

Atlas Copco

Variable speed direct drive centrifugal air blowers
ZB 100-160 VSD (100-160 kW)



Sustainable Productivity

Atlas Copco



The right blower for your application

The right blower for your application not only performs well, it does so with as little noise inconvenience as possible. After all, your business is not only about efficient machines, but also about the comfort people need to focus on their job. By keeping in touch with you and your needs, Atlas Copco is driven to continuously improve and innovate its compressed air solutions and help your production benefit.



WASTEWATER TREATMENT

- Lowest aeration blower energy cost, up to 70% of the plant operational cost.
- Low downtime and low maintenance cost thanks to gearless centrifugal technology.
- Very wide flow and pressure operational range.



NON-WOVEN TEXTILE

24/7 meltblown non-woven textile production to make napkins, diapers, hygienic products... requires:

- Adjustable flow in order to influence fiber characteristics.
- Energy-efficient blowers to come to the lowest operational cost of this 24/7 continuous process.
- Point-of-use installation without noise-preventing measures.



FLUE GAS DESULPHURIZATION

- Lowest energy cost, representing up to 80% of the blower life cycle cost.
- 24/7 uninterrupted pollution control thanks to proven reliable design.

KEEPING YOUR PROCESS UP AND RUNNING

Especially in harsh and dusty environments, a reliable supply of compressed air is critical to ensure process continuity. Every ZB blower is designed, manufactured and tested to comply with ISO 9001 certification. The totally enclosed motor with magnetic bearings is built to ensure continuous operation and exceptional reliability in dusty and humid environments.



DRIVING DOWN ENERGY COSTS

Energy costs can amount to 80% of the Life Cycle Costs of a blower. The generation of compressed air can account for more than 40% of a plant's total electricity costs. Fully compliant with ISO 14001 standards, the ZB range helps to reduce costs: the centrifugal gearless and frictionless direct drive provides the highest air volume at the lowest energy consumption. The integrated Variable Speed Drive (VSD) technology offers approximately 35% extra energy savings by automatically tuning blower flow to the precise air demand.

EASY INSTALLATION

Delivered ready for use, ZB blowers come as all-in-one packages including a powerful controller, frequency converter, modulating blow-off valve, blow-off silencer and check-valve. The complete scope of supply eliminates the need for extras and reduces installation to an absolute minimum, saving you time and money. Built for easy integration in your existing compressed air network, the ZB blowers are up and running in no time.



PROTECTING YOUR REPUTATION AND PRODUCTION

In virtually any application, oil contamination of the air supply causes serious productivity issues and increases costs. As the first manufacturer to receive ISO 8573-1 CLASS 0 (2010) certification for its oil-free air compressors and blowers, Atlas Copco has set a new standard in air purity. Focusing on the protection of critical applications as well as today's increasing quality demands, Atlas Copco offers TÜV-certified 100% oil-free air.



Innovation at work

The Atlas Copco ZB VSD (Variable Speed Drive) centrifugal air blower is a completely innovative approach to low pressure compressed air applications. Because of the combination of revolutionary technologies, the ZB VSD offers a range of features and benefits that were previously impossible to combine into one machine.



1

Air inlet filter

- Generously designed air inlet filter for minimal pressure drop, premium energy efficiency and longer service intervals.
- Large surface area to cope with harsh environments.

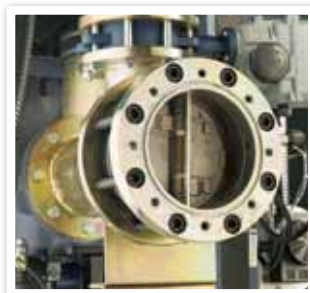


2

Silenced package

Low noise level thanks to:

- Totally enclosed canopy.
- Integrated blow-off silencer.
- Baffled air intake and dampened air outlet piping.



3

Integrated stainless steel check valve

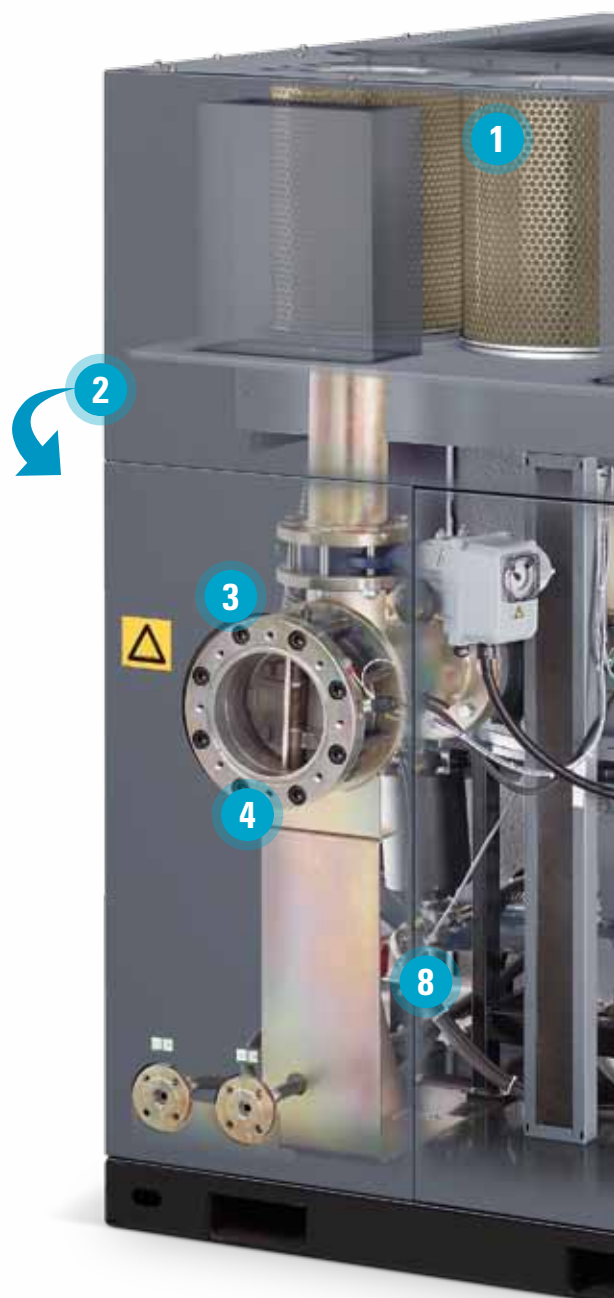
- Minimal site work.
- No hidden costs.



4

Air outlet and modulating blow-off

- Maximum flow range.
- Reliable operation away from surge line.





5

Elektronikon® Mk IV



6

Magnetic bearings

Reliability through:

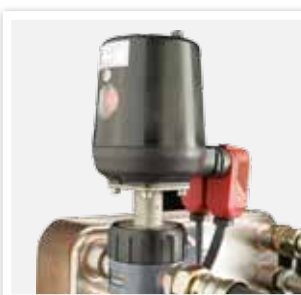
- › Being able to withstand surge conditions.
- › Allowing unlimited start-stops.
- › Frictionless operation.
- › No gearbox, no lubrication required.



7

Closed water circuit

- › No heat exchanger maintenance required thanks to independency of external cooling water quality.



8

Cooling water thermostatic valve

- › Constant internal cooling water temperature results in extended life time of electronic power components.



9

Single stainless steel impeller

- › Highest energy efficiency through optimum aerodynamic efficiency of a large impeller and labyrinth seals for minimal air leakage.
- › Longer lifetime of high-strength stainless steel material.
- › Larger operating flexibility thanks to backward leaning impeller.

The magic of VSD blowers

DIRECT ENERGY SAVINGS OF UP TO 60%

- Less blow-off of compressed air to the atmosphere.
- The precise pressure control of the VSD blower allows for a tighter pressure band and a lower average working pressure, resulting in reduced energy consumption.

ADDITIONAL VSD BENEFITS

- The stable system pressure provides stability for all processes using compressed air.
- Variable speed drive instead of blow-off control.
- No current peaks during start-up:
 - Unlimited starting and stopping.
 - No risk of current peak penalties upon starting.

INTEGRATED VSD - THE ONLY WAY

EMC tested and certified

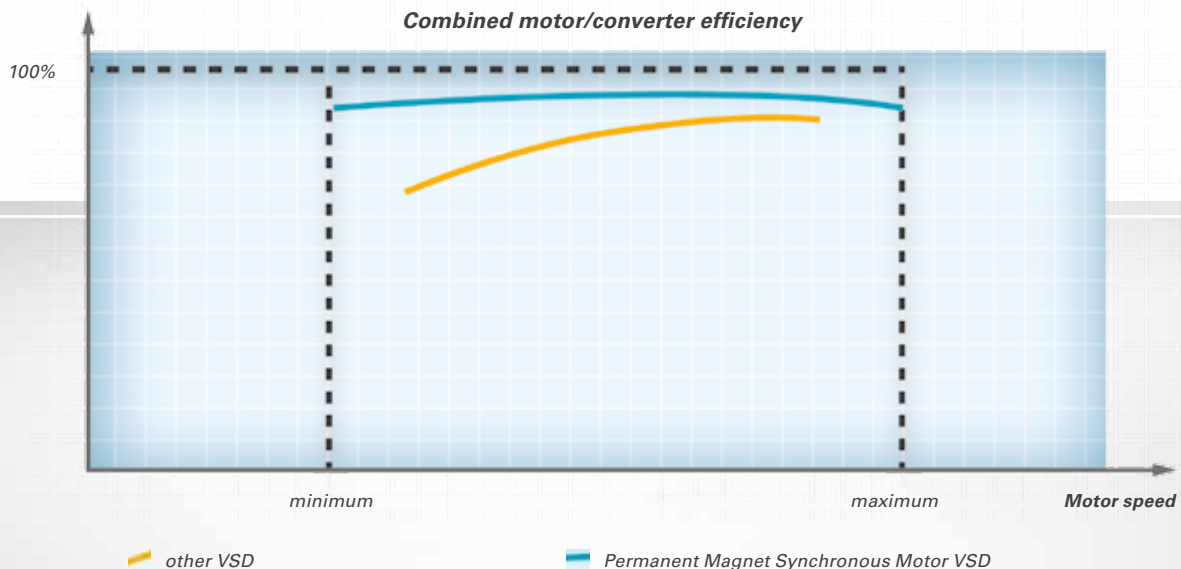
- No influence of external sources.
- No emissions to other equipment.
- Permanent magnet synchronous motor.

Motor specifically designed for VSD

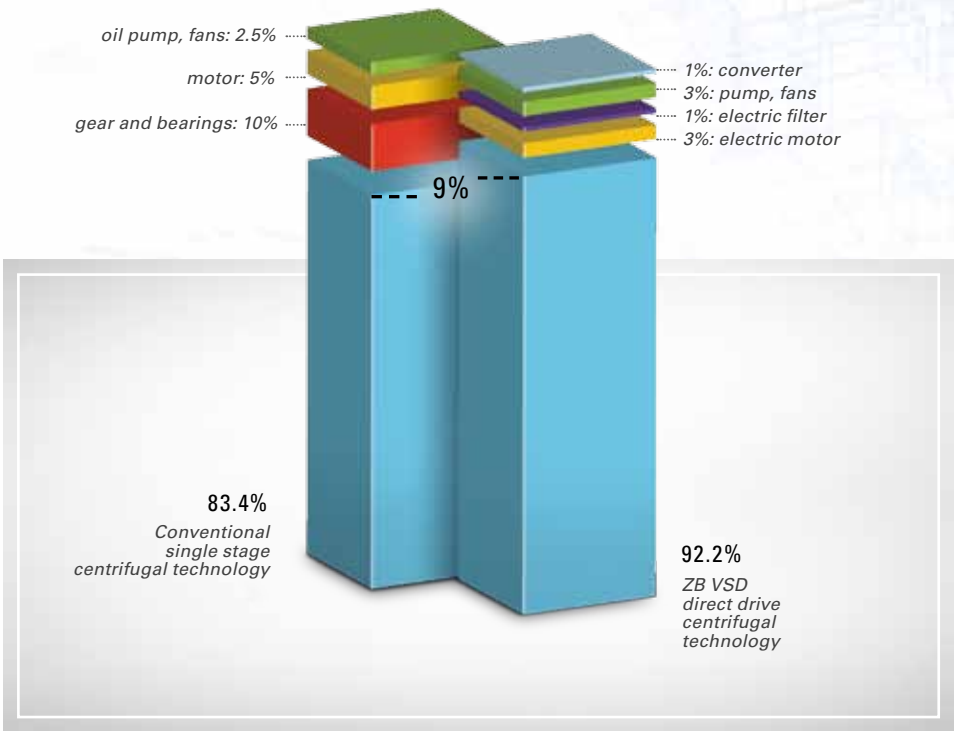
- Motor & converter perfectly tuned to obtain best efficiency over entire speed range.
- Optimized cooling.

Tested over complete speed range

- Complete speed range without "speed windows"



DRIVE EFFICIENCY AT 100 % POWER SUPPLY

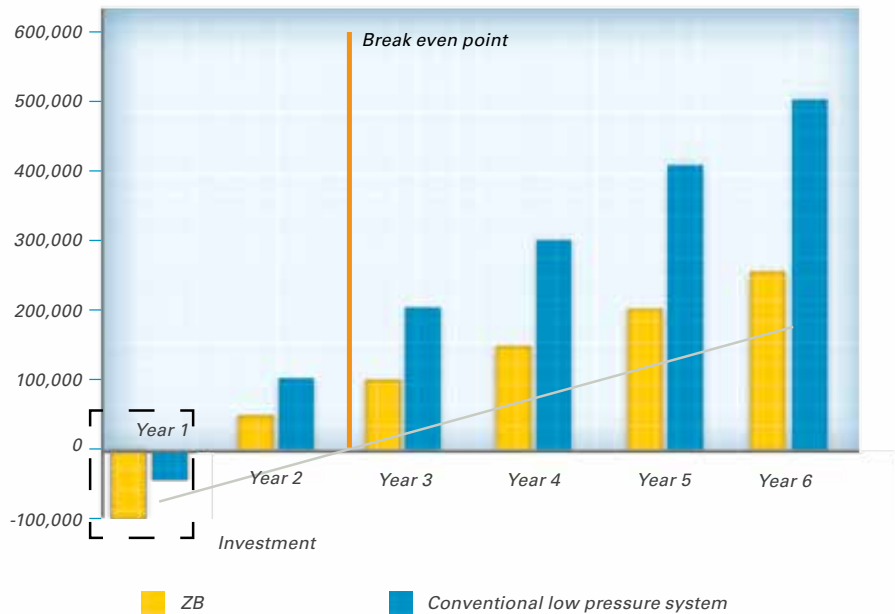


LIFE CYCLE COST

The ZB blower provides the lowest energy consumption in the industry. Coupled with long lifetime components and high reliability packaging, the blower provides the lowest life cycle costs.

Assumptions:

- 0.08 €/kWh
- 6,500 h/year
- 0.75 bar



CLASS 0: customers choose oil-free



Oil-free air is used in all kinds of industries where air quality is paramount for the production process and end product. These applications include food and beverage, pharmaceutical industry, wastewater treatment, nonwoven textile, flue gas desulphurization and many more. In these critical environments, contamination by even the smallest quantities of oil can result in costly production downtime and product spoilage, making Class 0 an industry standard.

FIRST IN OIL-FREE AIR TECHNOLOGY

Over the past sixty years Atlas Copco has pioneered the development of oil-free air technology, resulting in a range of air compressors and blowers that provide 100% pure, clean air. Through continuous research and development, Atlas Copco achieved a new milestone, setting the standard for air purity as the first manufacturer to be awarded ISO 8573-1 CLASS 0 certification.

ELIMINATING ANY RISK

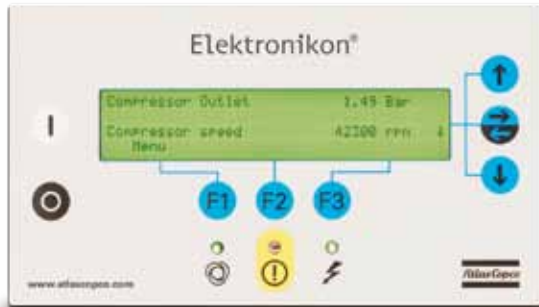
As the industry leader committed to meeting the needs of the most demanding customers, Atlas Copco requested the renowned TÜV institute to type-test its range of oil-free compressors and blowers. Using the most rigorous testing methodologies available, all possible oil forms were measured across a range of temperatures and pressures. The TÜV found no traces of oil at all in the output air stream. Thus Atlas Copco is not only the first compressor and blower manufacturer to receive CLASS 0 certification, but also exceeds ISO 8573-1 CLASS 0 specifications.

CLASS 0 MEANS:

- ✔ Zero risk of contamination.
- ✔ Zero risk of damaged or unsafe products.
- ✔ Zero risk of losses from operational downtime.
- ✔ Zero risk of damaging your company's hard-won professional reputation.



Advanced Elektronikon® monitoring & control



OPERATING MODES:

- constant pressure mode (flow range: 50 - 100%)
- constant flow mode
- remote 4-20 mA input (flow or pressure)

FUNCTIONS:

control

- speed regulation
- surge control
- blow-off regulation

ES – FULLY OPTIMIZED SYSTEM

A properly managed compressed air network will save energy, reduce maintenance, decrease downtime, increase production and improve product quality. Atlas Copco's ES central controllers are the most efficient way to monitor and control multiple compressors and blowers simultaneously as well as dryers and filters. An ES

controller offers one central point of control for your whole compressed air network, ensuring all compressors and blowers provide optimum performance for your process. The result is a completely dependable and energy efficient network, giving you peace of mind and keeping your costs to a minimum.

FUNCTIONS:

- safety
- monitoring
- self-diagnosis
- communication
 - internal, with frequency converter and magnetic bearing controller
 - external (Modbus, Profibus)



Engineered solutions for all your needs

The ZB blower is designed as standard to perform in a wide range of low pressure operating and site conditions. However, some environments call for additional measures. For all these special requests Atlas Copco offers you an adequate solution.

- Customizing the standard products to fit your local plant standards. Meeting these standards on electrical voltage, colour coatings, explosion proof zones, documentation, test and inspection requirements...
- Designing products to secure operation in harsh environments, allow outdoor installation in sub-zero temperatures, increase corrosion resistance for windy coastal and off-shore applications or ensure performance in hot, moist or dusty environments...

All these requirements can be met by our engineered solutions, while retaining the high standards of energy, safety and reliability, inherent to all Atlas Copco products. Dedicated teams in your country offer close-to home solutions fitting your applications worldwide.

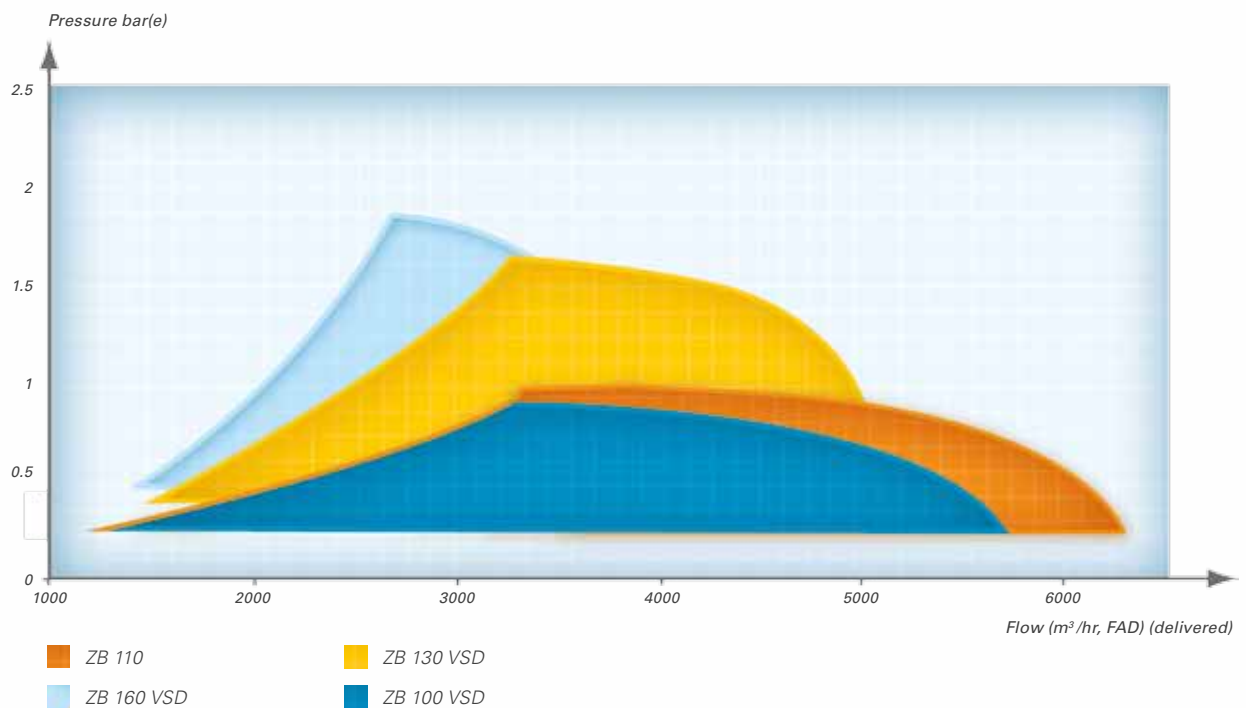


Choose the most suitable unit for your application

SCOPE OF SUPPLY

Sound enclosure	Fully enclosed package
Framework	Base frame with forklift slots
Air circuit	Air inlet filter system
	Single stage centrifugal direct driven element
	Modulating & silenced blow-off
	Discharge check-valve
Air circuit	DIN or ANSI flanges for air connections
Cooling circuit	Air- or water-cooled
Electrical components	Permanent magnet high speed motor
	High frequency drive
	Electronic controller
	Fully wired electrical system
	Enabled for TT/TN or IT network
Additional features and options	High efficient inlet filter (99% at 1 micron)
	High resolution display
	Packing in wooden case

ZB BLOWER RANGE OVERVIEW





Driven by innovation

With more than 135 years of innovation and experience, Atlas Copco will deliver the products and services to help maximize your company's efficiency and productivity. As an industry leader, we are dedicated to offering high air quality at the lowest possible cost of ownership. Through continuous innovation, we strive to safeguard your bottom line and bring you peace of mind.



Building on interaction

As part of our long-term relationship with our customers, we have accumulated extensive knowledge of a wide diversity of processes, needs and objectives. This gives us the flexibility to adapt and efficiently produce customized compressed air solutions that meet and exceed your expectations.



A committed business partner

With a presence in over 170 countries, we will deliver high-quality customer service anywhere, anytime. Our highly skilled technicians are available 24/7 and are supported by an efficient logistics organization, ensuring fast delivery of genuine spare parts when you need them. We are committed to providing the best possible know-how and technology to help your company produce, grow, and succeed. With Atlas Copco you can rest assured that your superior productivity is our first concern!



Atlas Copco



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