

# ATLAS COPCO OIL-FREE SCREW COMPRESSORS

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AtlasCopco

ZR 160-275 Classic ZR 200-315 VSD Classic



## OUTSTANDING PERFORMANCE, MAXIMUM BENEFITS

Atlas Copco ZR Classic Line compressors provide high-quality compressed air in the harshest environmental conditions. Incorporating the patented Atlas Copco's oil-free screw element and superior structure design, they provide a long and trouble-free life at the lowest possible operating cost.



### Food and beverage industry

- Atlas Copco oil-free air compressors serve a multitude of applications in the Food and Beverage industry including: fermentation, packing, air-filling, transport, filling & capping, cleaning air, instrument air, etc.
- Atlas Copco Class 0 compressors deliver the highest level of air purity. Zero oil means there is no risk of contamination.

### **Electronic industry**

- Provide high-quality oil-free clean air for the production of electronic products and guarantee the processing precision.
- Solve the issues of bad performance and short lifetime caused by impure air, and reduce production downtime.

### **Pharmaceutical industry**

- Fully meet the strict requirement on compressed air by GMP certification.
- 100% oil-free air prevent any risk of contamination in such processes as fermentation, air-filling, tablet packaging, canning, automatic production, etc.
- CLASS 0 eliminates risks, keep high quality of products and protect your hard-won reputation.
- CLASS 0 helps you successfully obtain FDA certificate.

## 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 productionprocess.Theseapplicationsincludefood and beverage,pharmaceutical,chemical and petrochemical, semiconductor and electronics, the medical sector, automotive paint spraying, textile 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 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.

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).





## SETTING A NEW STANDARD IN THE INDUSTRY

Atlas Copco's ZR Classic Line compressors bring you outstanding sustainability, reliability and performance, while minimizing the total cost of ownership. Built to perform even in the harshest environments, these compressors keep your production running efficiently.



### Highly effecient inlet filter

- Machine mounted, easy to maintain
- Minimum intake losses



### High precision gears AGMA A5

- Long lifetime
- Low transmission losses
- Low noise level and vibration



### 2 Advanced Elektronikon<sup>®</sup> control and monitoring system

- Overall system performance status with pro-active service indications, alarms for malfunctions and safety shutdowns multi-language selectable display
- All monitoring and control functions via one interface wide communication possibilities
- Integration possible in many process control systems (field bus system)

### 5 Electronic blow-off valve

- Easy for maintenance
- High resistance
- Stainless steel body



### Superior element bearings

- High stability under varying load conditions
- Adjust to change load
- No need for pre-lubrication/stabilisation time
- Joint development with world top-ranked SKF bearing supplier

# 9Atlas Copco VSD converter

- High efficiency & reliability
- Atlas Copco patent design
- Heavy duty application











- IE3 high efficiency motor
- IP55 TEFC protection
- Class F insulation



# World class oil-free compression element

- 100 % oil-free air compression
- Speed far below critical speed
- High overall efficiency, thanks to:
   Superior rotor coating
  - Element cooling jackets
- Excellent process and assembly precision



Cooler

- Separate inter cooler & after cooler
- Easy for maintenance
- High cooling efficiency

## **VSD: DRIVING DOWN ENERGY COSTS**

Over 80% of a compressor's lifecycle cost is taken up by the energy it consumes. Moreover, the generation of compressed air can account for more than 40% of a plant's total electricity bill. To cut your energy costs, Atlas Copco pioneered Variable Speed Drive (VSD) technology in the compressed air industry. VSD leads to major energy savings, while protecting the environment for future generations. Thanks to continual investments in this technology, Atlas Copco offers the widest range of integrated VSD compressors on the market.



#### What is unique about the integrated Atlas Copco VSD?

- The Elektronikon<sup>®</sup> controls both the compressor and the integrated converter, ensuring maximum machine safety within parameters.
- 2 Flexible pressure selection from 4 to 10.4 bar with VSD reduces electricity costs.
- **3** Specific converter and motor design (with protected bearings) for the highest efficiency across the speed range.
- 4 Electric motor specifically designed for low operating speeds with clear attention to motor cooling and compressor cooling requirements.
- 5 All Atlas Copco VSD compressors are EMC tested and certified. Compressor operation does not influence external sources and vice versa.

- **6** Mechanical enhancements ensure that all components operate below critical vibration levels throughout the entire compressor speed range.
- 7 A highly efficient frequency converter in a cubicle ensures stable operation in high ambient temperatures up to 50°C/122°F (standard up to 40°C/104°F).
- 8 No 'speed windows' that can jeopardize the energy savings and the stable net pressure. Turndown capability of the compressor is maximized to 70-75%.
- 9 Net pressure band is maintained within 0.10 bar, 1.5 psi.

# A STEP AHEAD IN MONITORING AND CONTROLS

The Elektronikon<sup>®</sup> operating system offers a wide variety of control and monitoring features that allow you to increase your compressor's efficiency and reliability. To maximize energy efficiency, the Elektronikon<sup>®</sup> controls the main drive motor and regulates system pressure within a predefined and narrow pressure band.

### **Built-in intelligence**

- Improved user-friendliness: 3.5" color display with clear pictograms for easy readout.
- Monitoring of running conditions and graphical indication of the service plan.
- Regulates system pressure within a predefined narrow pressure band.
- Integrated energy savings functions like dual pressure set point, 4 different programmable week schedules.
- Comprehensive icon indications and intuitive navigation.
- 31 different languages including character-based languages.
- Durable keyboard to resist tough treatment in demanding environments.
- Internet-based compressor visualization using a simple Ethernet connection.
- Remote control and advanced connectivity functions.





### **Online & mobile monitoring**

Monitor your compressors over the Ethernet with the new Elektronikon<sup>®</sup> controller. Monitoring features include warning indications, compressor shut-down and maintenance scheduling. An Atlas Copco App is available for iPhone/Android phones as well as iPad and Android tablets. It allows fingertip monitoring of your compressed air system through your own secured network.

## **FLOW CHARTS**



#### Variable speed drive: ZR



### **TECHNICAL SPECIFICATIONS** ZR 160-315 / VSD CLASSIC

	Maximum		Connection FAD			In stalls during the		Weight		
Туре	working pressure		Сарасту нар			Installed motor		Standard		Outlet
	bar	psi	I/s	m³/min	cfm	kW	hp	kg	lb	5120
50 Hz										
ZR160-7.5 Classic	7.5	108.75	472	28.3	1000	160	215			
ZR160-8.6 Classic	8.6	124.7	436	26.2	923	160	215	3944	8695	
ZR160-10 Classic	10	145	403	24.2	853	160	215			
ZR200-7.5 Clssic	7.5	108.75	602	36.1	1275	200	268			
ZR200-8.6 Classic	8.6	124.7	552	33.1	1168	200	268	4034	8893	
ZR200-10 Classic	10	145	506	30.4	1072	200	268			
ZR250-7.5 Classic	7.5	108.75	718	43.1	1520	250	335			
ZR250-8.6 Classic	8.6	124.7	684	41.0	1448	250	335	4524	9974	DN80
ZR250-10 Classic	10	145	623	37.4	1318	250	335			
ZR275-7.5 Classic	7.5	108.75	774	46.4	1640	275	369			
ZR275-8.6 Classic	8.6	124.7	718	43.1	1520	275	369	4894	10789	
ZR275-10 Classic	10	145	684	41.0	1448	275	369			
ZR200VSD-8.6 Classic	8.6	125	569	34.1	1205	200	268	4129	9103	
ZR250VSD-8.6 Classic	8.6	125	692	41.5	1465	250	335	4254	9378	
ZR315VSD-8.6 Classic	8.6	125	788	47.3	1670	300	402	4264	9400	

### (1) Reference conditions: - dry air

- absolute inlet pressure 1 bar(a)
  cooling and air intake temperature 20°C
  nominal working pressure
- performance of the compressor package measured according to ISO 1217, Third Edition, Annex C
- (2) Cooling water temperature rise of 15°C
- (3) Max. capacity is at reference pressure and not at max. pressure

### Dimensions

	Standard					
Туре	A	В	С			
	Length (mm)	Width (mm)	Height (mm)			
ZR 160-315 / VSD Classic	2950	1595	1993			





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