

RESPONDENT PRECISION ENGINEERING (P) LTD.

Driving the innovation



Manufacturer of
Twin/Tri Lobe Roots Blowers, Mechanical Vacuum Booster, Aquaculture
Blower, Sludge Dewatering Machine & Various STP/ETP Equipment..

www.rpepumps.com

ABOUT US

RPE is an ISO 9001:2015 certified company serves and offers a complete range of Twin Lobe , Tri Lobe Rotary Air Blowers (Roots Blowers), Mechanical Vacuum Boosters, Ring Blowers and Acoustic Enclosure, Sludge Dewatering Machine and STP/ETP Equipment to suit large Industry segments.

We manufacture wide range of Roots blowers ranging from 10m³/hr to 10,000m³/hr available in both air cooled and water cooled design and can be used for both Pressure and vacuum duty.

OUR TEAM

Our organization is backed by a group of diligent personnel, which enables us to deliver product of high quality standards.

The professionals of our organization are experts of their respective field, which help in timely execution of assigned tasks

QUALITY POLICY

We at RPE Blowers are committed to continually improve in all process areas leading to quality product by involving competent and motivated employees at all levels leading to overall growth of the company through satisfied customers.

Our Facilities

- **Machinery:** We at RPE are equipped with state of the art VMC,CNC machines, Cylindrical Grinding Machine, Balancing Machine, Lathe, Milling, SPM etc. for the quality manufacturing practice
- **Testing Facilities:** We at RPE uses various measuring and testing tools at every stage of production to ensure each and every material meets the strict quality standards set by us. We have the facility of blower testing as per BS 1571 Part-II and ensures every blower tests for several hours at extreme conditions to check its performance parameters before dispatch.

KEY STRENGTH

- On time delivery
- Excellent after sales support
- Technically qualified and experienced professional team
- Well equipped with testing facility and equipment
- We provide excellent quality product at highly competitive price range
- We believe in constant improvement
- We stick to quality at all cost without any compromise

INDUSTRIES SERVED

- STP: For aeration and agitation of sewage in aeration tanks
- Aquaculture: For maintaining sufficient oxygen in fish, shrimps breeding pool
- WTP: For water purification, sediment mixing and back washing
- Cement industry: For loading and unloading of bulkers
- Pneumatic conveying: For conveying powder or granules such as plastic materials by Pressure/Vacuum conveying method
- Sewer trucks mounted blowers: For suction of municipal sewage inside truck mounted sewer tanks
- Paper Industry: For drying, conveying, vacuum pickup and knife edge coating
- FMCG: For supply of process air and pneumatic and vacuum conveying
- Electroplating Industry: For agitation of electrolyte
- Sugar Mills: For effluent treatment
- Chemical Industry: For supply of process air
- Distilleries: Liquor moving, Conveying of grains etc.
- Steel mills: Blast furnace air supply, coke oven exhausters, fly ash collections, combustion air for open health furnace
- And many more.....

TWIN LOBE AIR ROOTS BLOWER



INTRODUCTION

The Roots-type twin lobe blower is a positive displacement blower that operates by circulating air/gas from the inlet port to the outlet port with the help of a pair of meshing lobes having finite clearances between them.

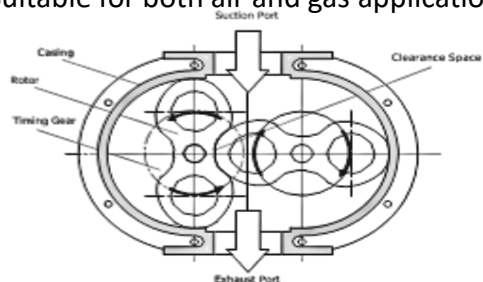
WORKING PRINCIPLE

Twin-Lobe Compressors/Blowers are positive displacement units, whose pumping capacity is determined by size, operating speed and pressure condition. It employs two Two-lobe (8 Shaped) impellers mounted on parallel shafts, rotating in opposite directions within a casing closed at the ends by side plates. Impellers rotation allows air into one side of the casing and forced out of the opposite side against the existing pressures. The differential pressure developed, therefore, depends upon the resistance of the connected system.

The Blowers, being positive displacement type, do not develop pressure within the casing but the discharge pressure depends upon the system resistance / back pressure. A pair of accurately machined alloy steel, hardened and ground timing gears maintain clearances between the impellers, during rotation. The air, thus delivered, is 100% oil free.

KEY FEATURES OF RPE ROOTS BLOWER

- 100% Oil free air delivery.
- Superior product quality having robust design
- Available in both Air cooled and Water-cooled type.
- Alloy steel toughened shafts ground to close tolerances
- Dynamically balanced Impellers/Rotor as per ISO 1940/1 Grade 6.3.
- Antifriction bearings arrangement
- Rotary Oil Sealing
- EN-353 hardened and ground timing gears
- Casing, Side plates and Lobe conforms to CI FG 260 grade grey cast iron as per IS:210 standard.
- Capacity ranges from 10CMH to 10,000CMH
- Differential Pressure up to 1kg/cm^2 (10000MMWG)
- Easy rotor timing setting
- Vacuum application up to 0.5kg/cm^2 (5000MMWG)
- Suitable for both air and gas applications



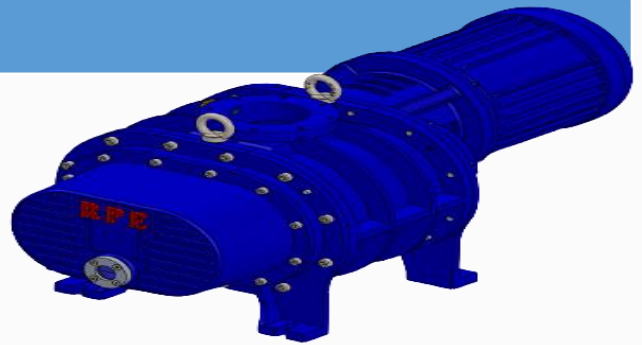
PERFORMANCE DATA OF RPE MAKE TWIN LOBE ROOTS BLOWER

MODEL	INLET / OUTLET	SPEED (RPM)	AIRCOOLED												WATERCOOLED									
			1000 mmWC		2000 mmWC		3000 mmWC		4000 mmWC		5000 mmWC		6000 mmWC		7000 mmWC		8000 mmWC		9000 mmWC		10000 mmWC			
			m ³ /hr	BHP	m ³ /hr	BHP	m ³ /hr	BHP	m ³ /hr	BHP	m ³ /hr	BHP	m ³ /hr	BHP	m ³ /hr	BHP	m ³ /hr	BHP	m ³ /hr	BHP	m ³ /hr	BHP		
RPE-315	20	900	23	0.29	17	0.43	13	0.58	9	0.72	5	0.85												
		1200	36	0.38	30	0.57	25	0.76	21	0.94	18	1.14												
		1500	49	0.48	42	0.71	38	0.95	34	1.18	30	1.40												
RPE-33	40	900	48	0.43	37	0.71	28	0.99	20	1.26	14	1.54												
		1200	74	0.57	62	0.94	53	1.31	45	1.68	39	2.06												
		1500	100	0.72	87	1.17	78	1.64	71	2.11	64	2.57												
RPE-36	65	900	111	0.71	93	1.27	80	1.84	68	2.40	58	2.96												
		1200	162	0.95	145	1.70	131	2.45	120	3.19	110	3.94												
		1500	214	1.19	196	2.12	182	3.06	171	4.00														
RPE-42	40	900	62	0.52	49	0.86	39	1.20	30	1.52	23	1.86	17	2.21	11	2.55								
		1200	92	0.69	80	1.15	70	1.60	61	2.04	54	2.49	47	2.93	41	3.38								
		1500	123	0.87	110	1.43	100	1.99	92	2.55	85	3.12	78	3.67										
RPE-44	65	900	95	0.68	78	1.17	65	1.66	54	2.15	45	2.65												
		1200	139	0.90	123	1.56	110	2.21	99	2.87	89	3.51												
		1500	184	1.12	167	1.94	155	2.77	144	3.59	134	4.40												
RPE-47	65	900	191	1.07	169	1.96	152	2.84	138	3.73	126	4.62												
		1200	272	1.43	250	2.61	233	3.79	219	4.97	207	6.16												
		1500	352	1.78	331	3.26	314	4.74	300	6.21														
RPE-53	65	900	122	0.85	107	1.42	96	2.00	86	2.56	78	3.14	70	3.71	63	4.28	57	4.87	51	5.45	45	6.01		
		1200	174	1.13	159	1.89	148	2.66	138	3.41	130	4.18	123	4.96	116	5.73	109	6.84	103	7.24	97	8.00		
		1500	226	1.41	212	2.37	201	3.33	191	4.28	183	5.24	175	6.19	168	7.15	162	8.12	155	9.08	150	10.03		
RPE-55	80	900	213	1.25	191	2.23	173	3.20	159	4.19	146	5.17	135	6.16										
		1200	303	1.67	281	2.98	263	4.28	248	5.58	235	6.90	224	8.20										
		1500	392	2.08	370	3.72	352	5.35	338	6.99	325	8.62	313	10.24										
RPE-57	100	900	300	1.61	271	2.95	250	4.30	231	5.62	215	6.96												
		1200	422	2.15	393	3.93	372	5.72	353	7.49	337	9.30												
		1500	544	2.69	515	4.91	494	7.15	475	9.37	460	11.61												
RPE-59	100	900	408	2.08	372	3.88	344	5.68	321	7.49	301	9.30												
		1200	572	2.77	536	5.17	509	7.58	486	9.99	465	12.38												
		1500	737	3.46	701	6.46	674	9.48	650	12.47														
RPE-512	125	900	521	2.57	477	4.86	443	7.16	413	9.44	388	11.74												
		1200	731	3.42	685	6.47	652	9.54	623	12.60	597	15.65												
		1500	940	4.28	895	8.10	862	11.93	832	15.74														
RPE-514	125	900	615	2.95	566	5.63	528	8.30	496	10.97	468	13.65												
		1200	859	3.53	810	7.50	772	11.06	741	14.64	713	18.21												
		1500	1104	4.92	1055	9.38	1017	13.83	985	18.29														
RPE-65	80	900	305	1.75	275	3.12	253	4.50	234	5.88	216	7.24	201	8.62	187	10.00	175	11.41	162	12.76	150	14.13		
		1200	431	2.33	401	4.16	378	5.99	360	7.85	342	9.66	327	11.50	313	13.34	300	15.18	287	16.99	276	18.85		
		1500	557	2.91	527	5.21	504	7.50	485	9.79	468	12.09	453	14.39	438	16.66	426	18.98	413	21.25	402	23.57		
RPE-67	100	900	458	2.44	414	4.50	380	6.57	350	8.62	325	10.89	302	12.76	281	14.82								
		1200	647	3.25	602	6.00	568	8.75	538	11.49	513	14.25	490	17.00	470	19.78								
		1500	835	4.06	791	7.50	756	10.94	728	14.39	702	17.82	680	21.28	658	24.70								
RPE-610	125	750	485	2.60	426	4.90	380	7.19	341	9.48	308	11.79												
		1200	862	4.16	803	7.84	757	11.50	719	15.18	685	18.85												
		1500	1114	5.21	1055	9.80	1008	14.37	970	18.97	936	23.55												
RPE-615	150	750	628	3.75	500	7.20	400	10.94	315	14.08														
		1200	1195	6.00	1065	11.51	965	17.01	880	22.51														
		1500	1570	7.49	1440	14.37	1342	21.27	1257	28.13														
RPE-76	100	900	538	2.75	504	5.00	478	7.26	457	9.53	437	11.78	420	14.05	404	16.31	389	18.56	375	20.82	362	23.09		
		1200	744	3.66	710	6.67	685	9.69	663	12.70	644	15.72	627	18.74	610	21.73	596	24.77	581	27.75	568	30.77		
		1600	1020	4.88	986	8.96	960	12.92	938	16.93	919	20.95	902	24.98	886	29.00	871	33.01	857	37.02	844	41.06		
RPE-78	100	900	743	3.20	709	6.51	683	9.53	661	12.54	641	15.55	624	18.57	607	21.57	592	24.58	578	27.60	564	30.63		
		1200	1018	4.66	984	8.68	958	12.70	936	16.72	916	20.73	899	24.76	883	28.78	868	32.80	853	36.79	840	40.82		
		1600	1385	6.22	1351	11.57	1325	16.93	1303	22.29	1283	27.64	1266	33.01	1250	38.37	1234	43.70	1220	49.06	1207	54.43		
RPE-710	125	750	757	3.54	714	6.68	681	9.82	654	12.96	629	16.09												
		1200	1273	5.67	1230	10.69	1198	15.72	1170	20.74	1145	25.75												
		1500	1617	7.09	1574	13.36	1541	19.63	1514	25.92	1490	32.20												
RPE-713	150	750	941	4.48	868	8.56	812	12.64	765	16.72	724	20.81												
		1200	1611	7.17	1540	13.71	1482	20.21	1435	26.74	1394	33.29												
		1500	2059	8.97	1985	17.12	1930	25.28	1882	33.43														
RPE-717	150	750	1233	5.75	1136	11.08	1063	16.62	1001	21.75														
		1200	2110	9.19	2015	17.74	1940	26.26	1879	34.81														
		1500	2895	11.49	2800	22.17	25	32.83	2465	43.53														
RPE-89	125	900	1018	5.20	945	9.54	890	13.90	843	18.25	802	22.61	764	26.94	730	31.30	700	35.71	668	40.00	640	44.37		
		1200	1415	7.80	1343	13.61	1287	19.40	1241	25.22	1200	31.03	1162	36.82	1128	42.63	1096	48.43	1066	54.23	1037	60.01		
		1600	1945	12.48	1873	20.22	1818	27.97	1771	35.70	1730	43.45	1692	51.16	1658	58.91	1627	66.68	1596	74.38	1568	82.13		
RPE-812	150	900	1370	6.70	1273	12.56	1198	18.42	1135	24.28	1080	30.15	1030	36.01	983	41.85	940	47.71	900	53.58	862	59.45		
		1200	1905	9.81	1808	17.63	1734	25.45	1670	33.25	1615	41.07	1565	48.89	1518	56.68	1475	64.49	1435	72.31	1396	80.09		
		1600	2519	15.16	2521	25.57	2446	35.98	2384	46.41	2328	56.82	2278	67.24	2232	77.66	2189	88.08	2148	98.47	2110	108.89		
RPE-816	200	900	1832	8.68	1700	16.50	1600	24.32	1516	32.15	1442	39.98	1375	47.81	1313	55.63	1256	63.47						
		1200	2545	12.43	2415	22.87	2315	33.30	2231	43.74	2157	54.18	2090	64.62	2028	75.05	1971	85.50						
		1600	3500	18.67	3370	32.59	3270	46.51	3185	60.41	3110	74.31	3045	88.28	2982	102.00	2925	118.09						
RPE-1012	200	900	2205	11.40	2080	20.55	1985	29.71	1902	38.83	1831	47.98	1768	57.17	1708	66.30	1652	75.43	1600	84.57	1552	93.76		
		1200	3040	17.52	2915	29.72	2820	41.94	2740	54.15	2668	66.34	2602	78.51	2545	90.77	2490	102.98	2438	115.18	2387	127.31		
		1750																						

MECHANICAL VACUUM BOOSTER

RPE offers a complete range of Mechanical Vacuum Boosters from 260m³/hr to 15100m³/hr at 1500RPM@50Hz and 1800RPM@60Hz

RPE Mechanical Vacuum Booster can be used for multiple applications as follows:



INDUSTRIAL APPLICATIONS OF BOOSTERS

VACUUM FURNACE INDUSTRY

- Heat Treatment
- Hardening
- Optical Coating
- Metallizing
- Degreasers in Furnace

CHEMICAL & PHARMACEUTICAL

- Degassers
- Vacuum Distillation
- Evaporators
- Crystallizers Vacuum Filters Vacuum
- Dryers

ELECTRICAL INDUSTRY

- Transformer Vacuum Impregnation
- Transformer Oil Purifier
- Vapor Phase Drying

INDUSTRIAL PROCESSING

- Impregnating Windings
 - Drying Textiles Mills
- Sterilizing re-circulation through Ethylene Dioxide
- Incandescent CFL and Tube Light Manufacturing
 - TV Tubes Manufacture

FOOD PROCESSING INDUSTRY

- Vacuum Packaging-Fresh & Cooked Meats
- Freeze Drying
- Deodorization of Vegetable Oil (FFA Distillation)
- Sugar Refining
- Vacuum Evaporative Cooling
- Vacuum Tray Drying
- Flash Drying

MODEL	Nominal Displacement	Differential Pressure	Power	Rotation	Recommended Line Size
	(m ³ /hr)	(mBar)	(KW)	(RPM@50Hz)	(NB)
RPE-01VB	260	90	1.1	1500	50
RPE-05VB	400	80	2.2	1500	65
RPE-15VB	800	80	3.7	1500	80
RPE-30VB	1620	70	5.5	1500	100
RPE-50VB	2950	50	7.5	1500	125
RPE-60VB	3900	65	11.0	1500	150
RVB70	5250	45	11.0	1500	200
RPE-200VB	10400/ 12500	50	18.5/ 22	1500@50Hz/ 1800@60Hz	300
RPE-300VB	15100/ 18200	50	22/ 30	1500@50Hz/ 1800@60Hz	350

AQUACULTURE BLOWERS

RPE designed a complete range of rotary air twin lobe roots blowers keeping in mind the needs of AQUACULTURE SECTOR which includes Commercial fish farming using Biofloc system, Recirculatory Aquaculture(RAS), Pond system. Our blowers transfers 100% Oil free air which ensures a good ecosystem within the aquaculture system of yours.



MODEL	DRIVE MOTOR	CAPACITY	PRESSURE	PIPELINE SIZE
	(HP)	(m ³ /hr)	(MMWG)	(NB)
RAQ-315	1.0	35	2500	20
RAQ-33	1.5	70	2500	40
RAQ-36	2.0/3.0	100/175	2500	65
RAQ-47	5.0	300	2500	65
RAQ-57	7.5	450	2500	80
RAQ-59	10	550	2500	100
RAQ-512	12.5	850	2500	125

ROOTS BLOWER SERVICING, SPARE PARTS & AMC

We have comprehensive experience in the air compressor industry and offer a wide range of services to repair and maintain your compressors. From general maintenance to more specific repairs, with our expertise and knowledge we can help your machine get back up and running as soon as possible.

Moreover you can avail our AMC facility in which we will take full care of your compressor unit by regular visit to perform general service and preventive maintenance.



SLUDGE DEWATERING MACHINE(SCREW TYPE)

Sludge Dewatering Machine reduces the sludge volume and mass by removal of sludge water from interstices between sludge particles. The sludge cake so produced, has moisture content of about 15% to minimize sludge handling and its disposal. There are following features of a screw sludge dewatering machine:

- Suitable for sludge of 0.2%-25%.
- Main purpose of this machine is 10% solid consistency at Input and achievable outlet consistency of 15-25% dry solids.
- Our machine can handle wide flow rate from 0.5 m³/hr up to 100 m³/hr and sludge concentration from 0.2 to 10% and can easily handle oily/sticky sludge.
- Extremely low power consumption(90-95% less than decanter centrifuge)

Model	Flow Rate(LPH)	Dry Solid at outlet of M/C per Hour	No. of Cylinder (Nos.)	Rinsing Water Consumption	Electric Power (HP)	Dynamic Weight(Kg)
RPE-0.5SDM1C	500LPH	5Kg/hr	01	30LPH	0.5	200
RPE-1.5SDM1C	1500LPH	15Kg/hr	01	50LPH	0.5	300
RPE-3.0SDM2C	3000LPH	30Kg/hr	02	150LPH	0.75	450
RPE-6.0SDM1C	6000LPH	60Kg/hr	01	200LPH	0.75	650
RPE-9.0SDM1C	9000LPH	90Kg/hr	01	220LPH	1.0	900
RPE-12.0SDM2C	12,000LPH	120Kg/hr	02	300LPH	1.25	950
RPE-18.0SDM3C	18,000LPH	180Kg/hr	03	360LPH	1.75	1050
RPE-20.0SDM1C	20,000LPH	200Kg/hr	01	400LPH	2.0	1800
RPE-40.0SDM2C	40,000LPH	400Kg/hr	02	500LPH	3.5	3000
RPE-60.0SDM3C	60,000LPH	600Kg/hr	03	650LPH	6.0	4500

STP & WASTE WATER MANAGEMENT EQUIPMENT LIST OFFERED BY RPE

- Sludge Dewatering Machine
- Mixer/Agitator
- Mechanical Oil Skimmers
- Clarifiers
- Puddle Flange
- Centrifugal Dewatering Machine
- STP Media & Diffusers
- Pressure Sand Filter/Activated Carbon Filter
- Mechanical Screens(coarse, fine & screw type)



SIDE CHANNEL BLOWER/REGENERATIVE BLOWER

The Side Channel Blower or exhauster increases the pressure of the aspirated gas by the creation, in the peripheral toroidal channel, of a series of vortex caused by the centrifugal thrust of the impeller. While the impeller is rotating, the vanes force the gas forward and, because of the centrifugal thrust, outwards, producing a helical motion. During this motion, the gas is recompressed repeatedly with a consequent linear pressure increase along the length of the channel.



APPLICATIONS:

- Pond aeration/BioFloc Fish Farming
- Dry blowing.
- Air Knife Systems
- Packaging and labelling machinery
- STP/ETP/WTP
- Blowing material
- Swimming pool aeration / whirlpools
- Bottling Industry

Accessories/Spare Parts



Suction Air Filter

Timing Gear

Oil Seal/Lip Seal

Non Return Valve

Pulley for Blower & Motor

Pressure Relief Valve

Pressure Gauge

V-Belt

Lobe/Impeller Set

Respondent Precision Engineering (P) Ltd.

(An ISO 9001:2015 Certified Company)

Registered Office: 204,Pratap Nagar, Near Police Line, Ghaziabad, Uttar Pradesh-201001

GSTIN: 09AALCR4776Q1Z8

Works: E-60,Bulandshahr Road Industrial Area, Ghaziabad, Uttar Pradesh-201001

Tel: 0120-4275650,
Mob: +91-9599409423,+91-7011427123,
+91-7982923150

E-Mail: sales@rpepumps.com,
info@rpepumps.com

Website: www.rpepumps.com



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