



Roots

Blowers, Compressors and Controls

SPECIFICATIONS

ROOTS™ EASYAIR® X2 Factory Blower Package System

BASIC BLOWER PACKAGE DESCRIPTION

The ROOTS™ EASYAIR® X2 Factory Blower Package System is an improved design based upon the popular EASYAIR® 8000 package. The EASYAIR® X2 system provides performance engineering in a standard package. It is produced for vacuum or pressure applications, enabling simple, on-site installation.

EASYAIR® X2 PACKAGE DESIGN FEATURES

- Overall size is smaller than the EASYAIR® 8000 package and the side-to-side size accommodates more packages in a given area
- The inlet filter is accessible through key lock panels for easy removal and ample access to equipment
- Inlet room air routes from the front of the package and exhaust air routes to the rear of the package near the discharge connection
- No electric fan hookup required as the fan is mounted on the blower shaft and driven mechanically resulting in longer life
- Patented automatic belt tension system optimizes performance and extends belt life
- Panel-mounted gauges (inlet filter differential, blower exhaust temperature and pressure) and external oil level view for easy monitoring
- Up to 22dBA free field noise attenuation with enclosure
- Integrated forklift access at front of package
- Standard pipe size for available connections

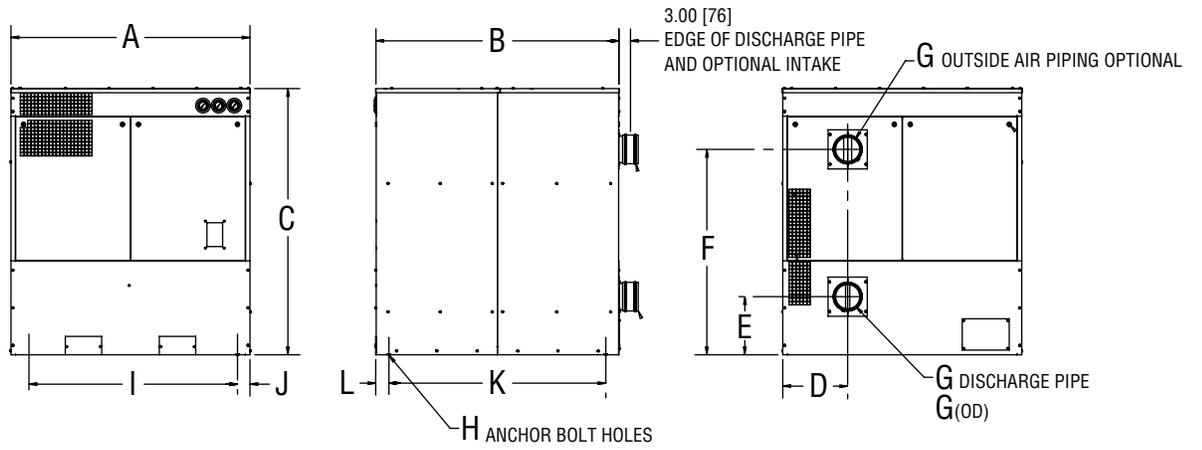
STANDARD EQUIPMENT

- ROOTS™ Universal RAI® Dual Splash Lubricated blowers and RAM™-J WHISPAIR™ bi-lobe blowers, or RAM X™ tri-lobe blowers



- TEFC EPACT motor
- Inlet filter silencer with polyester element
- Covered oil fill container provided as standard
- Easy accessible oil drain
- Discharge base frame/discharge silencer
- Spring relief valve
- Discharge check valve
- Discharge flex connectors to available piping
- Superior isolation pads used to minimize transmissions to the foundation
- Manufacturer's standard paint on internal components
- Powder-coated finish on noise enclosure

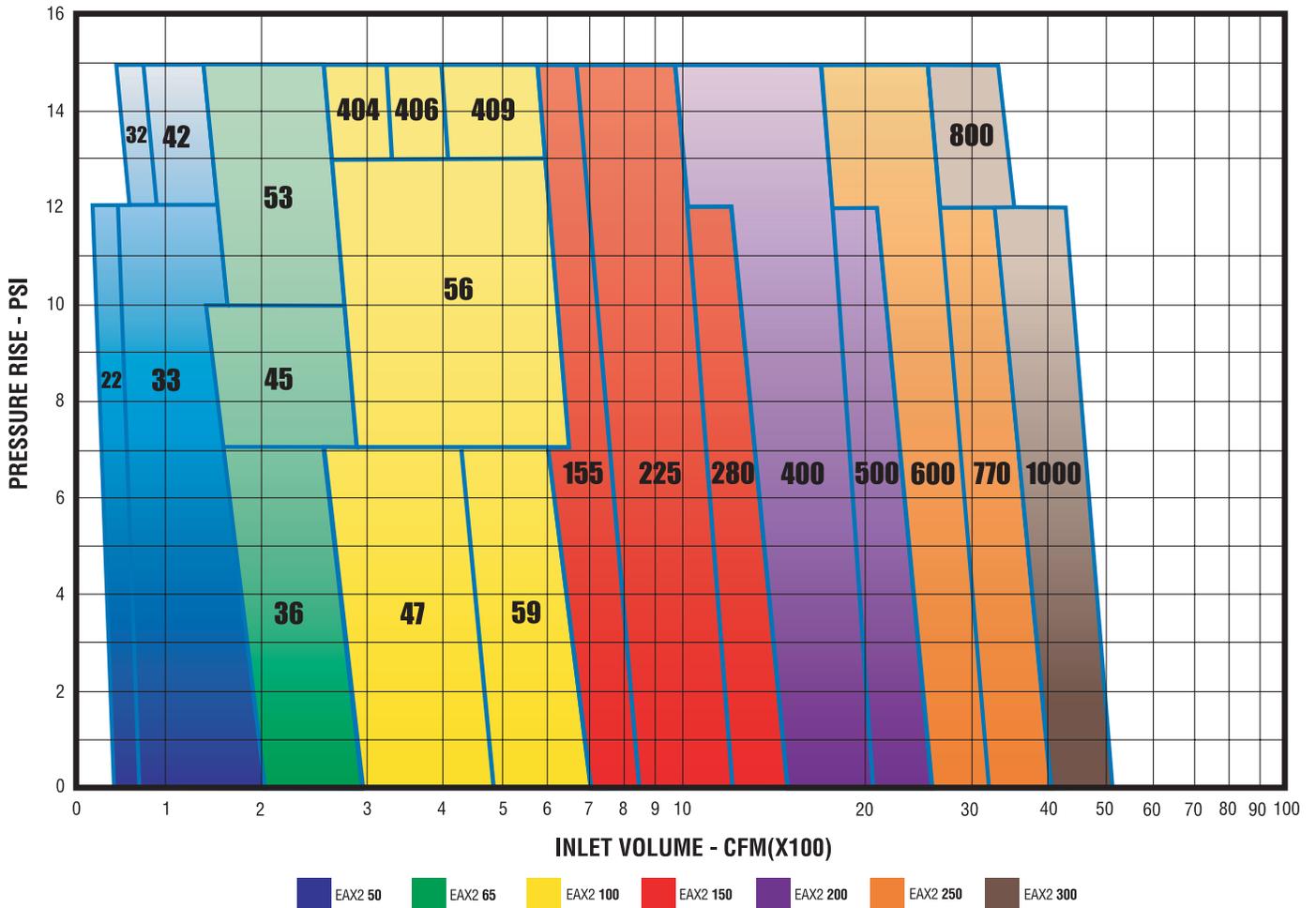
DIMENSIONS



Model No.	A	B	C	D	E	F	G	G(OD)	H	I	J	K	L
EAX2 50	38.38	39.36	41.33	8.91	7.66	30.50	2.00	2.38	0.78	32.10	3.14	32.83	3.27
EAX2 65	43.31	39.37	45.28	10.88	7.66	32.44	2.50	2.88	0.78	37.03	3.14	32.83	3.27
EAX2 100	49.21	47.24	58.07	10.45	9.23	41.14	4.00	4.50	0.78	42.93	3.14	40.71	3.27
EAX2 150	60.03	61.02	66.93	16.30	14.60	51.65	6.00	6.60	0.78	53.76	3.14	54.48	3.27
EAX2 200	66.93	70.87	79.73	18.74	17.95	59.80	8.00	8.63	0.78	61.04	3.14	64.33	3.27

Models EAX2 250 and EAX2 300 are not available at this time. All dimensions are in inches.

ROOTS™ EASYAIR® X2 Packages and Blower Performance Ranges



ROOTS™ Universal RAI® DSL Dual Splash Lubricated Rotary Positive Displacement Blowers

Frames 22, 33, 36, 42, 45, 47, 53, 56, 59, 615

BASIC BLOWER DESCRIPTION

URAI DSL (Dual Splash Lubricated) blowers are heavy-duty rotary blowers designed with detachable, rugged steel mounting feet. The compact, sturdy design is engineered for continuous service when operated in accordance with speed and pressure ratings.

This model consists of a cast iron casing, carburized and ground alloy steel spur timing gears secured to steel shafts with a taper mounting and locknut, and

cast iron involute impellers. Oversized antifriction bearings are used, with a cylindrical roller bearing at the drive shaft to withstand V-belt pull.

The URAI DSL blower features splash oil lubrication on both the gear end AND drive end. Roots' exclusive "figure-eight" gearbox design improves oil distribution to maximize gear and bearing life. Sight glasses (3/8") are provided for accurate oil level confirmation. After testing, the unit is sprayed with a protective paint, and boxed or skid mounted for delivery.



PERFORMANCE TABLE: ROOTS™ EASYAIR® X2 Package Universal RAI® DSL Blower

Frame Size	Speed RPM	1 PSI		6 PSI		7 PSI		10 PSI		12 PSI		13 PSI		14 PSI		15 PSI		Max. Vacuum		
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	"HG	CFM	BHP
22*	1160	10	0.1															4	6	0.2
	3600	49	0.3	38	1.6	36	1.8	32	2.6	29	3.1							14	28	1.8
	5275	76	0.5	64	2.4	63	2.7	59	3.8	56	4.6							15	53	2.8
32	1160	40	0.2	21	1.4	19	1.6											10	18	1.1
	2800	113	0.6	95	3.4	93	3.9	86	5.6	82	6.7	81	7.2	79	7.8	77	8.3	15	78	4.1
	3600	149	0.9	131	4.4	129	5.2	122	7.3	118	8.7	117	9.4	115	10.1	113	10.8	16	110	5.3
33	1160	55	0.3	31	1.9	28	2.2											10	27	1.5
	2800	156	0.9	132	4.6	129	5.4	120	7.7	116	9.2							14	113	5.2
	3600	205	1.2	181	6.1	178	7.0	170	9.9	165	11.9							15	159	7.3
36	1160	95	0.5	61	3.1	57	3.6											10	55	2.5
	2800	262	1.5	229	7.7	224	8.9											12	213	7.5
	3600	344	2.1	310	10.1	306	11.7											15	278	12.1
42	860	38	0.2	18	1.4	15	1.6											8	19	0.9
	1760	92	0.5	72	2.8	69	3.3	62	4.7	58	5.6							14	56	3.2
	3600	204	1.4	183	6.1	181	7.1	173	9.9	169	11.8	167	12.8	165	13.7	163	14.7	16	160	7.7
45	860	79	0.5	42	2.7	37	3.2											8	46	1.8
	1760	188	1.0	151	5.7	146	6.6	133	9.4									12	134	5.5
	3600	410	2.7	374	12.2	369	14.1	356	19.8									16	332	15.4
47	860	105	0.6	59	3.6	53	4.2											8	63	2.4
	1760	249	1.3	203	7.5	196	8.7											12	181	7.3
	3600	542	3.5	496	16.1	490	18.6											15	452	19.1
53	700	72	0.4	42	2.4	38	2.8											10	36	2.0
	1760	211	1.2	181	6.3	177	7.3	167	10.3	160	12.3	157	13.3	155	14.4			14	158	7.1
	2850	355	2.5	325	10.7	321	12.3	310	17.2	304	20.5	301	22.1	298	23.8	295	25.4	16	291	13.4
56	700	123	0.7	78	4.1	72	4.7											10	70	3.3
	1760	358	2.0	312	10.5	306	12.2	290	17.3	280	20.6	276	22.3					14	276	11.8
	2850	598	4.0	553	17.7	547	20.5	531	28.7	521	34.2	517.0	37.0					16	501	22.4
59	700	187	1.0	130	5.9													8	135	3.9
	1760	529	2.9	472	15.3	464	17.8											12	445	14.9
	2850	881	5.9	824	26.0	816	30.0											15	770	30.8

* Not a DSL blower

NOTES: 1. Performance based on inlet air at standard pressure of 14.7 psia, standard temperature of 68° F, and specific gravity of 1.0.
2. Vacuum ratings based on inlet air at standard temperature of 68° F, discharge pressure of 30" Hg and specific gravity of 1.0.

ROOTS™ RAM™-J WHISPAIR™ Rotary Positive Displacement Blowers

Frames 404J, 406J, 409J

BASIC BLOWER DESCRIPTION

RAM™ WHISPAIR™ rotary blowers are heavy-duty units designed with integral-shaft ductile iron impellers having an involute profile for maximum efficiency. WHISPAIR blowers reduce noise and power loss by utilizing an exclusive wrap-around plenum and proprietary WHISPAIR jet to control pressure equalization-feeding backflow in the direction of impeller movement, thereby aiding rotation.

The headplates and rigid, one-

piece cylinder are grey iron, while the drive end cover and gear cover are aluminum. Carburized and ground alloy steel spur timing gears are taper mounted on the shafts, secured with a locknut. Cylindrical roller bearings are used.

Piston rings reduce air leakage through the shaft openings in the headplates, and lip-type oil seals prevent lubricant from entering the air chamber. RAM rotary blowers incorporate thrust control, with splash oil lubrication at both ends of the blower. A hydrodynamic seal on the drive shaft prevents shaft seal oil leaks.



PERFORMANCE TABLE: ROOTS™ EASYAIR® X2 Package RAM™-J Blower

FRAME SIZE	SPEED RPM	4 PSI		6 PSI		8 PSI		10 PSI		12 PSI		15 PSI		MAX. Vacuum		
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	"Hg	CFM	BHP
404J	1750	149	3.6	139	5.3	130	7.0	123	8.7	116	10.4			14.0	115	5.9
	2950	281	7.0	271	9.8	262	12.6	255	15.4	248	18.2	239	22.4	15.0	240	11.2
	4000	396	8.3	386	14.2	378	17.9	370	21.6	364	25.3	355	30.9	16.0	353	15.9
406J	1750	225	5.4	210	8.0	198	10.5	187	13.0	177	15.6			14.0	173	9.0
	2950	426	10.5	411	14.7	398	18.9	387	23.1	377	27.3	363	33.6	15.0	365	16.9
	4000	601	15.0	586	20.1	574	26.0	562	31.9	552	37.0	539	46.5	16.0	531	23.6
409J	1750	338	8.5	315	12.0	296	15.8	279	20.0	264	23.5			14.0	259	13.5
	2950	638	15.2	615	21.5	596	27.8	579	34.1	564	40.4	544	49.8	15.0	546	24.8
	4000	900	24.0	878	30.0	859	38.1	842	46.8	827	55.0	806	67.9	16.0	795	35.1

- Notes: 1. Pressure ratings based on inlet air at standard pressure of 14.7 psia, standard temperature of 68° F, and specific gravity of 1.0.
2. Vacuum ratings based on inlet air at standard temperature of 68°F, discharge pressure of 30" Hg and specific gravity of 1.0.



View with rear panels removed.



View with front panels removed.

ROOTS™ RAM X™ Tri-Lobe Rotary Positive Displacement Blowers

Models 155, 225, 280, 400, 500, 600, 770, 800, 1000

BASIC BLOWER DESCRIPTION

RAM X tri-lobe rotary blowers are heavy-duty units with high strength integral-shaft ductile iron impellers designed with an involute profile for maximum efficiency. The blowers feature ROOTS WHISPAIR™ discharge design which, when combined with our tri-lobe impellers, delivers quieter operation than conventional tri-lobe blowers.

The headplates and rigid, one-piece cylinder are cast iron, while the drive-end and gear covers are aluminum. Carburized and ground alloy steel spur timing gears are taper mounted on the shafts and are secured with a locknut. Cylindrical roller



bearings are used to accept side loads from v-belt drives.

Piston rings reduce air leakage through the shaft openings in the headplates and hydrodynamic oil seals prevent lubricant from entering the air chamber. RAM X blowers incorporate thrust control, with splash oil lubrication at both ends of the blower.

All model sizes are designed with detachable rugged steel mounting feet which permit in-field adaptability to either vertical or horizontal installation requirements.

The top shaft is adaptable for drive on side outlet blowers, and either shaft can be extended for drive on top or bottom outlet blowers.

PERFORMANCE TABLE: ROOTS™ EASYAIR® X2 Package RAM X™ Blower

Model No.	Speed RPM	4 PSI		6 PSI		8 PSI		10 PSI		12 PSI		15 PSI		Max. Vacuum		
		CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	"HG	CFM	BHP
155	2000	317	7.1	301	10.5	288	13.8	276	17.2	266	20.6	251	25.6	15	253	12.5
	3560	618	14.1	602	20.1	589	26.1	577	32.1	567	38.1	553	47.0	16	545	24.4
	4750	847	21.0	832	29.0	818	37.0	807	45.0	796	53.0	782	65.0	16	774	33.6
225	2000	459	10.2	436	15.1	417	20.0	400	24.8	385	29.7	364	37.0	15	366	18.1
	3560	895	20.0	872	28.6	853	37.3	836	46.0	821	54.7	800	67.7	16	789	35.2
	4750	1227	29.4	1205	40.9	1186	52.5	1169	64.1	1154	75.7	1133	93.1	16	1122	48.2
280	2000	573	12.8	545	18.9	521	25.0	500	31.1	481	37.2			15	458	22.6
	3560	1118	25.1	1090	36.0	1066	46.8	1045	57.7	1026	68.5			16	986	44.0
	4750	1534	37.1	1506	51.5	1482	66.0	1461	80.5	1442	95.0			16	1402	60.4
400	1500	821	18.0	782	26.6	750	35.3	721	43.9	695	52.6			14	684	29.9
	2500	1483	31.9	1444	46.3	1412	60.7	1383	75.2	1357	89.6	1322	111.2	16	1302	57.9
	3560	2185	49.8	2146	70.4	2113	90.9	2085	111.5	2059	132.0	2023	162.8	16	2004	84.4
500	1500	1019	22.6	971	33.4	931	44.1	895	54.9	863	65.6			14	849	37.4
	2500	1841	41.1	1793	59.0	1753	76.9	1717	94.9	1685	112.8			16	1616	72.5
	3560	2713	66.2	2665	91.8	2624	117.3	2588	142.8	2556	168.3			16	2488	106.9
600	1400	1396	30.4	1337	44.8	1288	59.3	1245	73.7	1205	88.2			14	1189	50.2
	2200	2342	51.2	2284	73.9	2235	96.6	2191	119.3	2152	142.0	2099	176.0	16	2069	91.4
	3050	3348	78.4	3289	109.9	3240	141.4	3197	172.8	3157	204.3	3104	251.5	16	3074	130.3
770	1400	1750	37.9	1677	56.1	1615	74.2	1560	92.3	1511	110.4			14	1491	62.9
	2200	2936	63.7	2863	92.1	2801	120.6	2747	149.0	2698	177.5			16	2593	114.4
	3050	4197	96.9	4124	136.3	4062	175.8	4007	215.2	3958	254.7			16	3854	162.7
800	1300	1944	42.4	1864	62.4	1797	82.4	1738	102.5	1685	122.5			14	1663	69.7
	1900	3004	65.8	2924	95.0	2858	124.3	2799	153.6	2745	182.9	2673	226.8	16	2632	117.8
	2670	4364	102.3	4285	143.4	4218	184.6	4159	225.7	4106	266.8	4034	328.6	16	3993	170.2
1000	1300	2430	52.9	2331	77.9	2247	103.0	2173	128.0	2106	153.0			14	2079	87.2
	1900	3755	81.9	3656	118.5	3572	155.1	3499	191.7	3432	228.3			16	3291	147.2
	2670	5456	127.1	5357	178.5	5273	229.9	5199	281.4	5133	332.8			16	4992	212.4

Notes: 1. Pressure ratings are based on inlet air at standard pressure of 14.7 psia, standard temperature of 68° F and specific gravity of 1.0.
2. Vacuum ratings are based on inlet air at standard temperature of 68° F, discharge of 30" Hga and specific gravity of 1.0.

SUPERIOR FIELD SERVICES

Roots provides superior field services, control systems, and fastest repair turnaround. We provide full job-site troubleshooting services and capabilities and state-of-the-art diagnostic tools delivered and utilized on-site for thorough diagnosis prior to removal. Because we maintain the world's largest network of service representatives, we provide a 24-hour delivery for most parts and repair kits and enable the right response for your level of urgency.

ROOTS Control Systems services include Revamp, Upgrade, Replacement and Conversions (analog to touch-screen and gauges to transmitters).

We have an exchange program available covering a wide range of ROOTS rotary equipment to keep your repair downtime to an absolute minimum. Our Service Centers maintain a complete inventory of genuine ROOTS parts for fastest turnaround.

All competitor parts are also available for any repair need.

TESTING

All serviced units are mechanically tested to assure compliance to rated specifications. Only Roots provides the quality assurance of unit testing on each blower or compressor rebuilt or repaired.

SERVICE CENTER LOCATIONS

Roots operates strategically located blower repair facilities: Connersville, Indiana, Houston, Texas, Skelmersdale, UK, Mexico City, Mexico, Dubai, UAE, and Shanghai, China. Roots has additional authorized service centers throughout the world. Each facility is staffed with factory-trained service personnel. All Roots service centers are equipped to handle maintenance and repair service for almost every brand of small and large rotary blowers, gas pumps and vacuum pumps.

WARRANTY

Universal RAI®, RAM™-J and RAM X™ models 155-500 blowers come with twenty-four (24) month warranties on all parts and workmanship. Warranty begins from the date of original unit start-up or 30 months from date of original shipment, whichever occurs first. RAM X™ models 600-1000 come with twelve (12) month warranties from date of original start-up or 18 months from date of original shipment, whichever occurs first.

Roots backs all maintenance and repair work performed at Roots facilities or in the field with one year Roots parts and workmanship, competitive pricing and SC ISO-9001 Certified.



Roots patented automatic V-belt drive tensioning system.



Inlet filter differential, blower exhaust temperature and pressure gauges are standard.



Oil fill level site glass is visible without opening panels.

Dresser Roots

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