



Model 5CDL13



Model 7CDL17



Model 11CDL31

**CycloBlower® XP Series offers
20 psig continuous pressure
and 17 "Hg continuous vacuum.**

Clean Air/Gas Delivery – Since the rotors do not touch each other or the housing, lubrication is not required within the compression chamber. The outboard position of rotor bearings allows atmospheric venting between the compression chamber and the bearings and gears. This prevents gear and bearing lubricants from contaminating the compression chamber and the air or gas.

Efficient, Shock-Free Compression – The screw-type, cycloidal 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.

High Capacity-Low Weight – Compact design, selection of optimum performance parts and materials and accurately maintained tolerances allow the CycloBlower XP to be operated at high speeds, increasing capacity for relatively low unit weight. Direct or step-up drive permits the use of less expensive standard motors.

Installation Flexibility – Units may be driven by any normal source of power that provides adequate speed and horsepower. The capacity of each model covers a broad range of pressure and air delivery. CycloBlower XP models can be powered by various types of drives including electric motors, constant or variable, gasoline and diesel engines or steam turbine and may be connected through a speed regulating mechanism, V-belt or direct drive.

Dependable, Long-Life Service – With two rotating parts that do not touch, wear within the compression chamber is eliminated. The CycloBlower XP design does not require valves and other reciprocating parts that are subject to wear.

Low Installation Cost – A special foundation is not required; simple base mounting is adequate and CycloBlower XP units require a minimum of floor space.



Model 9CDL23

- CycloBlower XP Overview**
- 75 to 6700 cfm
 - Pressures to 20 psig
 - Dry vacuum to 17 "Hg



CycloBlower® XP Industrial Applications

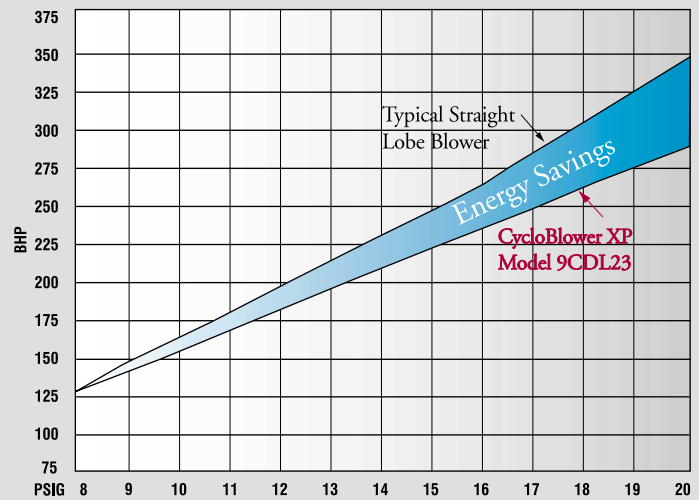
INDUSTRIAL PROCESSING

- 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
- Numerous OEM
Applications

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

BRAKE HORSEPOWER REQUIREMENT COMPARISON



CycloBlower Performance Specifications

BLOWER MODEL	SPEED RPM	P R E S S U R E												V A C U U M								D I M E N S I O N S - B A R E B L O W E R				
		5 PSIG		9 PSIG		12 PSIG		15 PSIG		18 PSIG		20 PSIG		8 "Hg		12 "Hg		16 "Hg		17 "Hg		(INCHES)			SIZE AND TYPE PORTS	WT. LBS.
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	L	W	H		
5CDL5	1500	97	3.5	80	6.4	66	7.7							107	3.0	92	4.2			114	6.8	28 3/4	15	15 1/4	3" Flange 7.5" O.D. Both Ports	372
	2000	144	4.8	126	8.5	113	10.6	100	13.1					158	3.9	143	5.4	127	7.3	162	9.1					
	2500	190	6.4	173	10.8	159	13.6	146	16.6					209	4.9	194	6.8	178	8.7	210	11.2					
	3000	237	8.2	219	13.4	206	16.8	193	20.5	179	23.7			260	6.1	245	8.3	229	10.4	258	13.2					
	3500	283	10.3	266	16.1	252	20.1	239	24.7	226	28.5			311	7.5	296	10.0	280	12.3	306	15.3					
	4000	330	12.5	312	19.2	299	23.7	286	29.1	272	33.3			363	9.2	347	11.8	331	14.2	354	17.4					
	4500	376	14.9	359	22.5	345	27.6	332	33.5	319	38.2	310	42.7	414	11.0	398	13.7	382	16.3	402	19.7					
5000	423	17.7	405	26.2	392	31.5	379	38.0	365	43.2	356	48.5	465	13.0	449	15.8	433	18.4	450	22.2						
5CDL9	1500	178	6.1	153	11.8	135	15.9							164	4.6	123	6.5			209	9.5	32 3/4	15	15 1/4	5" Flange 10" O.D. Both Ports	441
	2000	266	8.0	241	14.5	222	19.3	204	23.6					259	6.1	219	8.8			287	12.5					
	2500	354	10.2	329	17.7	310	23.2	292	28.3	273	33.5			354	7.7	314	11.1	273	15.6	365	15.6					
	3000	442	12.6	417	21.3	398	27.8	379	33.7	361	39.8	348	44.9	450	9.2	409	13.3	369	18.7	443	18.8					
	3500	529	15.3	504	25.4	486	32.9	467	39.9	448	46.9	436	52.5	545	10.7	505	15.6	464	21.7	521	21.9					
	4000	617	18.2	592	29.7	573	38.3	555	46.8	536	54.8	524	60.6	640	12.2	600	17.9	559	24.8	599	24.8					
	4500	705	21.1	680	34.3	661	44.2	643	54.4	624	63.4	611	69.4	736	13.8	695	20.2	655	27.9	677	27.2					
5000	793	24.2	768	39.3	749	50.5	730	62.6	712	72.8	699	78.7	831	15.3	791	22.5	750	30.9	756	28.9						
5CDL13	1500	247	8.4	218	14.7	195	18.8							230	5.9	179	8.7			265	12.7	36 3/4	15	15 1/4	5" Flange 10" O.D. Both Ports	500
	2000	372	11.1	342	19.5	320	25.3	298	31.7					352	8.8	301	12.2			386	16.9					
	2500	497	14.3	467	24.7	445	32.1	423	40.1	400	47.2			474	11.6	423	15.7	373	20.0	507	20.8					
	3000	622	18.2	592	30.6	570	39.1	547	48.0	525	55.9	510	62.5	596	14.4	545	19.3	495	24.0	629	24.6					
	3500	746	22.6	717	36.8	695	46.3	672	55.6	650	64.7	635	72.5	718	17.3	667	22.7	617	28.0	759	28.4					
	4000	871	27.5	842	43.2	819	54.0	797	63.5	775	73.6	760	82.2	840	20.2	789	26.3	739	32.1	871	32.2					
	4500	996	33.1	966	49.6	944	62.0	922	71.2	900	82.8	885	91.7	962	23.0	911	29.9	861	36.3	992	36.2					
5000	1121	39.3	1091	56.4	1069	70.2	1047	78.2	1024	92.4	1009	101.4	1084	25.9	1033	33.5	982	40.5	1113	40.2						
7CDL11	1100	329	11.1	281	19.0	245	26.3	209	26.0					334	8.4	268	11.9			357	20.4	36 1/2	20 1/2	19 3/4	8" Flange 13.5" O.D. Both Ports	867
	1600	547	16.3	499	28.0	463	36.8	426	42.9	390	52.8			558	12.3	492	17.4	426	23.6	579	29.7					
	2100	764	22.1	716	37.9	680	48.7	644	58.8	608	70.6	584	78.5	782	16.7	716	23.4	650	31.5	801	38.7					
	2600	982	28.6	934	48.7	898	62.1	862	75.1	826	89.4	801	97.9	1006	21.4	940	30.0	874	40.3	1024	47.9					
	3100	1200	35.5	1151	59.7	1115	75.8	1079	91.8	1043	109.0	1019	119.0	1230	26.3	1164	36.7	1098	49.2	1246	57.2					
	3600	1417	42.6	1369	70.3	1333	89.2	1297	108.2	1261	129.0	1237	141.8	1454	31.2	1388	43.2	1322	57.3	1469	66.5					
	4000	1591	48.5	1543	78.7	1507	100.0	1471	121.0	1435	145.0	1411	160.4	1633	35.2	1567	48.3	1501	63.8	1647	73.4					
7CDL14	1100	431	15.0	384	23.2	349	29.9	314	36.1					440	10.0	380	14.5	320	18.5	480	23.3	39 1/2	20 1/2	19 3/4	8" Flange 13.5" O.D. Both Ports	911
	1600	705	20.1	658	33.3	623	43.1	588	53.8	553	64.9	530	69.1	734	15.5	674	22.0	614	27.8	753	32.7					
	2100	980	26.3	933	44.6	898	58.0	863	72.2	828	86.4	804	94.0	1028	21.2	968	29.7	908	37.4	1025	41.8					
	2600	1254	33.6	1207	57.0	1172	74.2	1137	90.8	1102	107.7	1079	119.9	1322	26.8	1262	37.3	1202	47.0	1298	51.2					
	3100	1529	42.4	1482	70.1	1447	90.3	1411	109.0	1376	129.5	1353	144.3	1616	32.4	1556	44.8	1496	56.4	1570	60.8					
	3600	1803	52.9	1756	84.2	1721	106.6	1686	127.0	1651	152.3	1627	167.2	1910	37.9	1850	52.4	1790	65.9	1843	70.2					
	4000	2023	61.9	1976	96.3	1941	120.9	1905	141.6	1870	170.9	1847	186.0	2145	42.4	2085	58.4	2025	73.4	2061	77.2					
7CDL17	1100	484	13.8	424	24.6	379	30.7	335	39.0					509	12.4	446	17.4	382	23.0	523	24.2	42 1/2	20 1/2	19 3/4	8" Flange 13.5" O.D. Both Ports	1016
	1600	812	21.2	753	37.7	708	48.4	664	60.0	619	72.6			865	17.9	801	24.7	738	32.6	851	36.3					
	2100	1141	29.9	1082	51.3	1037	67.4	993	82.0	948	96.7	918	112.5	1220	24.5	1157	32.9	1094	42.7	1179	47.5					
	2600	1470	39.5	1411	64.7	1366	85.4	1321	104.5	1277	121.9	1247	138.6	1576	32.1	1513	41.7	1449	52.9	1508	58.4					
	3100	1799	50.7	1739	79.4	1695	103.4	1650	126.7	1606	147.2	1576	163.1	1932	40.4	1869	51.1	1805	63.8	1836	69.4					
	3600	2128	64.0	1476	67.5	2024	122.0	1979	148.6	1934	173.1	1905	190.2	2288	49.5	2224	61.2	2161	75.6	2165	80.6					
	4000	2391	75.4	2331	109.3	2287	136.6	2242	166.2	2198	194.7	2168	212.8	2572	57.5	2509	69.8	2446	85.0	2427	89.7					

High Efficiency for Improved Energy Savings

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

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

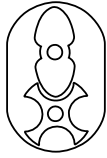
RIGHT CHART translates the resulting BHP comparison reduction into annual energy cost savings. Calculations are based on the cost of providing 3,000 CFM of air for 8,736 hours, approximately 1 year of operation assuming motor efficiency = .90 and energy cost per kilowatt-hour = \$0.07.

ANNUAL ENERGY COST SAVINGS

PSI	BHP REQUIREMENT FOR 3,000 CFM		ASSUMING MOTOR EFFICIENCY = .90 COST/KWH = \$.07	
	TYPICAL STRAIGHT LOBE	CYCLOBLOWER XP MODEL 9CDL23	PERCENT BHP REDUCTION	ANNUAL ESTIMATED SAVINGS
8	130	125	3.8%	\$ 0
9	145	143	1.4%	\$ 1,013
10	162	157	3.1%	\$ 2,533
11	180	170	5.6%	\$ 5,067
12	196	182	7.1%	\$ 7,094
13	212	194	8.5%	\$ 9,120
14	232	206	11.2%	\$ 13,174
15	248	218	12.1%	\$ 15,201
16	265	233	12.1%	\$ 16,214
17	286	249	12.9%	\$ 18,747
18	310	265	14.5%	\$ 22,801
19	328	278	15.2%	\$ 25,334
20	347	291	16.1%	\$ 28,374

BLOWER MODEL	SPEED RPM	P R E S S U R E												V A C U U M								D I M E N S I O N S - B A R E B L O W E R				
		5 PSIG		9 PSIG		12 PSIG		15 PSIG		18 PSIG		20 PSIG		8 "Hg		12 "Hg		16 "Hg		17 "Hg		(INCHES)			SIZE AND	WT.
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	L	W	H	TYPE PORTS	LBS.
9CDL13	1200	810	20.2	749	40.0	703	52.3	657	72.4					805	19.5	716	26.2	628	33.0	919	40.7	40 3/4	25 3/4	23	8" Flange 13.5" O.D. Both Ports	1500
	1500	1069	27.4	1008	50.9	962	65.0	916	84.1	870	98.3			1069	24.0	980	32.1	892	40.6	1112	52.5					
	1800	1328	36.5	1267	63.2	1221	80.0	1175	98.9	1129	113.7	1099	132.5	1333	29.6	1244	39.1	1155	49.4	1305	63.4					
	2100	1587	47.7	1526	77.1	1480	97.3	1434	116.6	1388	132.7	1358	155.8	1597	36.4	1508	47.3	1419	59.4	1499	73.3					
	2400	1845	60.5	1784	92.6	1739	116.5	1693	137.4	1647	155.4	1617	180.7	1861	44.6	1772	56.9	1683	70.8	1692	83.3					
	3000	2363	89.5	2302	128.0	2256	159.5	2211	187.9	2165	212.2	2134	234.4	2389	64.5	2300	80.0	2211	96.6	2079	110.7					
9CDL18	1200	1119	31.1	1045	54.1	988	71.1	932	86.9	876	100.1			1171	24.9	1107	35.5	1043	48.1	1144	51.7	44 1/2	25 3/4	23	Inlet 10" Flange 16" O.D. Discharge 8" Flange 13.5" O.D.	1673
	1500	1478	40.4	1404	68.9	1347	88.8	1291	105.9	1235	124.7	1198	142.6	1533	31.4	1469	43.5	1405	57.3	1518	66.4					
	1800	1837	51.3	1763	85.3	1706	108.4	1650	128.5	1594	152.0	1557	175.4	1894	39.6	1830	53.1	1766	68.2	1892	80.7					
	2100	2196	64.0	2122	102.9	2065	129.9	2009	154.6	1953	181.6	1916	208.5	2256	49.3	2192	64.2	2128	80.7	2266	94.6					
	2400	2555	78.3	2481	121.6	2424	152.8	2368	183.9	2312	214.8	2275	241.8	2617	61.1	2553	77.5	2489	95.3	2640	108.4					
	3000	3273	110.9	3199	160.5	3142	200.5	3086	250.0	3030	293.8	2993	317.7	3340	95.9	3276	114.9	3212	132.7	3387	136.8					
9CDL23	1200	1337	41.3	1236	68.1	1160	82.4	1084	96.6	1009	116.2			1380	32.5	1255	41.8	1129	52.1	1424	60.4	49 1/2	25 3/4	23	Inlet 10" Flange 16" O.D. Discharge 8" Flange 13.5" O.D.	1843
	1500	1799	55.0	1698	87.7	1622	107.2	1546	126.1	1471	150.1	1420	169.1	1846	42.1	1720	54.0	1594	68.9	1886	76.0					
	1800	2261	68.8	2160	107.5	2084	132.5	2009	155.3	1933	185.1	1883	203.7	2311	51.4	2186	66.5	2060	85.6	2349	92.0					
	2100	2723	82.7	2622	127.1	2547	157.8	2471	184.1	2395	219.9	2345	238.8	2776	60.6	2651	79.2	2525	102.3	2812	108.1					
	2400	3185	96.7	3084	146.8	3009	182.8	2933	213.3	2857	254.1	2807	275.3	3242	69.9	3116	91.8	2991	118.9	3275	124.2					
	3000	3647	110.6	3547	166.6	3471	207.7	3395	243.0	3320	288.5	3269	313.3	3707	79.5	3582	104.0	3456	135.5	3738	139.0					
11CDL23	800	1628	44.8	1483	78.2	1374	98.5	1265	117.2	1156	136.1			1491	32.4	1304	47.7	1117	61.4	1466	70.5	53	33	29	Inlet 14" Flange 21" O.D. Discharge 12" Flange 19" O.D.	3364
	1100	2348	63.1	2203	109.2	2094	136.8	1985	163.4	1876	192.4	1803	213.7	2238	49.4	2051	68.2	1863	84.3	2272	98.9					
	1400	3068	86.8	2923	141.4	2814	179.3	2705	214.2	2596	252.7	2523	279.7	2984	70.0	2797	92.1	2609	110.8	3078	128.0					
	1700	3788	115.8	3643	176.3	3534	224.9	3425	268.8	3316	316.7	3243	348.9	3730	94.4	3543	119.5	3356	140.7	3884	158.6					
	2000	4508	148.5	4363	214.1	4254	271.8	4145	324.9	4036	381.9	3963	416.4	4477	121.4	4290	149.2	4102	172.4	4690	189.5					
	2200	4988	171.6	4843	240.7	4734	303.2	4625	362.7	4516	425.6	4443	461.4	4974	139.8	4787	169.3	4599	194.0	5227	208.6					
11CDL27	800	1760	51.9	1587	87.8	1458	114.7	1328	138.6					1713	41.3	1509	57.0	1305	74.5	1778	73.9	57	33	29	Inlet 14" Flange 21" O.D. Discharge 12" Flange 19" O.D.	3475
	1100	2599	73.5	2426	120.5	2297	157.7	2167	190.9	2038	226.1	1952	249.8	2581	58.9	2377	80.1	2172	101.5	2713	109.2					
	1400	3438	100.6	3266	158.9	3136	206.4	3007	248.7	2877	292.5	2791	322.8	3448	81.1	3244	106.4	3040	131.5	3647	140.1					
	1700	4278	133.0	4105	202.5	3976	260.4	3846	311.7	3717	366.2	3630	402.5	4316	108.3	4112	135.7	3907	163.8	4582	168.2					
	2000	5117	170.0	4944	250.7	4815	317.8	4685	376.7	4556	443.9	4470	484.4	5184	139.4	4980	166.8	4775	196.6	5516	196.7					
	2200	5677	197.2	5504	285.6	5374	357.3	5245	420.7	5115	497.1	5029	539.6	5762	161.5	5558	188.0	5353	218.3	6139	218.1					
11CDL31	800	2013	56.6	1838	97.5	1707	125.9	1576	154.9	1444	185.8			2077	43.6	1900	62.3	1722	79.5	1856	80.1	61	33	29	Inlet 14" Flange 21" O.D. Discharge 12" Flange 19" O.D.	3672
	1100	2999	80.4	2824	132.4	2692	170.0	2561	207.7	2430	245.9	2342	272.9	2989	63.2	2812	86.5	2634	106.7	2902	113.5					
	1400	3984	108.4	3809	174.9	3677	222.8	3546	271.0	3415	318.0	3327	352.5	3901	87.1	3724	115.1	3545	138.7	3948	146.6					
	1700	4969	140.8	4794	225.0	4663	284.7	4531	344.8	4400	401.7	4312	445.3	4813	115.2	4636	147.8	4457	175.4	4995	180.8					
	2000	5954	176.5	5779	280.9	5648	353.9	5516	426.6	5385	494.1	5298	547.5	5725	146.7	5548	183.6	5369	215.7	6041	215.3					
	2200	6611	201.9	6436	320.7	6305	403.4	6173	484.6	6042	559.5	5954	619.7	6333	169.2	6156	208.8	5977	244.2	6739	237.3					

Performance data for air at standard conditions: sea level, 14.7 PSIA. 68°F inlet temperature, 36% relative humidity. Contact Gardner Denver Blower Division for wet vacuum applications to 24 "Hg.



The new CycloBlower® XP is a compact, helical lobe, axial flow, positive displacement blower/vacuum pump capable of up to 20 psig continuous pressure and 17" Hg dry continuous vacuum. The CycloBlower XP combines the most efficient rotor techniques with other features that provide benefits not found in other blower designs. The meshing of two screw-type rotors synchronized by timing gears provides controlled compression of air for maximum efficiency and shock-free discharge. As a result of improved manufacturing systems, assembly methods and internal clearances, the new CycloBlower XP series allows higher operating speeds for

increased flow capacities from a compact design. Blower performance efficiency is improved as a result of the higher operating speed capabilities of these blowers. The CycloBlower XP's simple design assures clean air or gas delivery, efficient shock-free compression and dependable operation.

Unique CycloBlower® Design Features

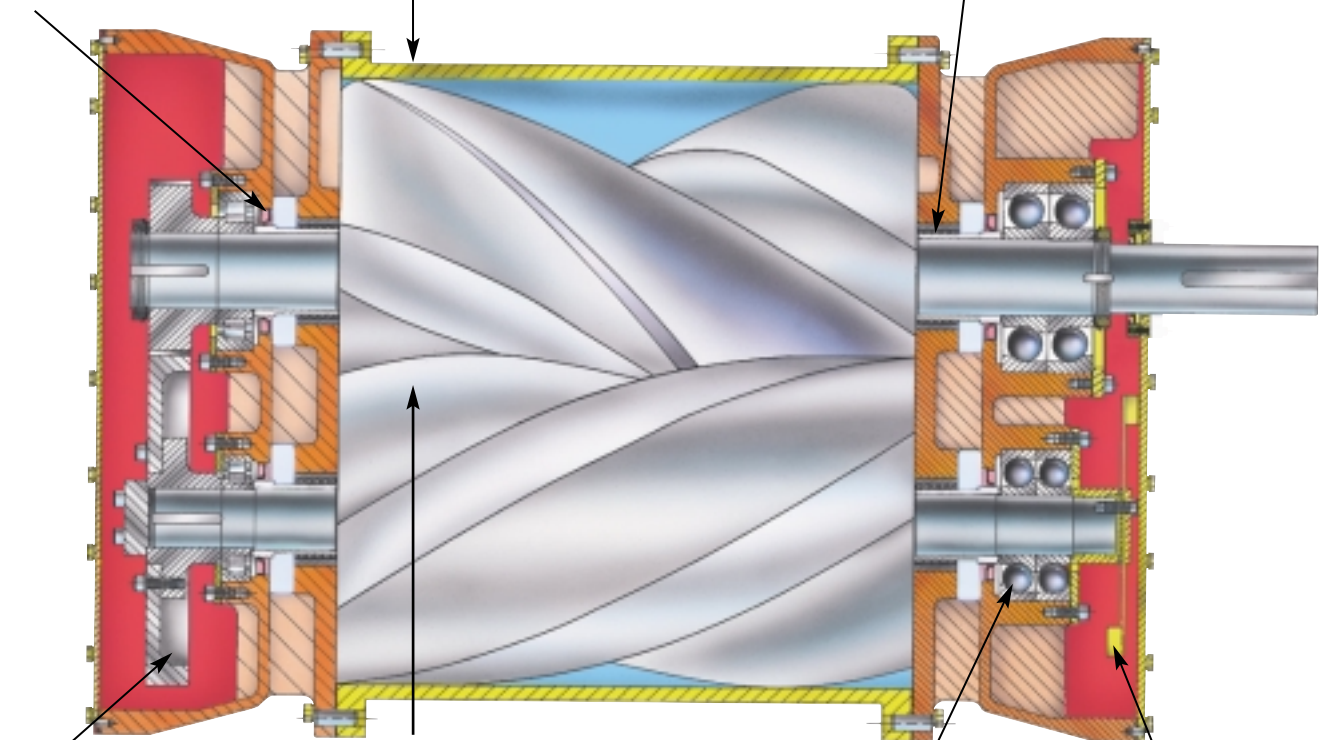


CycloBlower XP rotors are precision ground using state of the art milling technology.

OIL SEALS — Hydrodynamic oil seals automatically push lubricant back towards reservoir for superior sealing

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

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.



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

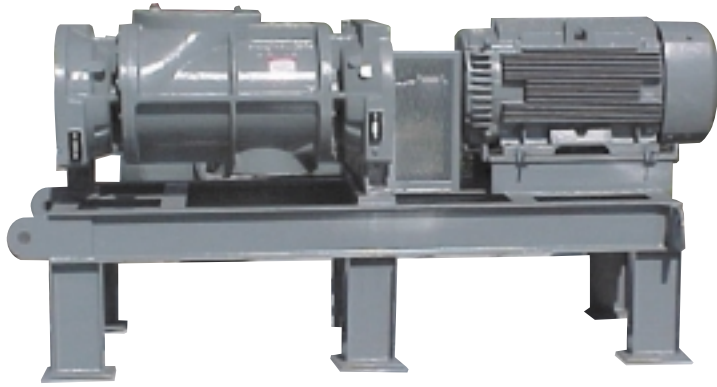
ROTORS — Helical four-flute gate rotor and two-lobe main rotor are milled from high tensile strength ductile iron, stress relieved and dynamically balanced.

BEARINGS — Anti-friction bearings carry the shaft loads in all models. All models use pairs of angular-contact ball bearings on the discharge end and cylindrical roller bearings or single-row ball bearings on the gear end.

LUBRICATION — Basic design requires no lubrication of rotors. Gears and bearings are lubricated by a splash oil system. An oil pump is not required.

Gardner Denver Engineered Packaging Center

If you need a complete packaged system using a CycloBlower, our Engineered Packaging Center located in Houston, Texas, can custom design a complete pressure or vacuum system to match your air or gas applications. All components are carefully matched and assembled and packaged according to your specification guidelines and application requirements.



Warranty – CycloBlower Industrial XP Series Blowers/ Vacuum Pumps carry one of the industry's strongest warranties. Gardner Denver warrants products manufactured by it to be free of defects in materials and workmanship for a period of one (1) year from date of shipment.

Contact Your CycloBlower Representative



All CycloBlowers are manufactured to ISO 9001 standards in our Sedalia, MO plant.

CycloBlower® XP Service & Parts



- Factory Trained Service Professionals
- On-site, On-Demand Service
- System Optimization
- Re-manufacturing
- Training, Troubleshooting and Consulting
- Preventative Maintenance Agreements
- Warranty Renewal Programs
- Genuine GD Quality Replacement Parts
- Highest Quality Lubricants and Accessories

Other Gardner Denver Brochures Available

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Positive Displacement Lobe
Blowers/Vacuum Pumps**



**DuroFlow Industrial
Positive Displacement Lobe
Blowers/Vacuum Pumps**



**Engineered Solutions
Blower/Vacuum Systems**



Gardner Denver

For additional information, contact your local representative or

Gardner Denver Blower Division

100 Gardner Park, Peachtree City, GA 30269

Toll Free 800-543-7736 ext. 466

Phone 770-632-5000 • Fax 770-486-5629

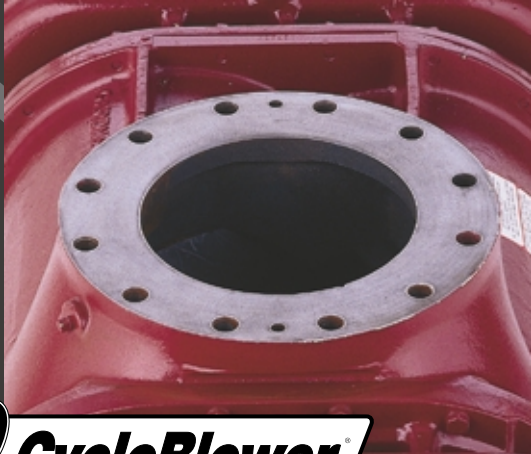
E-mail: blowersmktg@gardnerdenver.com

Visit our web site: www.gardnerdenver.com

For Parts Information, Contact:

Gardner Denver Blower Division Customer Service

Phone 770-632-5000 • Fax 770-486-5629



Helical Screw Blowers/Vacuum Pumps

**INDUSTRIAL
XP SERIES**