



OXCHAMP
ECO TECHNOLOGIES

Energy Saving Technologies For Environmental Sustainability

Air Foil Bearing Turbo Air Blower



MAXIMIZED EFFICIENCY

- OPTIMIZED IMPELLER & DIFFUSER DESIGN [cite: 9]
- 25-35% ENERGY SAVINGS (vs. Roots/Side Channel Blowers) [cite: 9]
- AERODYNAMIC OPTIMISATION [cite: 9]



PRECISE CONTROL & START

- VARIABLE FREQUENCY DRIVE (VFD) CONTROL [cite: 9]
- CONSERVES ENERGY [cite: 9]
- ADJUSTS DISCHARGE PRESSURE & FLOW RATE [cite: 9]
- PMSM ROTATIONAL SPEED CONTROL [cite: 9]
- INVERTER STARTS BELOW 100% CURRENT [cite: 9]
- RAPID LOAD RESPONSE [cite: 9]



IMPELLER TECHNOLOGY

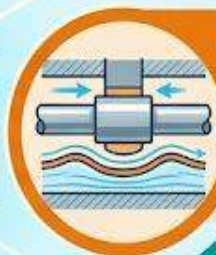
- HIGHER INTEGRITY & FATIGUE LIFE [cite: 9]
- LARGER DIAMETER & PRECISE SHAPE [cite: 9]
- OPTIMAL SPECIFIC SPEED FOR HIGHER EFFICIENCY [cite: 9]
- FORGED ALUMINIUM ALLOY MATERIAL [cite: 9]
- 5-AXIS CNC MACHINED [cite: 9]
- MINIMIZED TIP CLEARANCE [cite: 9]



HIGH-PERFORMANCE TURBO MACHINERY FEATURES

NON-CONTACT AIR BEARING

- DYNAMIC PRESSURE OF AIR FLUID [cite: 9]
- CORRUGATED BUMP FOIL + ALLOY INNER FOIL [cite: 9]
- AIR CUSHION BETWEEN SHAFT & BEARING SURFACE [cite: 9]



ENHANCED DURABILITY

- HARD ANODISING COATING [cite: 9]
- IMPROVED CORROSION RESISTANCE [cite: 9]
- HIGHER DURABILITY [cite: 9]



LOW MAINTENANCE & PURE AIR

- 100% OIL-FREE COMPRESSED AIR [cite: 9]
- ASSOCIATED MAINTENANCE REQUIRED [cite: 9]
- LOW MAINTENANCE COST [cite: 9]
- CLEANING OR REPLACING AIR FILTERS [cite: 9]
- NO EXPENDITURES ON OIL/FILTERS/COOLING [cite: 9]
- REDUCED LABOUR COSTS [cite: 9]
- IMPROVED FILTER SYSTEM [cite: 9]
- HEAT & EXPLOSION PROOF [cite: 9]
- NO LUBRICATING OIL OR BET REQUIRED [cite: 9]





High-speed permanent magnet motor



High Speed Permanent Magnet Motor

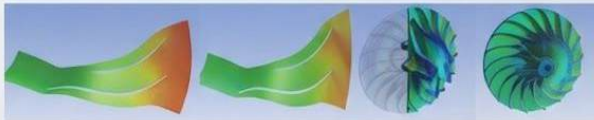
- Dynamic Pressure Suspension
- Low Rotational Losses
- High Load Capacity
- Simple & Reliable Structure



100,000 Cycles Tested



High-efficiency centrifugal impeller



Impeller

- Precision Machined Triangular Design
- Enhanced Durability Coating
- Passed 115% Over-Testing



7075 Aluminum / Titanium Construction



Intelligent control of the whole machine

Intelligent Control System

- Simple Touchscreen Interface
- Real-time System Monitoring
- Accidental Damage Protection
- Asthma Protection & Self-Protection



Integrated User Protection System



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Core Components

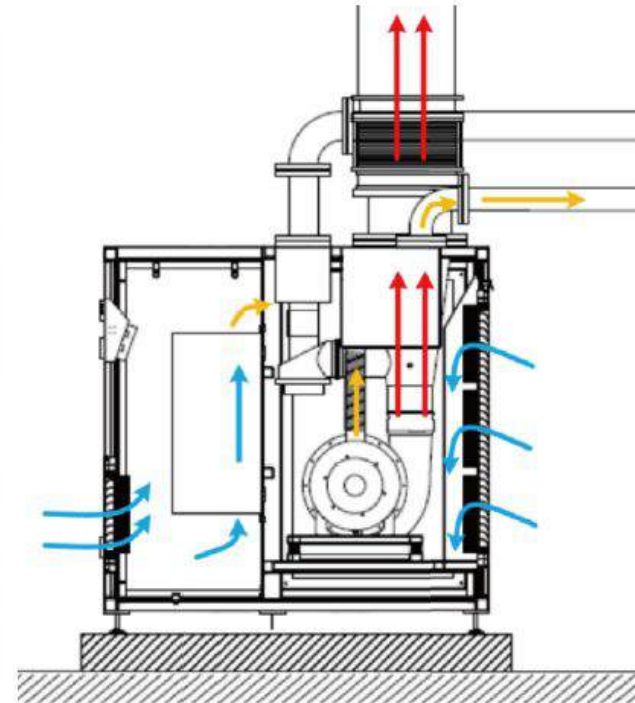
SIEMENS



SIMATIC HMI



	Single Stage High Speed Centrifugal Blowers	Screw Blowers	Levitating High Speed Centrifugal Blowers
Compress methods	3D fluid impeller	Volumetric rotary	3D fluid impeller
Pneumatic efficiency	High	Low	Very high
Rotating speed	10k~20k rpm	3k~8k rpm	25k~60k rpm
Transmission mode	Gear increaser	Gear transmission	Coaxial direct driving
Bearing losses	Highest	High	Low
Transmission Efficiency	Low	Low	High
Lubrication	Inclined pad bearings with high pressure oil	Ball bearing with Oil lubrication	Gas film lubrication
Oil free classes	Oil free with oil sealing technology	Oil free with oil sealing technology	Oil free No oil need
Routine Maintenance	Oil replacement Sealing replacement Inclined Pad replacement Oil filter replacement Air filter replacement	Oil replacement Sealing replacement Oil filter replacement Air filter replacement	Air filter replacement
Maintenance costs	Very high	High	Low
Noise	High	Medium	Low
Scope of application	Pressures up to 1.5 bar 200m ³ /min or more Not suitable for small flows	For 1-2.5 bar pressure, 60m ³ /min or less Large flows are not suitable	Applicable to 0.2-2 bar pressure, 10-400m ³ /min flows



Full Machine Self Cooling System

NEXA Series

Technical Blower Selection Chart:



Test conditions: standard atmospheric pressure, humidity 65%, 20°C, air density 1.2kg/m³ (deviation +5%)



Pressure Range:

15 - 35 kPa

Power Range:

7.5 - 75 kW

Air Flow Range:

11 - 184 m³/min

model	Shaft Power(KW)	outlet pressure(kpa)			Exit (PN10)	Weight (kg)	Dimensions(mm)
		15	25	35			
		Inlet Flow(m³/min)					
Nexa 75	7.5	20	16	11	DN125	150	750x680x700
Nexa 110	11.0	26	20	14			
Nexa 150	15.0	37	29	21	DN150	190	
Nexa 220	22.0	53	41	31			
Nexa 300	30.0	74	57	42	DN200	220	780x780x950
Nexa 370	37.0	92	74	54	DN200	320	8500x1050x1000
Nexa 450	45.0	112	85	64		350	
Nexa 550	55.0	135	103	78	DN250		
Nexa 750	75.0	184	150	105	DN200	420	950x1280x1075

Product specifications will be subject to change. Please consult me in advance when purchasing.

ROI Example 1



Project	Roots-type machine	Air suspension aerator
Operating power (kW)	75.0	55.0
Machine pressure (KPA)	24.5	25.0
Operating power (m³/min)	110.0	110.0
Oxygen supply aeration discs (each 80 cm)	2300	2800
Oxygen-supplied livestock shed	45	50
Oxygen-supplied livestock shed	10%*3000*50=15000	
Increase in income (in yuan) (taking shrimp farming as an example, yuan per dollar)	15000 * 25 = 375000 yuan	
Annual electricity consumption (kWh) (kWh(calculated based on 8400 hours)	630000	630000
Annual electricity cost (RMB) (based on RMB 0.7/kWh)	441000	441000
Annual electricity cost savings (yuan)	117600	



VS



Case Studies: Aquaculture



Hakka greenhouse breeding sites in Rudong, Jiangsu; Hakka greenhouse breeding sites in Dongying, Dongguan, Jiangsu; Hakka greenhouse breeding sites in Dafeng, Jiangsu.

TITAN Series Technical Blower Selection Chart:

Test conditions: standard atmospheric pressure, humidity 65%, 20°C, air density 1.20kg/m³(deviation: ±5%)

Spec	Pressure(bar)									Pow.	Wt.	O. D.	Dimension (mm)		
	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	kW	kg	GB PN1.0 MPa	L	W	H
	Inlet flow rate (m ³ /min)														
Titan20	24	17	14	13	10	/	/	/	/	15	300	DN150 6in	1300	800	1230
Titan30	36	29	24	21	18	16	/	/	/	22	310				
Titan50	62	48	41	35	31	28	25	22	19	37	350				
Titan75	94	76	60	54	47	40	38	34	28	55	630	DN200 8in	1500	1000	1580
Titan100	124	95	76	69	63	55	49	45	37	75	650				
Titan125	157	120	95	86	79	69	62	56	46	90	770	DN300 12in	1600	1300	1580
Titan150	190	150	115	104	93	85	72	67	57	110	770				
Titan200	252	190	156	140	122	112	99	90	77	150	1450	DN400 16in	2100	1400	2240
Titan250	314	230	190	171	155	136	124	112	91	180	1450				
Titan300	380	290	228	208	183	164	145	132	111	225	2000	DN400 16in	2300	1700	2140
Titan400	504	378	312	276	243	220	198	181	150	300	2000				



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Pressure Range:

30 - 120 kPa

Power Range:

15 - 300 kW

Air Flow Range:

10 - 504 m³/min

Product specifications are subject to update and change, please contact us when purchasing.

ROI Example 2

Compare	Shangu	Oxchamp	Comments
Type	Roots	Turbo	
Model	RSR 200H	Titan 37	
OPEX - Energy Saving Factors			
Working pressure	65kPa	65kPa	
Working flow rate	32m³/min	32m³/min	
Power consumption	55kW per hour	37kW per hour	Save 18kw/h (32.7%)
Energy saving per day if \$ 0.1/kWh in India		\$ 42.96	
Energy saving per month		\$1288.8	
Energy saving per year		\$15,465.6	

CAPEX	Shangu Roots Blower	Oxchamp Turbo Blower	Comments
Sales price	\$ 5,000 X2= \$10,000	\$ 15,000	2 vs 1unit
Weight	550kgX2=1100kg	300kg	2 vs 1unit
Shipping Cost	\$4400	\$1200	
Maintenance in 3years	\$2,000	\$638	
On-site commissioning	\$2,000	\$1,700	Optional
Total Cost	\$18,400	\$18,538	
ROI in		3 Days	

Additional Benefits			
Discharge Temp.	106.5°C (from 20 °C intake)	78.2°C (from 20 °C intake)	28.3°C lower
Noise level	>100 dB(A)	72dB (A)	Extremely quieter



ROI Example 3

Blowers comparison of a 8000 tons/day sewage treatment project

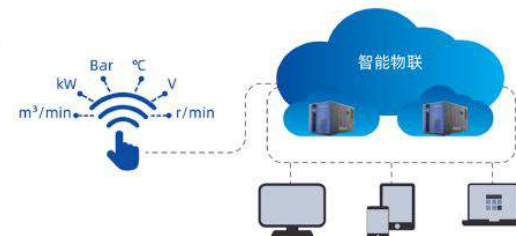
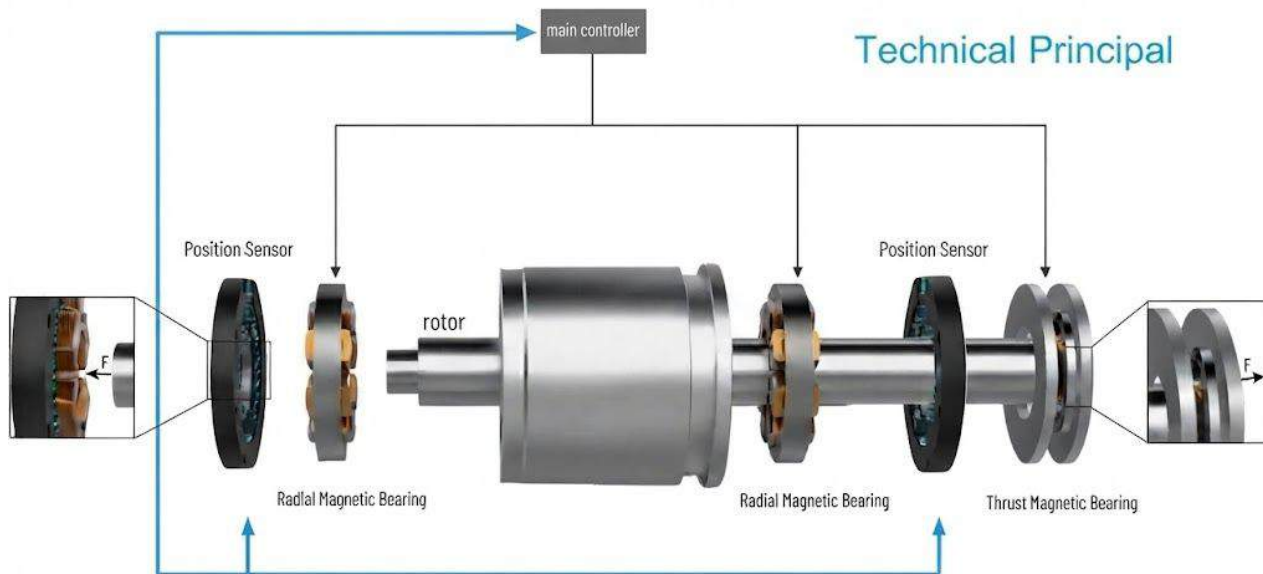
	Roots blower	Gas levitating high speed blower
Device spec	100kW	75kW
Weight and Occupancy	2000kg/4m² ground floor	2000kg/4m² any floor
Working time	8000 hrs.	
Annual energy cost (0.75 Yuan / kWh)	8000*100*0.75 =600,000 (Yuan)	8000*75*0.75 =450,000 (Yuan)
Noise	100dB	78dB
Others	Lubrication maintenance	Lubrication free
Summary	1. Gas levitating blower is more environment friendly. 2. Gas levitating blower has no lubrication costs. 3. The benefits of gas levitating blower grow with time.	

OPTIMUS Series

MAGNETIC SUSPENSION AIR COMPRESSOR



Technical Principal



The rotor is supported in five degrees of freedom by active magnetic levitation. This system utilizes four radial and two axial magnetic bearings. The rotor's exact position is continuously measured by integrated position sensors and this real-time data is sent to the 'main controller'. When the rotor's position deviates from its set-point, the main controller calculates the required correction. The controller then instantly adjusts the magnetic field force of the appropriate magnetic bearings to return the rotor to its normal, desired position, ensuring stable and non-contact operation.



Case Study: Wastewater Treatment Plant

Equipment Solution	Lobe Blower	Magnetic Levitation Blower
Unit Rated Power	75 kW	150 kW
Number of Units	3	1
Total Power	225 kW	150 kW
Load Factor	100.00%	90.00%
Annual Consumption	1971000	1314000
Energy Saving Rate	0	33.30%
Annual Energy Saved	0	657,000 kWh
Annual Cost Savings	0	525,000 Yuan

>30%
Energy saving rate

>20 years
Service life

0 maintenance
No maintenance required

≤80 dB
low noise

National key high-tech products



centrifugal impeller
CENTRIFUGAL IMPELLER

Anti-deformation, enhanced corrosion resistance, and less wear during long-term high-speed operation.



High-power permanent magnet synchronous motor
HIGH POWER MOTOR

Achieves stepless speed regulation, low failure rate, high transmission efficiency, small size and light weight



Five-degree-of-freedom magnetic levitation bearing
FIVE DEGREE OF FREEDOM MAGNETIC BEARING

The shaft has no mechanical contact or friction, requiring no lubrication and resulting in high efficiency; the exhaust air



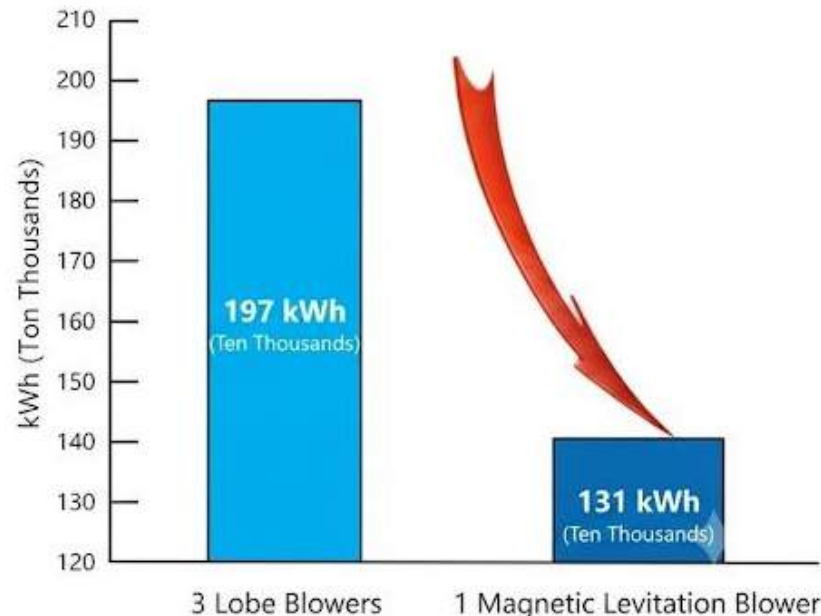
Dedicated control system
SPECIAL CONTROL SYSTEM

Integrated control system, wide applicability, automatic speed adjustment for accurate aeration



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Annual Power Consumption (kWh)



OPTIMUS Series

Technical Blower Selection Chart:



Model	kW	Weight	30 Kpa	40 Kpa	50 Kpa	60 Kpa	70 Kpa	80 Kpa	90 Kpa	100 Kpa	110 Kpa	120 Kpa	130 Kpa	140 Kpa	150 Kpa
Optimus 25	25	900(±)	38	31	24	21	18	17	15	13	--	--	--	--	--
Optimus 37	37	900(±)	56	46	35	32	27	25	23	21	20	19	17	15	--
Optimus 55	55	900(±)	83	68	52	48	40	37	34	31	30	28	26	24	20
Optimus 75	75	1300(±)	113	93	71	65	54	51	46	42	41	38	35	32	30
Optimus 90	90	1300(±)	135	112	85	78	65	61	56	51	49	45	43	40	37
Optimus 110	110	1300(±)	--	132	116	96	86	74	69	63	60	55	53	50	44
Optimus 130	130	1800(±)	--	156	137	113	102	87	82	74	71	69	65	60	57
Optimus 150	150	1800(±)	--	180	158	130	118	100	95	85	82	75	70	65	62
Optimus 180	180	1800(±)	--	--	171	156	141	120	114	102	98	90	87	83	80
Optimus 200	200	1800(±)	--	--	190	173	157	133	127	113	109	100	96	92	90
Optimus 220	220	1800(±)	--	--	233	190	173	146	140	124	120	110	108	103	100
Optimus 250	250	1800(±)	--	--	264	217	196	167	158	142	136	125	120	116	110
Optimus 300	300	2600(±)	--	--	--	260	235	200	190	170	164	150	145	136	130
Optimus 350	350	2600(±)	--	--	--	303	274	233	222	198	191	175	167	164	150
Optimus 400	400	2600(±)	--	--	--	346	313	266	254	226	218	200	190	182	175
Optimus 450	450	2600(±)	--	--	--	389	352	299	285	254	245	225	218	210	200
Optimus 600	600	3000(±)	--	--	--	536	465	414	376	342	328	300	290	273	260
Optimus 1000	1000	3000(±)	--	--	--	--	790	708	638	586	546	511	490	457	445

All are 380v current except Optimus 600 and Optimus 1000 uses 690v - Noise level 80-85 dB - Air Outline Diameter 125-400mm



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