VARIABLE SPEED DIRECT DRIVE CENTRIFUGAL AIR BLOWERS

ZB 100-250 VSD (100-250 kW/135-335 hp)

PROVEN RELIABILITY

Low-pressure compressed air is a cornerstone of many production processes. A constant, reliable flow is essential. The air should also be of impeccable quality. Waste water aeration, printing, air separation, fermentation and non-woven textile production processes cannot tolerate contamination. Atlas Copco's ZB range is the ideal choice to meet the high demands of these processes. The package is a complete "all-in" package, fully equipped with all components perfectly tuned to each other.

Keeping your process up and running

Especially in industrial and municipal 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 quality systems. The totally enclosed motor and magnetic bearings are built to ensure continuous operation and exceptional reliability in these environments.

Driving down energy costs

Energy costs can account for over 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. 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 automatically tunes blower output to the precise air demand.

Easy installation

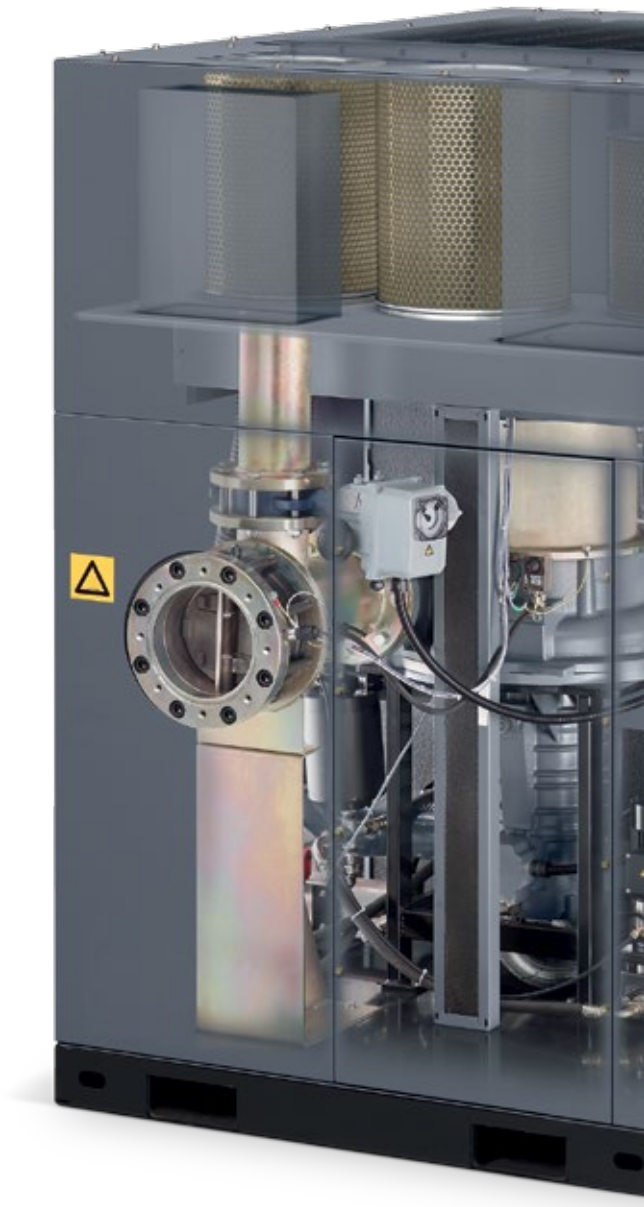
Delivered ready for use, ZB blower packages are supplied as all-in-one packages including a powerful controller, frequency convertor, modulating blow-off valve, blow-off silencer and check valve. The complete scope of supply eliminates the need for extra field erection, reducing installation to an absolute 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 assuring 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 decade long proven, reliable combination of revolutionary technologies. The ZB VSD offers a range of features and benefits that are integrated into one machine.



1

Air inlet filter

- Generously designed air inlet filter for minimal pressure drop, high efficiency and longer service intervals.
- Simplified mounting for easy and fast replacement.

2

Silenced package

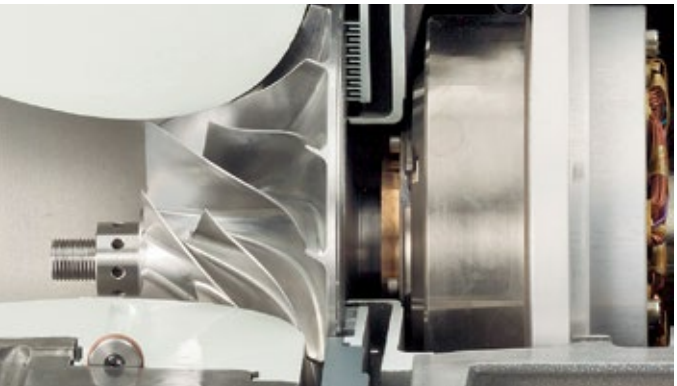
Low noise level thanks to:

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

3

Integrated stainless steel check valve

- Stainless steel construction.
- Minimal site work, no hidden costs.
- Optional remote installation.



4

Magnetic bearings

Outstanding efficiency & reliability:

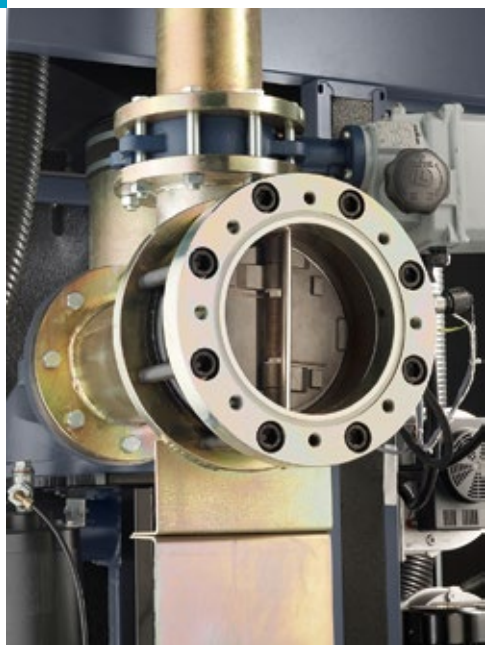
- Can withstand 'ride-through' surge conditions.
- Contactless design provides for unlimited start-stops.
- Friction-free operation for maximum efficiency and assured reliability.

8

Elektronikon® Mk 5

- To ensure maximum machine safety, the Elektronikon® system monitors and controls the blower operation, integrated frequency converter and bearing controller.
- Monitoring of all parameters to ensure maximum reliability for your blower installation.

** Some versions of the ZB are equipped with Elektronikon® Mk IV.*



7

Air outlet and modulating blow-off valve

Reliable operation at all conditions.

6

Closed cooling water circuit

Heat transfer is made without introduction of external cooling water contamination.

5

Stainless steel or aluminum impeller

- Optimum aerodynamic efficiency and labyrinth seals for minimal air leakage.
- Long lifetime high-strength material.
- Backward leaning impeller design for a wide and efficient operating range.

THE ART OF VSD BLOWERS

Direct energy savings of up to 60%

- Less blow-off of compressed air to the atmosphere.
- Precise control of the package 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 control for wide operating range.
- No current peaks during start-up:
  - o Unlimited starting and stopping.
  - o 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.

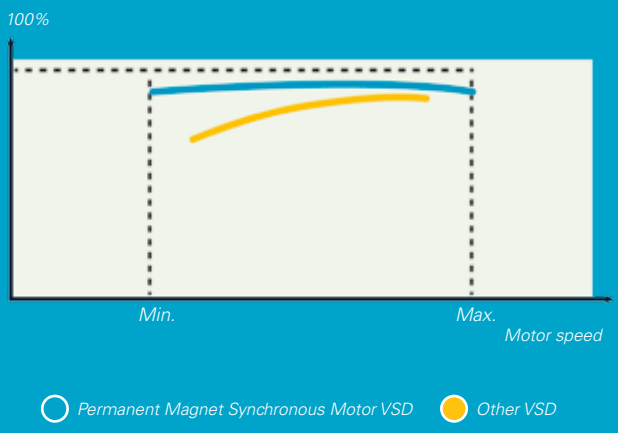
Motor specifically designed for VSD:

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

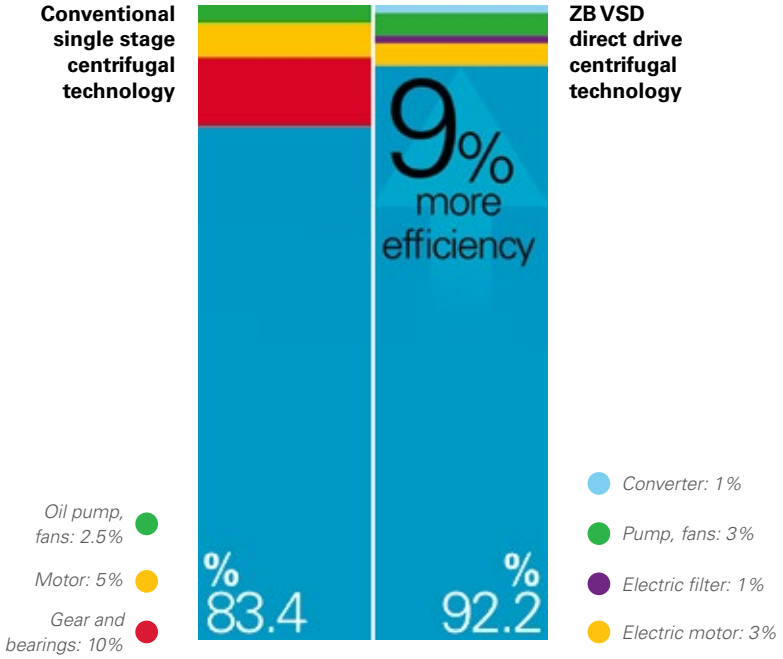
Tested over complete speed range:

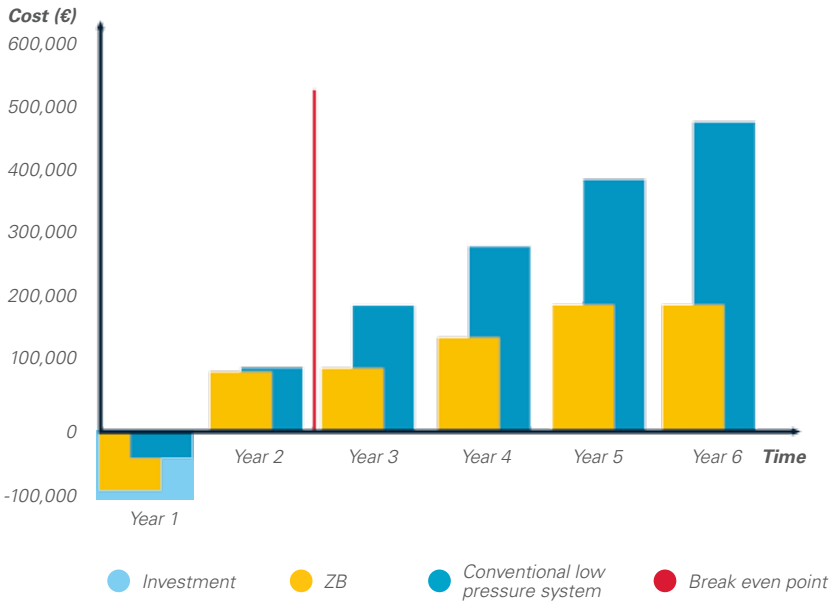
- Complete speed range without "speed windows".

Combined motor/converter efficiency



HIGH WIRE-AIR EFFICIENCY





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: THE INDUSTRY STANDARD

Oil-free air is used in all kinds of industries where air quality is paramount for the end product and production process. These applications include food and beverage processing, pharmaceutical manufacturing and packaging, chemical and petrochemical processing, semiconductor and electronics manufacturing, the medical sector, automotive paint spraying, textile manufacturing and many more. In these critical environments, contamination by even the smallest quantities of oil can result in costly production downtime and product spoilage.

First in oil-free air technology

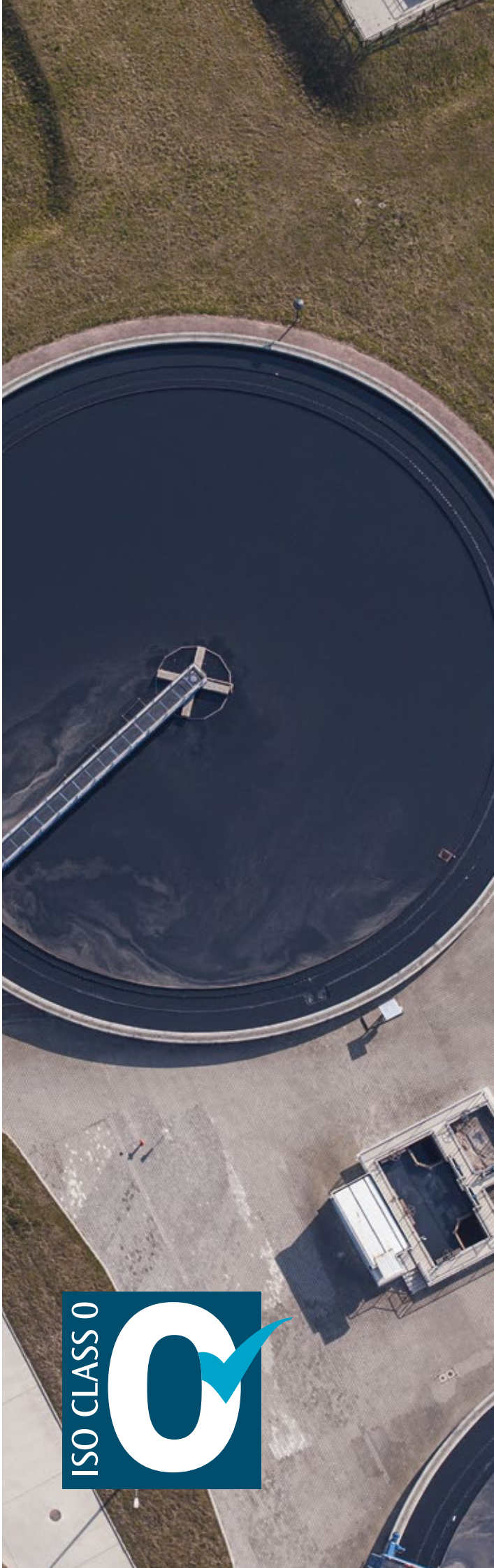
Over the past sixty years Atlas Copco has pioneered the development of oil-free air technology, resulting in a range of air compressors and blowers that provide 100% pure, clean air. Through continuous research and development, Atlas Copco achieved a new milestone, setting the standard for air purity 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	Concentration total oil (aerosol, liquid, vapor) mg/m³
0	**As specified by the equipment user or supplier and more stringent than class 1**
1	< 0.01
2	< 0.1
3	< 1
4	< 5

Current ISO 8573-1 (2010) classes (the five main classes and the associated maximum concentration in total oil content).



MONITORING AND CONTROL: HOW TO GET THE MOST FROM THE LEAST

The Elektronikon® unit controller is specially designed to maximize the performance of your compressors and air treatment equipment under a variety of conditions. Our solutions provide you with key benefits such as increased energy efficiency, lower energy consumption, reduced maintenance times and less stress... less stress for both you and your entire air system.

Intelligence is part of the package

- High resolution color display gives you an easy to understand readout of the equipment's running conditions.
- Clear icons and intuitive navigation provides you fast access to all of the important settings and data.
- Monitoring of the equipment running conditions and maintenance status; bringing this information to your attention when needed.
- Operation of the equipment to deliver specifically and reliably to your compressed air needs.
- Built-in remote control and notifications functions provided as standard, including simple to use Ethernet based communication.
- Support for 31 different languages, including character based languages.

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.

SMARTLINK*: Data Monitoring Program

- A remote monitoring system that helps you optimize your compressed air system and save you energy and cost.
- It offers you a complete insight in your compressed air network and anticipates on potential problems by warning you up-front.

**Please contact your local sales representative for more information.*

ENGINEERED SOLUTIONS

Atlas Copco recognizes the need to combine our serially produced blowers and dryers with the specifications and standards applied by major companies for equipment purchases. Strategically located departments within the Atlas Copco Group take care of the design and manufacturing of customized equipment to operate at extreme temperatures, often in remote locations.

Innovative technology

As original manufacturer of the equipment, Atlas Copco understands all performance capabilities and ensures that the equipment operates within them. All equipment is covered by our manufacturer warranty. The reliability, longevity and performance of our equipment will not be compromised.
A global aftermarket operation employing 360 field service engineers in 160 countries ensures reliable maintenance by Atlas Copco as part of a local service operation.

Innovative systems

We are fully aware that project management can be complex. We have developed an Internet based application called IC³ which is shared by all Atlas Copco sites worldwide, to give a transparent view of data and drawings and to easily contribute to the project if required.

Innovative engineering

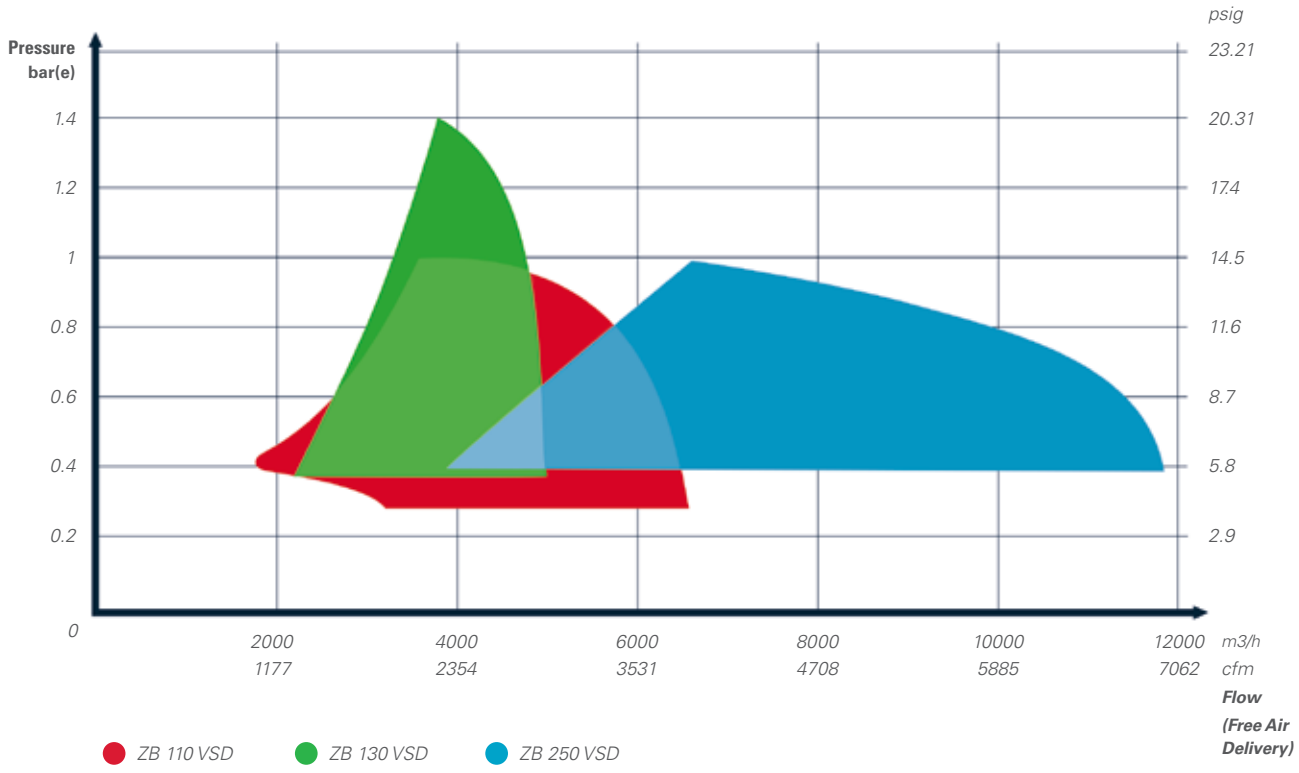
Each project is unique and by entering into partnership with our customers, we can appreciate the challenge at hand, ask the relevant questions and design the best engineered solution for all your needs.

CHOOSE THE MOST SUITABLE UNIT FOR YOUR APPLICATION

With the ZB range, Atlas Copco provides an opportunity to choose the best compressor for your specific application. To tailor to your needs, standard options are available off-the-shelf.

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*
	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)
	Packing in wooden case

** Optional on some models.*



COMMITTED TO SUSTAINABLE PRODUCTIVITY

We stand by our responsibilities towards our customers, towards the environment and the people around us. We make performance stand the test of time. This is what we call – Sustainable Productivity.

LLOYD'S REGISTER · LRQA
ISO 9001 • ISO 14001
OHSAS 18001

Atlas Copco

www.atlascopco.com