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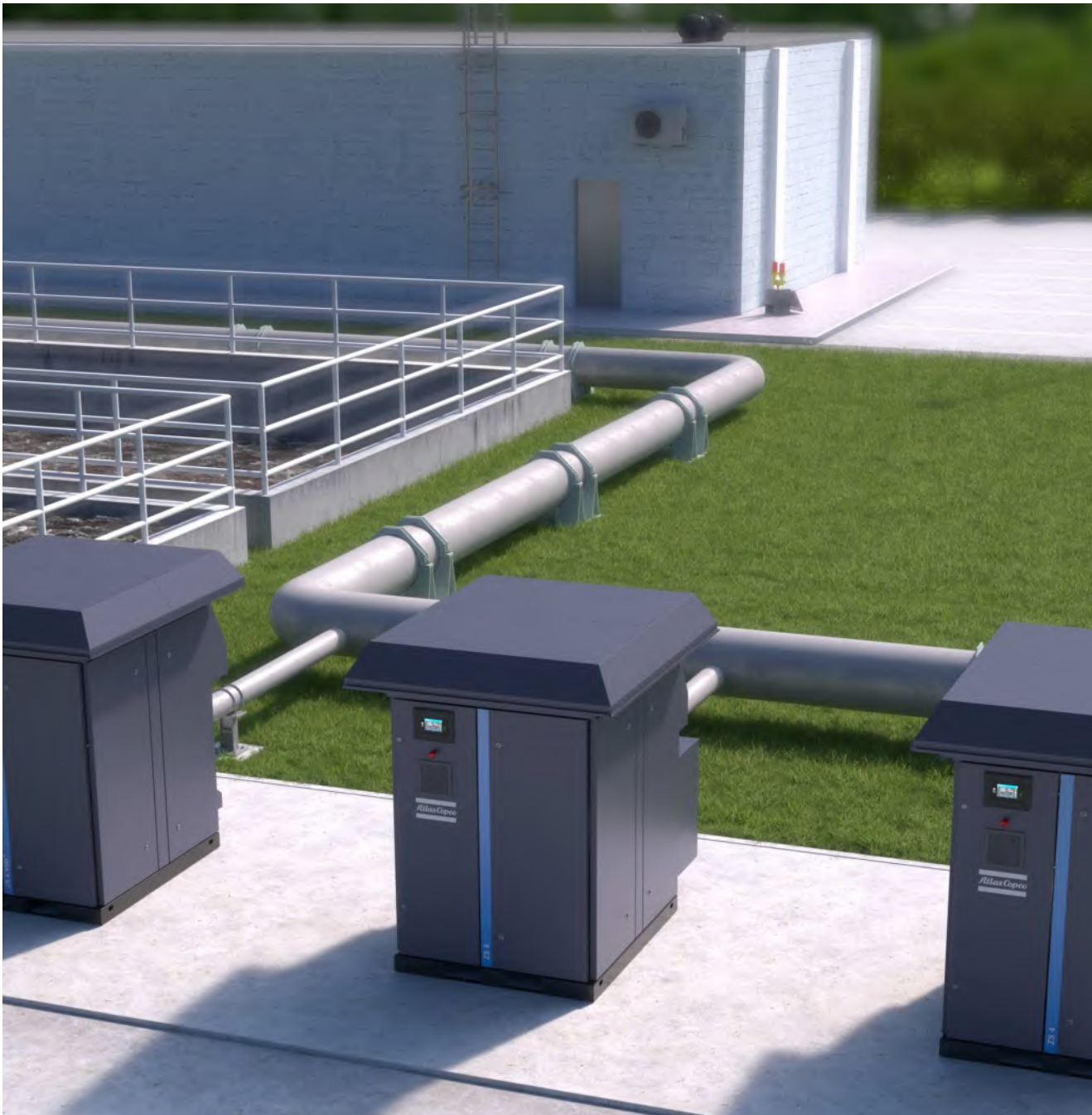
Employee Owned

Atlas Copco



Wastewater treatment solutions

Sustainable compressed air & gas solutions for wastewater treatment



Sustainable solutions for wastewater treatment

Whether you are building up a completely new installation or looking for a more sustainable replacement for your current compressed air installation, we've got you covered. Up to 80% of energy consumption and over 60% of the carbon emissions can be -directly and indirectly- attributed to the aeration process and the air blowers providing aeration air. Focussing on delivering you solutions with the highest energy efficiency and the lowest carbon footprint, we can offer you a comprehensive range of air blower solutions each one designed to meet the specific demands of your process and business.

Maximizing uptime

Wastewater treatment is a continuous process. Aside from energy efficient solutions, you also need a reliable oil-free air solution that can handle both continuous uptime and/or a large number of starts and stops (in case of intermittent use of compressed air). Through constant innovation, we are able to deliver you reliable products that offer you high uptime. With our Industry 4.0 products and services, we offer you ways to remotely monitor, optimize and control your process.

Minimizing installation costs

No need to worry about having to buy essential parts separately. Not only do they end up increasing your initial investment cost, they also increase the amount of space needed for your installation. Delivered as a complete package with a small footprint, our plug & play solutions are ready for operation upon arrival.

Customized to your needs

All units are available as an all-in-one, plug & play standard package incorporating the latest technology in a built-to-last design. To further optimize your process or to simply tailor it to your specific needs, optional features and customized design are available.

Your process

Water treatment can be found in many industries such as food and beverage, pulp and paper, oil and gas, textile, electronics, and segments such as desalination and municipal wastewater treatment. No matter your business or the water treatment applications you have on your site, we want to understand your process needs and provide you with the solution that is right for your business.

Aerated grit removal

Low pressure & limited flow

Aerated grit removal is the first mechanical step of the wastewater treatment process, where sand and other particles are removed from the water. Compressed air is used in this process to separate the dirt from the water. These grit removal chambers typically have a limited depth of 2 to 5 meters/6 to 16 feet, so a lower pressure level is required. As the volume of the tanks is also rather small compared to the other tanks on site, the required air flow is also rather limited. A reliable and capital friendly solution is usually a good fit for this first treatment step.



Aerobic treatment

Constant uptime with a variable air demand

Aerated lagoons, activated sludge, MBR, MBBR, SBR,... There is a wide scale of aerobic treatment process' present in a wastewater treatment plant, ranging from small (<1,000 People Equivalent) to giant capacities (>1,000,000 People Equivalent), and from simple to complex processes. They all rely on the supply of oxygen to survive, literally. As the amount of wastewater needing to be purified varies throughout the day, the amount of compressed air needed also varies. A variable speed drive helps you to control the amount of compressed air by matching air flow and power consumption to the flow demand. You can optimize your diffused oxygen control even further by adding a central controller that controls both the pressure and flow for multiple blowers, such as our Optimizer 4.0. Our Class 0 certified oil-free air blowers help you safeguard water quality as no oil is added to the air during the compression process and thus to the water. Whether you are looking for a solution for a small or large capacity plant, we can always help you choose the right solution from our comprehensive portfolio.

Filter backwash

Low running hours

Regular backwashing of the filters is an effective technique used in many wastewater treatment plants to avoid clogged filters. The use of air scour during the filter backwash process helps to break up the accumulated sand or dirt. The amount of air scouring cycle per day varies per plant. Some plants require multiple start-ups per hour but the number of running hours for a blower is usually limited. For this application, simple and reliable solutions, with a fixed air flow (fixed motor speed) that require a minimum level of service and low initial capital investment, are usually the most interesting option.



Sludge treatment (biogas)

Gas blowers & compressors

The anaerobic digestion of sludge allows the biogas to be recovered and used as a new energy source. This environmental friendly process requires a reliable blower suitable to handle this specific gas composition. Our multistage blowers are a reliable solution, ideal for the transport of biogas after the digestion process.

When not all the bio gas is used on site, further upgrading and grid injection of the bio gas is performed. We can provide different gas boosting solutions including screw and piston compressors for H₂S and CO₂ removal.

Plant air

Pneumatic valves are used all over the water treatment plant to control the variable water flows and control the treatment process in order to reach the required effluent quality. Also distribution of air flows to different treatment bassins is handled by pneumatic valves. Small capacity medium pressure air compressors are perfectly fit for this instrument air application.



Your benefits

We understand your need for a reliable and efficient solution on which you can count 24/7 for your air delivery. Although each of our technologies has its own specifics, we make sure all our products ensure you of a number of core benefits.

The complete package

We offer you complete, plug & play solutions. With our standard offering, we can provide you fixed speed, prepared for variable speed operation or with frequency convertor integrated. Everything needed for operation is included in our first offer and our units are ready for operation upon arrival.



Outdoor installation

Most of our products can be placed outside. An optional rain protection canopy protects the unit from the weather elements. On top of that, we offer you winterisation kits, for units that are placed outside in cold environments.

Minimize your energy consumption

Upgrade your technology

We've been developing new products and technologies for the wastewater industry for decades. In light of our commitment to developing sustainable technology, we're not only looking for ways to make our products more reliable but also more efficient. Our screw blowers, for example, are 30% more energy efficient compared to traditional lobe blowers, thanks to the internal compression process.

Saving energy with a Variable Speed Drive (VSD)

Atlas Copco's VSD technology closely follows the air demand by automatically adjusting the motor speed. This results in large energy savings of up to 35%. The lifecycle cost of a compressor can be cut by an average of 22%.

Complying with the latest energy efficiency regulations & standards

Our VSD⁺ models are equipped with an IE5 motor. IE5 is an ultra energy efficient motor and is currently the highest efficiency classification for motors.

Scan your current installation for potential savings

An AIRscan ISO 11011 certified audit can help you identify potential energy savings by providing you with a clear report on the current problems and possible solutions. Moreover, our AIRScan audit can serve as a benchmark for your ISO 50001 energy management system.



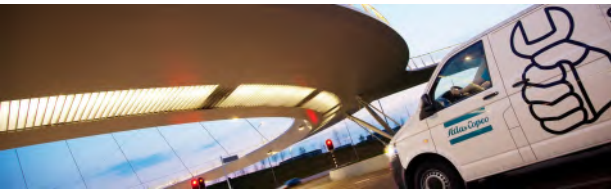
Remote monitoring

A good monitoring system can help you prevent breakdowns. Our Elektronikon[®] unit controller and the SMARTLINK service (our software for remote monitoring) help you monitor your machines running conditions on site and remotely. With reports about the running conditions, warning indications, compressor shut-down and sensor trending, you'll know exactly when maintenance should be scheduled.

Optimize your installation

A properly managed compressed air network will save energy, reduce maintenance, decrease downtime, increase production and product quality. Atlas Copco's Optimizer 4.0 monitors and controls pressure and flow of multiple blowers simultaneously; it is one central point of control for the whole compressed air network, ensuring all blowers provide optimum, accurate performance for your process and excluding the need for complex programming of one or multiple PLCs.

The result is a completely autonomous and energy-efficient network, giving you peace of mind and keeping your costs minimized.



Maximize your resources

From complete peace of mind with our Total Responsibility Plan to deliverance of spare parts at your doorstep (Spare Parts Plan) - and everything in between: we offer you different service plans to fit your needs. Our dedicated service experts are available to assist you in keeping your business up and running in the most efficient way.

Temporary solutions

Rental

In urgent need of a temporary unit? An unexpected breakdown of one of your units can harm the whole process. Our rental solutions can help you to keep your process running until you're ready to make a new investment.



Tailored to your needs

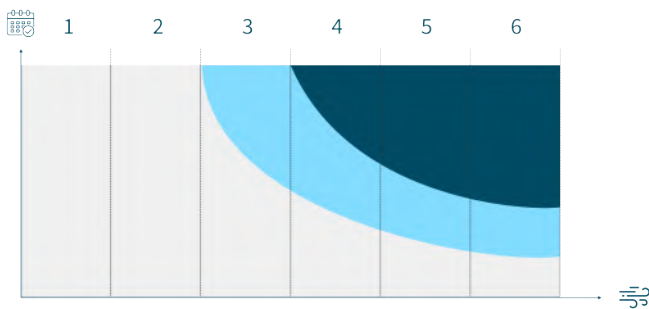
Each project is unique and by entering into partnership with our customers, we can appreciate the challenge at hand, ask the relevant questions and design the best engineered solution for all your needs.

Our solutions

Whether you are building up a new site or need a replacement for your existing compressed air solution: we offer you solutions that will meet the specific needs of your process. Our specialists are always happy to help you assess the best solution for your site and application. The below information can serve as a starting point in search of your perfect fit.

Oil-free air blowers

Blower solutions for all your aeration needs.



A compressed air solution for every site

With our comprehensive portfolio, we can always offer you the right solution for your site. Aside from an installation that matches the pressure and flow needs of your application, other factors might play a role in your decision. Our traditional solutions such as lobe blowers and multistage blowers are extremely suited for wastewater treatment plants that require units with a low running or operating time. Our energy-efficient and premium solutions are suited for sites that require a constant supply of compressed air.

Legend

y-axis: operating time

x-axis: flow

Light grey area: Traditional solutions (ZL lobe & ZM multistage blowers)

Light blue area: Energy-efficient solutions (ZS screw blowers)

Dark blue area: Premium solutions (ZS VSD⁺, VSD screw & ZB VSD⁺ high speed turbo blowers)

ZL - lobe blowers

High uptime at low capital costs

Our trusted tri-lobe technology with its simple and reliable design has been used for over 20 years in numerous applications. The low capital and maintenance costs make our ZL lobe blowers a cost effective solution for all applications that require an air supply up to 1 bar(g) / 4.4 and 14.5 psig. Thanks to the innovative design, our units require a minimum amount of floor space and are suited for use in harsh environments such as those with ambient temperatures of +50°C / 120°F.

- Fixed speed or variable speed (VSD)
- Optional Elektronikon® controller
- Plug & Play solution



ZS - screw blowers

High uptime at low lifecycle costs

Our ZS series combines Atlas Copco's trusted screw technology with our latest innovations to deliver you Class 0 certified oil-free air up to 1.5 bar(g) / 22 psig at the lowest lifecycle cost. It's a small and compact solution that can be installed anywhere side-by-side. These blower units are known for their energy efficiency and are easy to maintain, fit perfectly into your existing blower room and can be placed outside in the toughest environments, allowing an ambient temperature up to 50°C/120°F, making them the perfect solution for anyone looking for a replacement that will drastically reduce lifecycle costs.

- Fixed speed or variable speed (VSD)
- Class 0 certified oil-free air
- Plug & Play solution

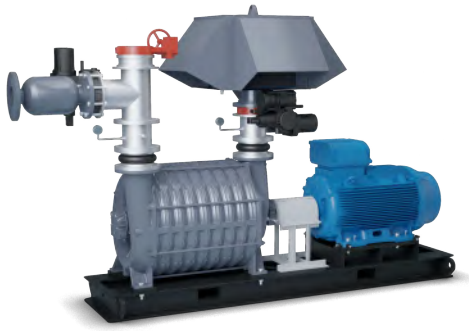
ZB VSD⁺ - high speed turbo blowers

Unique design, proven efficiency

Our ZB VSD⁺ oil-free turbo blowers with frictionless direct drive and magnetic bearings are specifically designed for medium sized applications that require air at a variable volume flow and a low pressure. With our ZB VSD⁺ range, we offer you a premium, reliable solution that delivers you Class 0 certified oil-free air up to 1.4 bar(g) / 20.3 psig, at the lowest lifecycle cost.

- High speed permanent magnet motor with variable speed drive (VSD)
- Class 0 certified oil-free air
- Plug & Play solution





ZM - multistage centrifugal blowers

A flexible solution adaptable to your needs

Whether you need air, gas, pressure or vacuum, the ZM multistage centrifugal blowers and exhausters provide you with the quality you need. In thousands of installations around the world, our oil-free multistage centrifugal blowers and exhausters are a reliable compressed air source for all applications up to 1.4 bar(g) / 20.3 psig.

- Fixed speed or variable speed (VSD)
- Air, gas, pressure and vacuum applications

DZS - dry claw blowers

Reliability at a low lifecycle cost

Our DZS dry claw blowers are an ideal solution for applications that require a low air volume flow and pressure up to 2.3 bar(g). The small and compact unit are suited for both centralized and decentralized systems and require a low level of maintenance.

- Fixed speed
- Class 0 certified oil-free air



Other air & gas solutions

Aside from oil-free air blowers, we can also offer you air compressors. Thanks to our extensive portfolio, we are capable to propose the best fit for pressures starting as low as 0.1 bar(g) up to 1000 bar(g) and corresponding motor powers of 1kW up to 20MW. The most stringent requirements regarding air quality can be achieved through our full range of dryers, filters, condensate treatment, and ancillaries. Solutions for other gasses like nitrogen, oxygen, hydrogen, and carbon dioxide,... are within our portfolio.



LFx & LZ compact oil-free piston compressors

The LFx compact oil-free piston industrial compressor range offers small-capacity piston compressors for reliable and oil-free solutions. Ideal for your low air demands

GA oil-injected rotary screw compressors

Our GA oil-injected screw compressors bring industry-leading performance, flexible operation and high productivity, and reduced energy costs at a minimal cost of ownership. A wide range of compressors enables you to find the air solution that perfectly matches your specific requirements.





GG & BBR gas screw & piston compressors

For biogas upgrading and grid injection, we can offer you different technologies such as screw and reciprocating compressors and boosters. These solutions are available in a wide flow and pressure range.

Maximize your resources with a Service Plan

Reduce your total cost of ownership and benefit from optimal performance

Optional maintenance will reduce the operational cost of your blower system. Operational efficiency is increased as our maintenance expertise makes life easier when it comes to resource management. Specialist services keeps your equipment running as it should, protecting your investment and guaranteeing high uptime and performance.

Blower parts at your doorstep: our Parts Plan

Genuine Parts, designed and produced to the exact specifications of your blower, delivered right where and when you need them.

- All parts, one package - Always have the needed part for your service intervention at hand.
- Save money - A Service Kit costs less than the sum of its components if ordered separately.
- Less administration - Every Service Kit has a single part number, allowing you to create a simple purchase order that is easy to follow up.



Fixed Price Services: best blower parts & maintenance

Avoid financial surprises. Our Fixed Price Services combine the expertise of factory-trained technicians with the quality of our genuine blower parts.

- The best blower parts - The unrivalled quality of our genuine parts results in optimal uptime, energy consumption and reliability.
- An expert maintenance plan - Rely on the expertise of factory-trained Atlas Copco technicians.
- Clear and easy - Tailored to your installation, site conditions, and production planning, every Fixed Price Service has a clear scope and price.

Preventive Maintenance Plan for optimal blower uptime

Rely on trained Atlas Copco technicians and the unrivalled quality of our genuine parts.

- Service reports - We help you achieve maximum energy efficiency by keeping you up to date of the status of your system.
- Prevent breakdown - If our technicians spot an additional developing problem, they will propose a solution.
- Top-priority emergency call out system - If an urgent repair is needed, you get priority assistance.



Complete blower care with our Total Responsibility Plan

We take care of all your blower maintenance, upgrades, repairs and even breakdowns for an all-inclusive price.

- Complete blower care - On-time maintenance by expert service engineers, genuine parts, proactive upgrades and blower overhauls.
- Total risk coverage - This means we take care of all your blower repairs and even breakdowns, without extra charges.
- Ultimate efficiency - Fitting the latest drive line components gives you as-new levels of compressor efficiency and reliability.

Technical specifications

The technical specifications of our solutions.

Compressed air offering

Oil free & oil lubricated	Compression technologies	Pressure	Power
	Screw	0.1 bar(g) - 1000 bar(g)	1 kW - 20 MW
	Piston		
	Scroll		
	Centrifugal		
	Lobe		
Tooth			

Air & gas ancillaries

Air & gas quality	Cooling	Monitoring & control
Dryers	Water cooler	Central control
Filters		
Condensate treatment	Water chiller	Energy recovery
Ancillaries		
Nitrogen	Air chiller	Air chiller
Oxygen		
Hydrogen	Temperature control	Temperature control unit
Carbon dioxide		

Aeration solutions

Technology	Product	Pressure				Flow (FAD)			
		bar(g)		psig		m ³ hr		cfm	
		min.	max.	min.	max.	min.	max.	min.	max.
Lobe blower	ZL	0.3	1.0	4.4	14.5	30	9500	20	5600
Screw blower	ZS	0.3	1.5	4.4	22	270	9100	160	5300
High speed turbo blower	ZB VSD ⁺	0.3	1.4	4.4	20	1300	12000	750	7100
Multistage turbo blower	ZM	0.1	1.4	1.5	20	350	70000	200	41000
Claw blower	DZS	0.5	2.3	7.3	2.3	50	340	30	200

Applications & solutions

	Compressed air solutions				
	Lobe	Screw	Turbo		Claw
	blowers (ZL)	blowers (ZS)	high speed blowers (ZB VSD+)	multistage blowers (ZM)	blowers (DZS)
Filter backwash	✓	✓		✓	✓
Aerated lagoon		✓	✓	✓	✓
Oxidation ditch		✓	✓	✓	✓
Activated sludge	✓	✓	✓	✓	✓
Sequencing batch reactor	✓	✓		✓	
Membrane bioreactor	✓	✓	✓	✓	
Bio aerated filters		✓	✓	✓	✓
Channel aeration	✓	✓	✓	✓	✓
Digesters	✓	✓		✓	



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