | 7.6 | 296 | 10.0 | | | | | |
| | 4000 | 330 | 12.5 | 312 | 18.5 | 298 | 24.0 | | | | | | | 362 | 9.1 | 347 | 11.7 | | | | | |
| A5CDL9 | 1500 | 180 | 6.5 | 150 | 12.0 | | | | | | | | | 163 | 4.6 | 125 | 6.6 | | | | | |
| | 2000 | 267 | 8.5 | 237 | 15.0 | 220 | 19.0 | | | | | | | 258 | 6.1 | 220 | 8.5 | | | | | |
| | 2500 | 355 | 10.5 | 325 | 17.5 | 307 | 23.0 | | | | | | | 355 | 7.7 | 315 | 11.1 | | | | | |
| | 3000 | 442 | 12.5 | 412 | 21.0 | 394 | 27.5 | | | | | | | 450 | 10.2 | 411 | 13.4 | | | | | |
| | 3500 | 530 | 15.0 | 500 | 25.0 | 482 | 32.0 | | | | | | | 545 | 10.8 | 506 | 15.6 | | | | | |
| | 4000 | 617 | 18.0 | 587 | 30.0 | 570 | 38.0 | | | | | | | 640 | 12.5 | 600 | 17.9 | | | | | |
| A5CDL13 | 1500 | 250 | 8.0 | 219 | 14.0 | 194 | 19.0 | | | | | | | 230 | 6.0 | 180 | 9.0 | | | | | |
| | 2000 | 375 | 11.5 | 343 | 19.2 | 319 | 25.5 | | | | | | | 350 | 8.9 | 300 | 12.2 | | | | | |
| | 2500 | 500 | 15.0 | 468 | 24.5 | 444 | 32.0 | | | | | | | 470 | 11.5 | 422 | 15.8 | | | | | |
| | 3000 | 625 | 18.5 | 593 | 30.0 | 569 | 39.0 | | | | | | | 593 | 14.5 | 543 | 19.2 | | | | | |
| | 3500 | 750 | 22.2 | 718 | 36.0 | 694 | 46.5 | | | | | | | 712 | 17.3 | 665 | 22.6 | | | | | |
| | 4000 | 875 | 27.5 | 843 | 43.0 | 819 | 54.0 | | | | | | | 835 | 20.0 | 785 | 26.1 | | | | | |
| 5CDL5 | 1500 | 97 | 3.5 | 78 | 6.0 | 112 | 10.0 | | | | | | | 108 | 3.0 | 90 | 4.1 | | | | | |
| | 2000 | 143 | 4.5 | 124 | 8.0 | 112 | 10.0 | | | | | | | 158 | 3.9 | 141 | 5.3 | 124 | 7.2 | | | |
| | 2500 | 190 | 6.5 | 171 | 10.5 | 159 | 13.5 | 149 | 17.0 | | | | | 210 | 4.9 | 193 | 6.6 | 176 | 8.8 | 174 | 9.2 | |
| | 3000 | 238 | 8.0 | 218 | 13.2 | 205 | 17.0 | 195 | 20.8 | | | | | 261 | 6.2 | 244 | 8.1 | 228 | 10.4 | 225 | 11.0 | |
| | 3500 | 283 | 10.1 | 265 | 16.0 | 252 | 20.2 | 240 | 24.8 | 226 | 28.7 | | | 312 | 7.6 | 296 | 10.0 | 281 | 12.3 | 276 | 12.9 | |
| | 4000 | 330 | 12.5 | 312 | 18.5 | 298 | 24.0 | 285 | 29.0 | 267 | 33.4 | 263 | 37.1 | 362 | 9.1 | 347 | 11.7 | 333 | 14.3 | 327 | 14.8 | |
| 5CDL9 | 1500 | 180 | 6.0 | 150 | 12.0 | | | | | | | | | 165 | 4.7 | 130 | 6.6 | 82 | 9.4 | | | |
| | 2000 | 267 | 8.0 | 237 | 15.0 | 220 | 19.0 | | | | | | | 260 | 6.0 | 223 | 8.9 | 175 | 12.5 | | | |
| | 2500 | 355 | 10.2 | 325 | 17.5 | 307 | 23.0 | 290 | 28.5 | | | | | 355 | 7.5 | 315 | 11.1 | 272 | 15.5 | | | |
| | 3000 | 442 | 12.5 | 412 | 21.0 | 394 | 27.5 | 380 | 34.0 | 365 | 40.0 | 348 | 44.9 | 450 | 9.1 | 412 | 13.4 | 367 | 18.5 | 359 | 19.9 | |
| | 3500 | 530 | 15.0 | 500 | 25.0 | 482 | 32.0 | 465 | 40.0 | 450 | 45.0 | 436 | 52.4 | 545 | 10.6 | 504 | 15.6 | 462 | 21.5 | 454 | 23.1 | |
| | 4000 | 617 | 18.0 | 587 | 30.0 | 570 | 38.0 | 550 | 46.0 | 540 | 53.0 | 524 | 60.6 | 640 | 12.2 | 600 | 17.9 | 558 | 24.5 | 549 | 26.4 | |
| 5CDL13 | 1500 | 250 | 8.0 | 219 | 14.0 | 194 | 19.0 | | | | | | | 230 | 6.0 | 180 | 9.0 | 122 | 11.3 | | | |
| | 2000 | 375 | 11.5 | 343 | 19.2 | 319 | 25.5 | 300 | 32.0 | | | | | 350 | 8.9 | 300 | 12.2 | 245 | 15.4 | | | |
| | 2500 | 500 | 15.0 | 468 | 24.5 | 444 | 32.0 | 425 | 40.0 | | | | | 470 | 11.5 | 422 | 15.8 | 370 | 20.0 | | | |
| | 3000 | 625 | 18.5 | 593 | 30.0 | 569 | 39.0 | 550 | 48.0 | 525 | 58.0 | 510 | 62.5 | 593 | 14.5 | 543 | 19.2 | 495 | 24.0 | 482 | 25.2 | |
| | 3500 | 750 | 22.5 | 718 | 36.0 | 694 | 46.5 | 675 | 56.0 | 650 | 66.0 | 635 | 72.4 | 712 | 17.3 | 665 | 22.6 | 620 | 28.0 | 604 | 29.2 | |
| | 4000 | 875 | 27.5 | 843 | 43.0 | 819 | 54.0 | 800 | 64.0 | 775 | 74.0 | 760 | 82.2 | 835 | 20.0 | 760 | 26.1 | 745 | 32.0 | 726 | 33.4 | |
| 4500 | 996 | 33.1 | 966 | 49.6 | 944 | 62.0 | 922 | 71.1 | 900 | 82.8 | 885 | 91.7 | 962 | 23.0 | 911 | 29.9 | 861 | 36.3 | 848 | 37.7 | | |
| 5000 | 1121 | 39.3 | 1091 | 56.4 | 1069 | 70.1 | 1047 | 78.2 | 1024 | 92.3 | 1009 | 101.3 | 1084 | 25.9 | 1033 | 33.5 | 982 | 40.4 | 970 | 42.0 | | |

Genuine Gardner Denver Parts and Lubricants

- Maintain the Gardner Denver performance advantage and reliability with Genuine GD Replacement Parts
- Protect your Gardner Denver investment with AEON® PD lubricants formulated for all blowers in demanding applications
- Now available AEON® PD-XD specifically designed for high ambient and/or high discharge temperature conditions



Quality Promise

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

Gardner Denver Redefines the Perception of Remanufactured

Reman (rē man´) n. *A Gardner Denver positive displacement blower expertly assembled from genuine remanufactured and new parts*

- Must pass a full-load, hot run test before shipment
- Standard new product warranty included
- The final word when repair or replacement is required



CycloBlower rotors are precision ground using state of the art milling technology.

C. Emery Nelson, Inc.
INDUSTRIAL AND POWER PLANT EQUIPMENT

7631 Commerce Street, Hamel, MN 55340
Ph: 763/420-3844 Fax: 763/420-2542

**Gardner
Denver®**

www.GardnerDenverProducts.com

Gardner Denver, Inc. 1800 Gardner Expressway, Quincy, IL 62305
www.contactgd.com/blowers



©2012 Gardner Denver, Inc. Printed in U.S.A. PD-CB-IND 2nd Ed. 9/12



Please recycle after use.