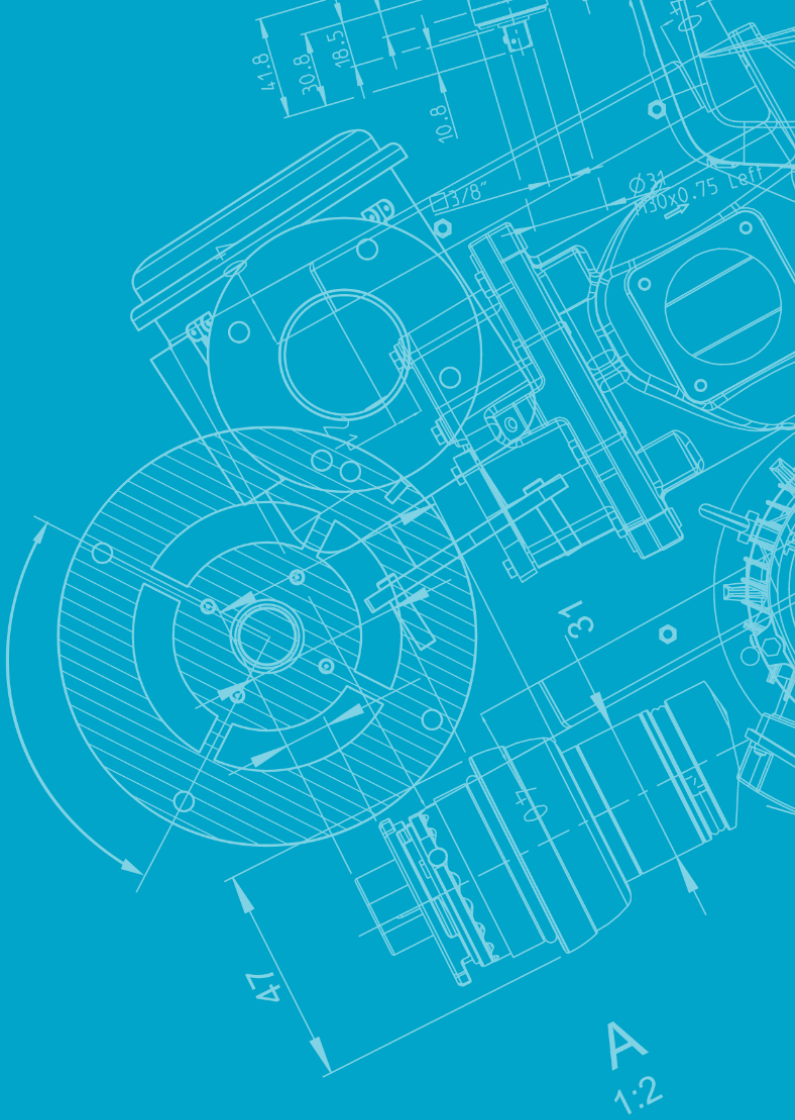
Oil-free rotary screw compressors

ZR/ZT 200-355 VSD+



Contents

1 Cover

3 Introduction

5 Features

24 Optimum air quality

26 Highest efficiency

29 Smart AIR solutions

34 Options

35 Engineered solutions

36 Service

38 Oil & air flows

40 Technical Specifications Pack

43 Technical Specifications iMD

46 Technical Specifications iMDG

The best of all worlds

The shortest route to superior productivity is to minimize operational cost while maintaining an uninterrupted supply of the right quality of air. The Atlas Copco Z compressor series is focused on effectively saving energy, ensuring product safety – only oil-free machines exclude contamination risks 100% – and guaranteeing the utmost reliability around the clock. And not just today, but day after day, year after year, with minimal maintenance cost, few service interventions and long overhaul intervals.

Highest reliability

For over 60 years Atlas Copco has pioneered the development of oil-free air technology resulting in the largest range of air compressors and blowers within our industry.

100% oil-free compressed air

The ZR/ZT offers you 100% pure, clean air that complies with ISO 8573-1 CLASS 0 (2010) certification.

Maximum energy efficiency

The ZR/ZT's superior oil-free screw elements provide the optimum combination of high Free Air Delivery (FAD) with the lowest energy consumption.

The most complete package

With the ZR/ZT compressor, Atlas Copco provides a totally integrated, ready-to-use package including internal piping, coolers, motor, lubrication and control system.

Global presence – local service

Our aftermarket product portfolio adds maximum value by ensuring optimum availability and reliability of compressed air equipment with the lowest possible operating costs.

SMARTLINK

Monitor your compressed air installation with SMARTLINK. Knowing the status of your compressed air equipment at all times is the surest way to achieve optimal efficiency and maximum availability.

ZR 200-355 VSD+

ZT 200-355 VSD+

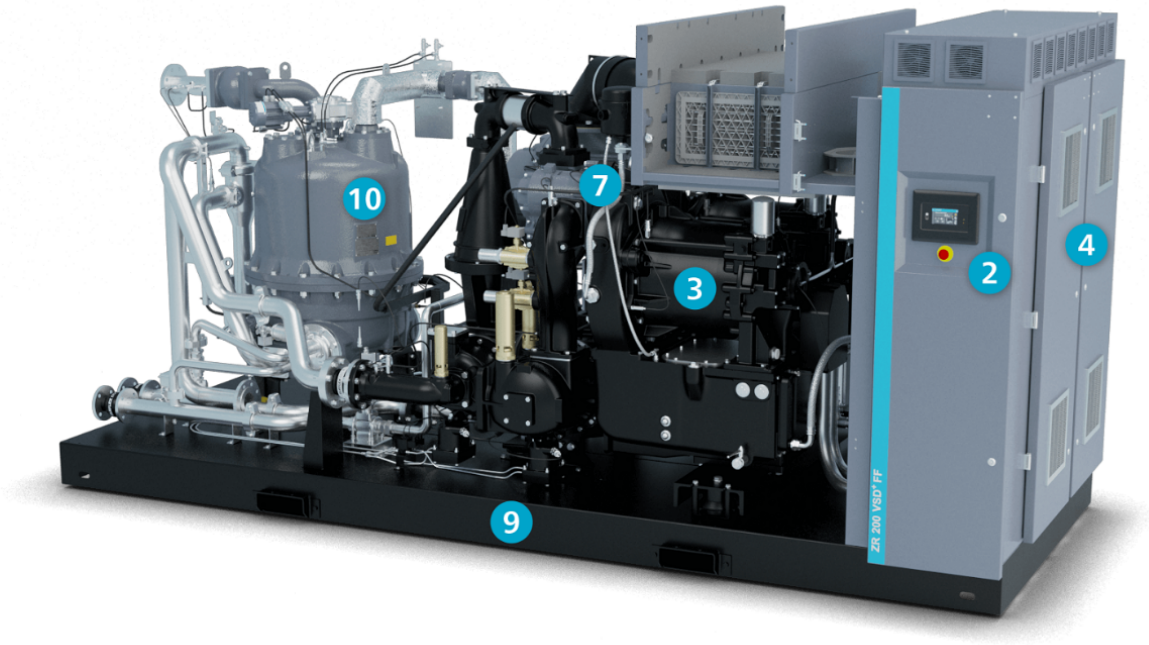
Features & benefits

Introducing the Atlas Copco ZR/ZT 200-355 VSD+, where efficiency meets reliability and sustainability.

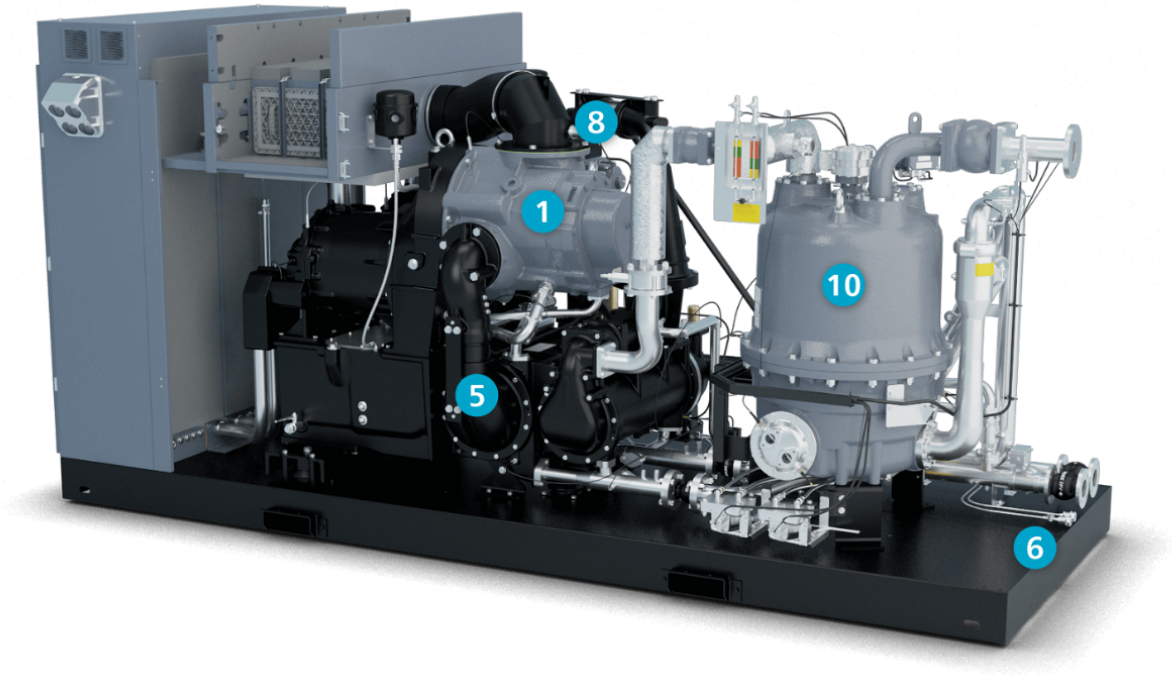
This air compressor is designed for industries demanding high compressed air quality standards.

ZR 200-355 VSD+ FF (iMD)

LEFT VIEW

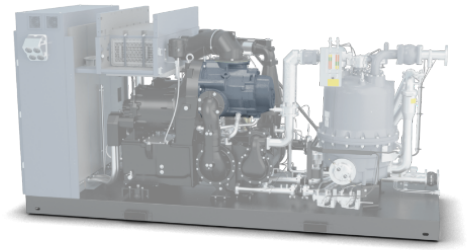


RIGHT VIEW



1 High performance elements

- Next generation world class compression element.
- Atlas Copco superior rotor coating for high durability.
- Thermal efficiency reduces the expansion leading to reduced wear and increased reliability.
- More compact, improved rotor profiles and cooling jackets for maximum durability.

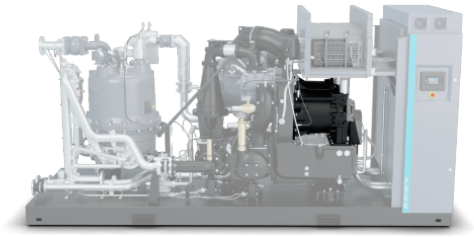


2 Advanced touch screen monitoring system

- User-friendly Elektronikon® Touch, with enhanced connectivity potential.
- Included warning indications, maintenance scheduling and online visualization of the machine's condition for increased reliability.

3 Efficient motor

- Permanent Magnet water cooled motor with oil lubricated bearings.
- Rock-solid reliability prevents dust and water entering the motor.

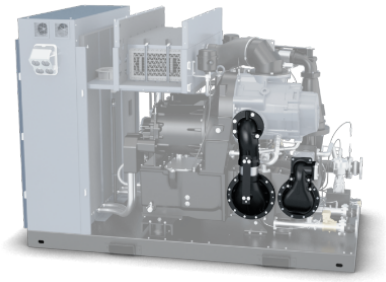


4 NEOS drive

- Atlas Copco NEOS inverter is designed to work in the harsh conditions of the compressor house.
- Modular design allows replacement of individual components, reducing maintenance cost.
- The cubicle keeps the inverter cool extending the lifetime & increasing operational efficiency.

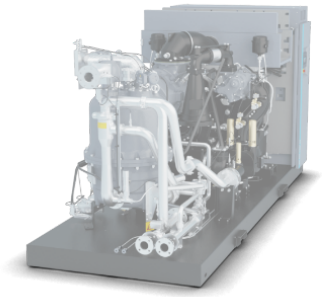
5 Reliable cooling

- Cooler with highly efficient water separator for higher reliability.
- Stainless steel enlarged surface coolers to ensure top performance over a long lifetime.
- Pipes with star profile form bi-anodised aluminium for preventing corrosion
- Easily removable for quick, cost-efficient maintenance.



6 Zero loss drains

- Clearance of all water & contamination.
- Increasing both product & system reliability.



7 Easy access

- Easy access to all components to minimize maintenance times.
- Hinged doors for easy routine maintenance eg. cleaning.
- Saves valuable and often expensive floor space in a facility.
- Highest ratio flow/footprint on the market.

8 Soundproof design

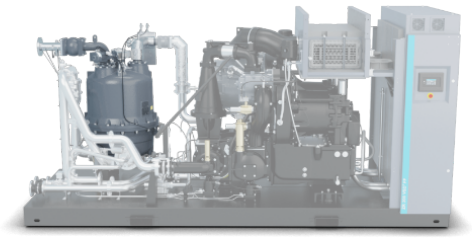
- Silenced canopy ensures optimal working conditions for everyone in the immediate environment.
- Optimized internal ducting and integrated pulsation damper to reduce the noise level.
- High quality coated canopy to prevent dust.

9 Grouped service items

- Minimal service time because service parts are grouped together for ease of access.
- All components are designed for serviceability and long lasting lifetime.

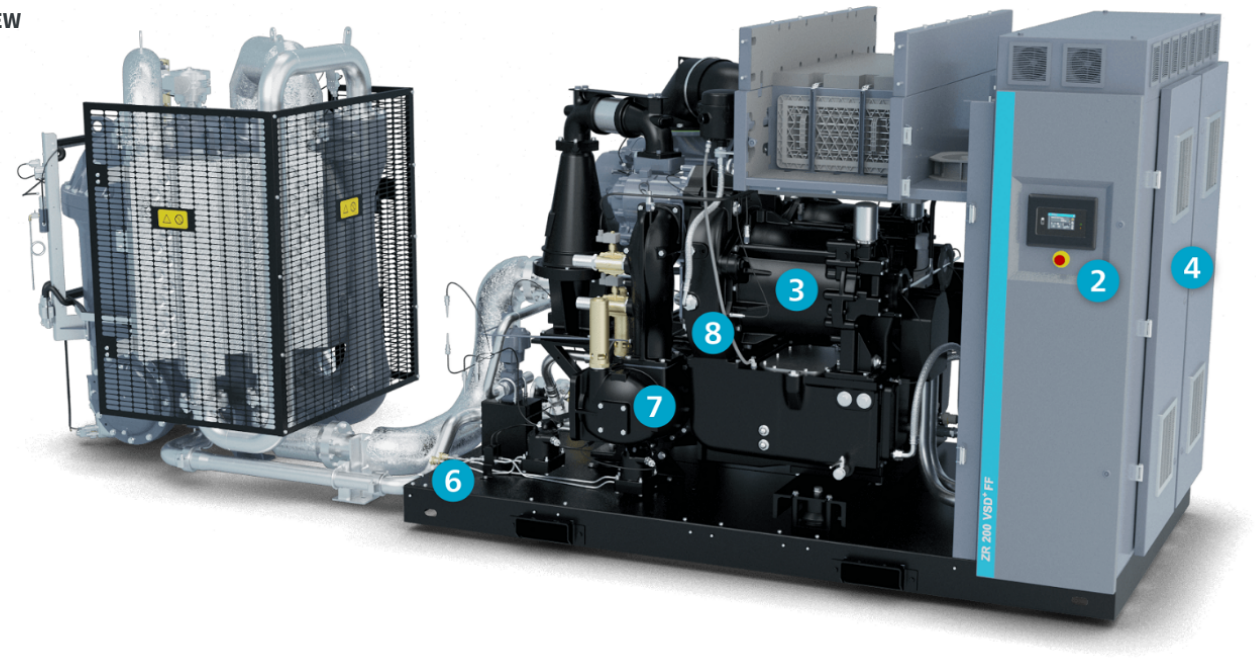
10 Integrated dryer

- Having an integrated dryer helps for easier installation, less pressure drop because of more efficient connections
- On top of that it also saves a lot of space in your compressor room.

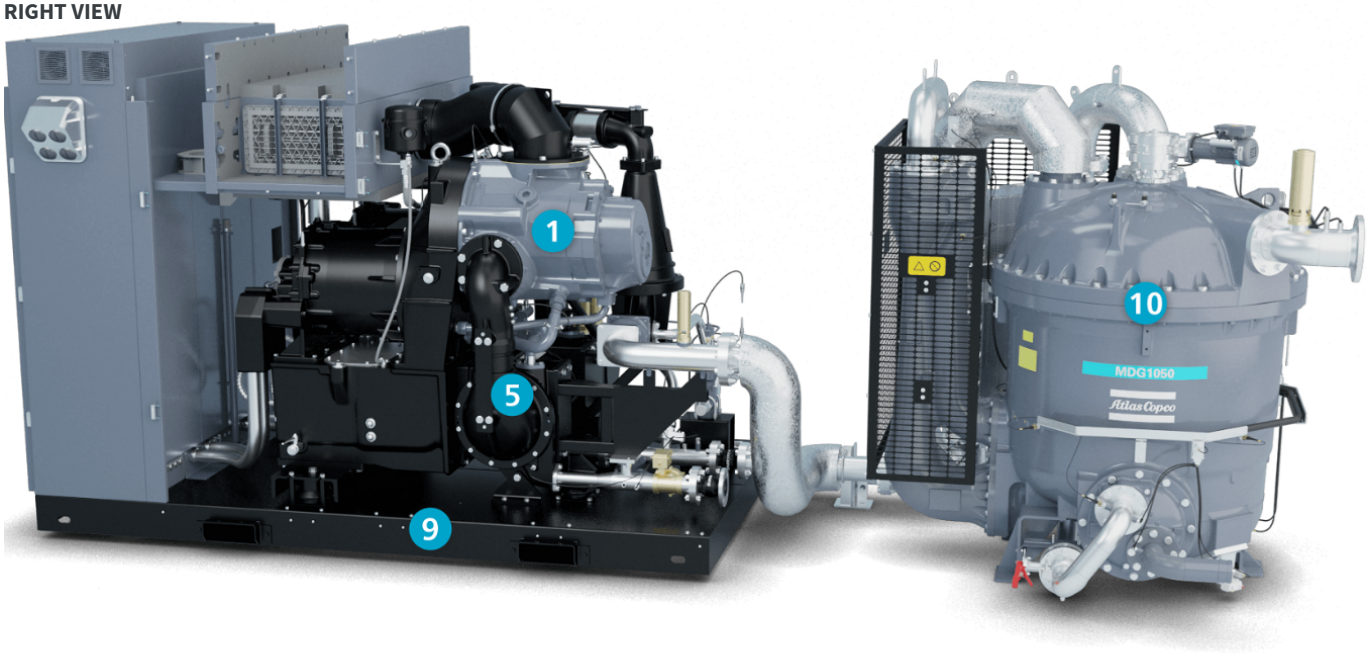


ZR 200-355 VSD+ FF (iMDG)

LEFT VIEW

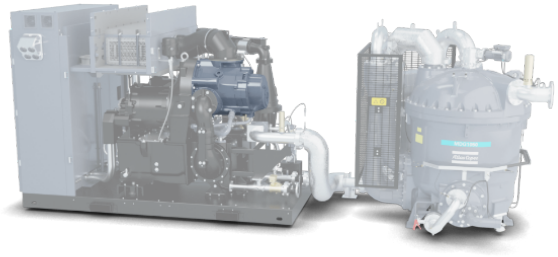


RIGHT VIEW



1 High performance elements

- Next generation world class compression element.
- Atlas Copco superior rotor coating for high durability.
- Thermal efficiency reduces the expansion leading to reduced wear and increased reliability.
- More compact, improved rotor profiles and cooling jackets for maximum durability.

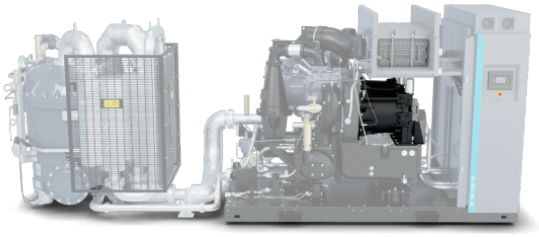


2 Advanced touch screen monitoring system

- User-friendly Elektronikon® Touch, with enhanced connectivity potential.
- Included warning indications, maintenance scheduling and online visualization of the machine's condition for increased reliability.

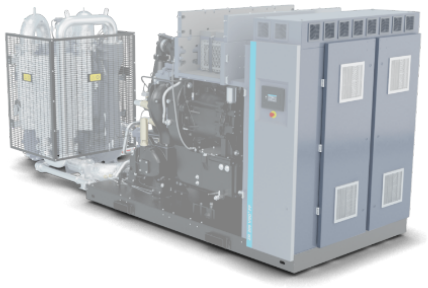
3 Efficient motor

- Permanent Magnet water cooled motor with oil lubricated bearings.
- Rock-solid reliability prevents dust and water entering the motor.



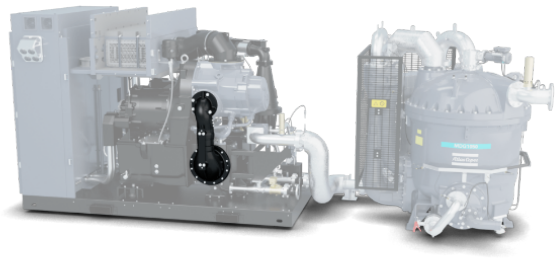
4 NEOS drive

- Atlas Copco NEOS inverter is designed to work in the harsh conditions of the compressor house.
- Modular design allows replacement of individual components, reducing maintenance cost.
- The cubicle keeps the inverter cool extending the lifetime & increasing operational efficiency.



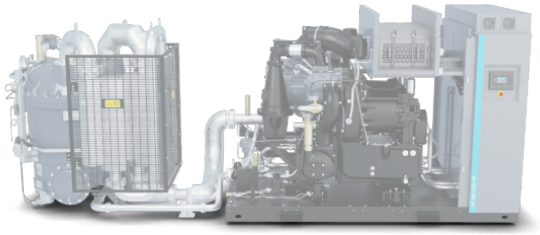
5 Reliable cooling

- Cooler with highly efficient water separator for higher reliability.
- Stainless steel enlarged surface coolers to ensure top performance over a long lifetime.
- Pipes with star profile form bi-anodised aluminium for preventing corrosion.
- Easily removable for quick, cost-efficient maintenance.



6 Zero loss drains

- Clearance of all water & contamination.
- Increasing both product & system reliability.



7 Easy access

- Easy access to all components to minimize maintenance times.
- Hinged doors for easy routine maintenance eg. cleaning.
- Saves valuable and often expensive floor space in a facility.
- Highest ratio flow/footprint on the market.

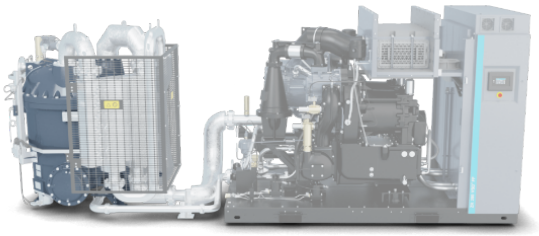
8 Soundproof design

- Silenced canopy ensures optimal working conditions for everyone in the immediate environment.
- Optimized internal ducting and integrated pulsation damper to reduce the noise level.
- High quality coated canopy to prevent dust.

9 Grouped service items

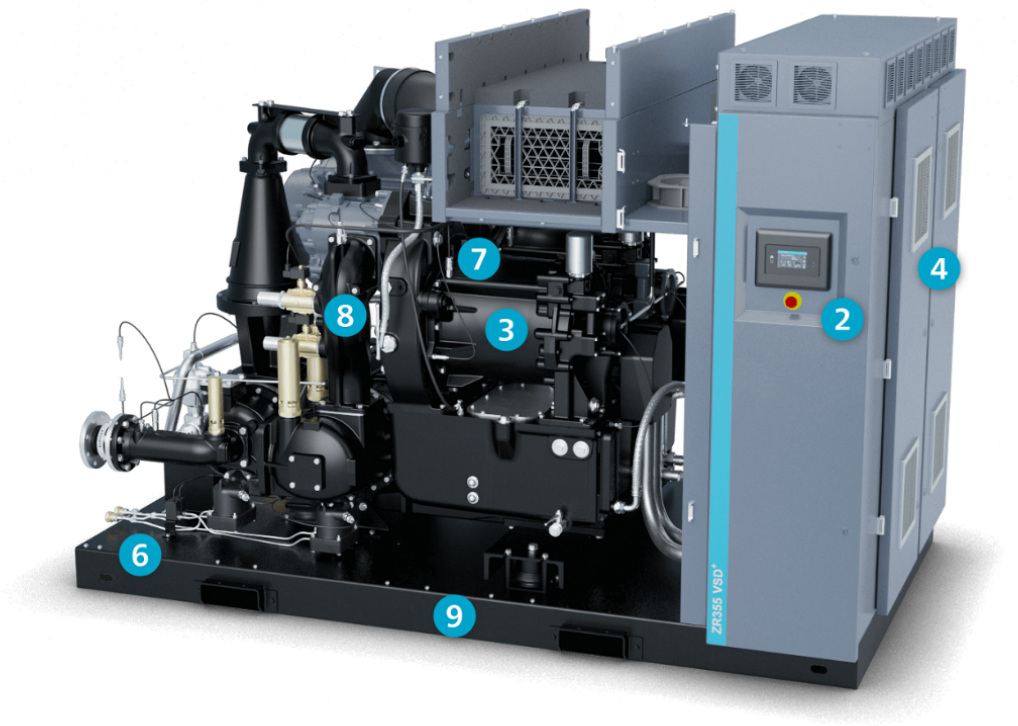
- Minimal service time because service parts are grouped together for ease of access.
- All components are designed for serviceability and long lasting lifetime.

10 Dryer

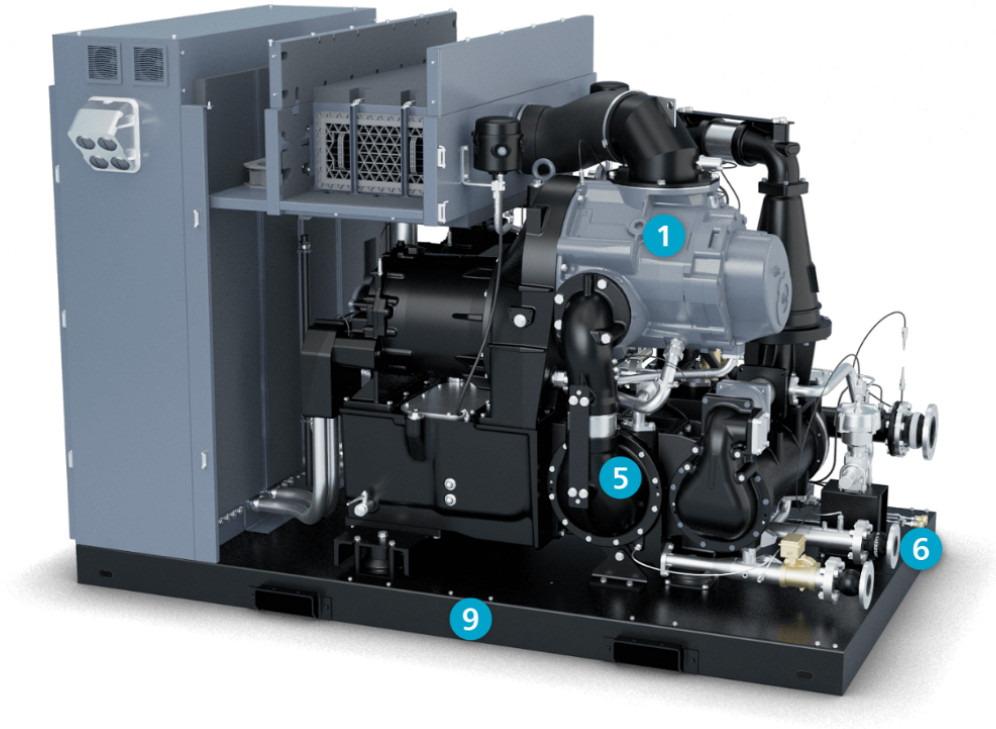


ZR 200-355 VSD+ Pack

LEFT VIEW

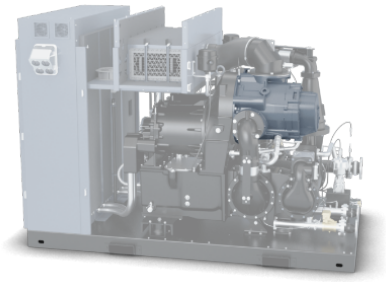


RIGHT VIEW



1 High performance elements

- Next generation world class compression element.
- Atlas Copco superior rotor coating for high durability.
- Thermal efficiency reduces the expansion leading to reduced wear and increased reliability.
- More compact, improved rotor profiles and cooling jackets for maximum durability.

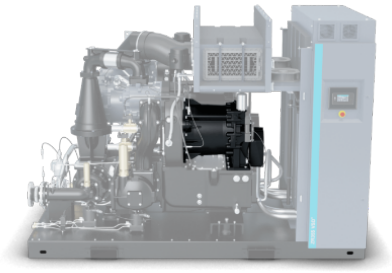


2 Advanced touch screen monitoring system

- User-friendly Elektronikon® Touch, with enhanced connectivity potential.
- Included warning indications, maintenance scheduling and online visualization of the machine's condition for increased reliability.

3 Efficient motor

- Permanent Magnet water cooled motor with oil lubricated bearings.
- Rock-solid reliability prevents dust and water entering the motor.

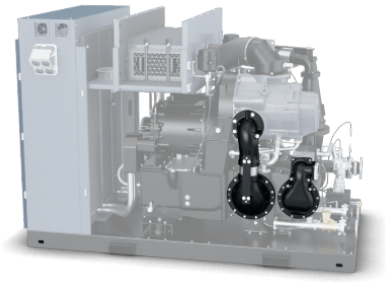


4 NEOS drive

- Atlas Copco NEOS inverter is designed to work in the harsh conditions of the compressor house.
- Modular design allows replacement of individual components, reducing maintenance cost.
- The cubicle keeps the inverter cool extending the lifetime & increasing operational efficiency.

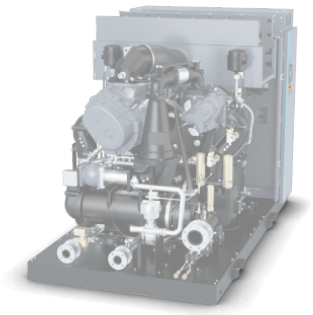
5 Reliable cooling

- Cooler with highly efficient water separator for higher reliability
- Stainless steel enlarged surface coolers to ensure top performance over a long lifetime
- Pipes with star profile form bi-anodised aluminium for preventing corrosion
- Easily removable for quick, cost-efficient maintenance



6 Zero loss drains

- Clearance of all water & contamination
- Increasing both product & system reliability



7 Easy access

- Easy access to all components to minimize maintenance times
- Hinged doors for easy routine maintenance e.g. cleaning
- Saves valuable and often expensive floor space in a facility
- Highest ratio flow/footprint on the market

8 Soundproof design

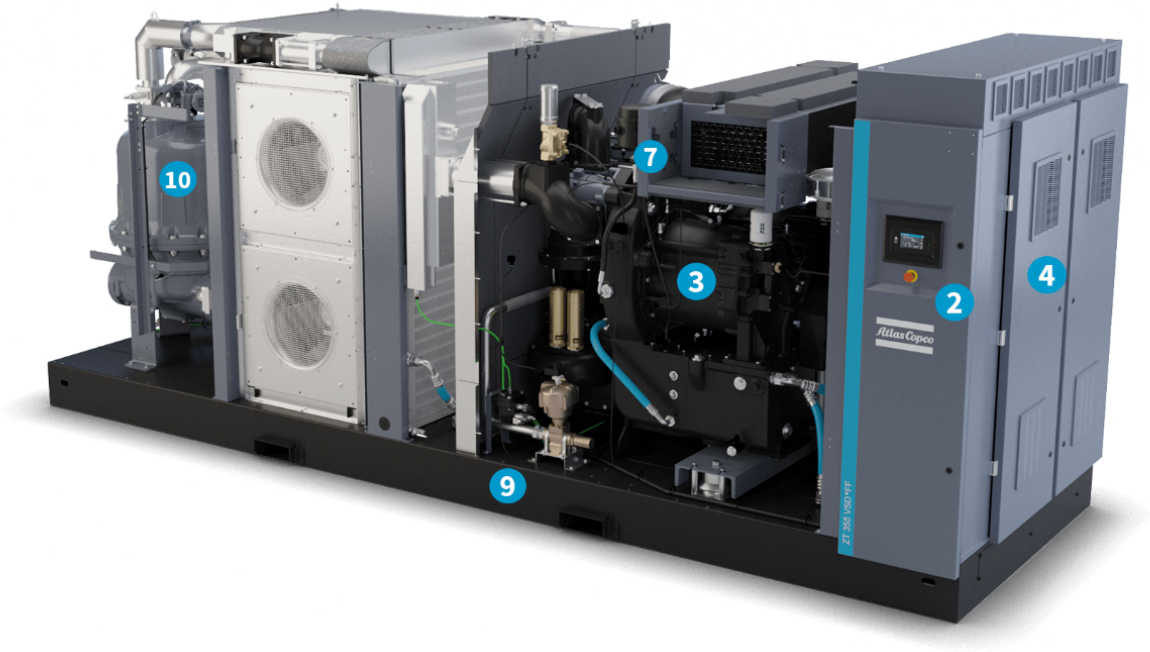
- Silenced canopy ensures optimal working conditions for everyone in the immediate environment
- Optimized internal ducting and integrated pulsation damper to reduce the noise level
- High quality coated canopy to prevent dust

9 Grouped service items

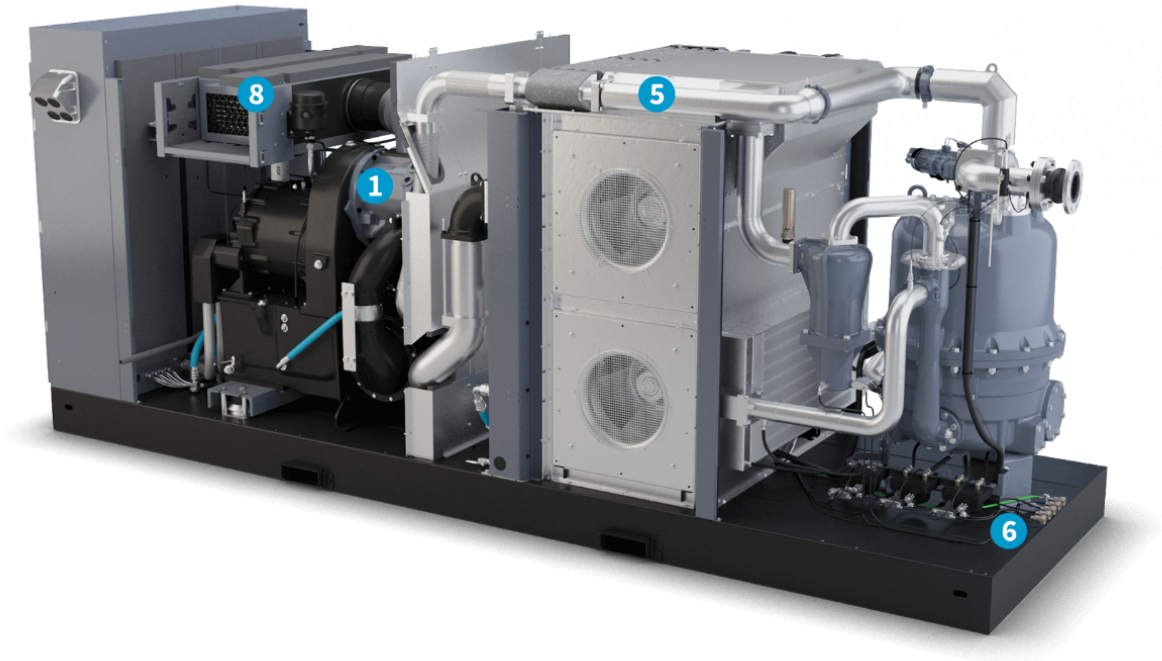
- Minimal service time because service parts are grouped together for ease of access.
- All components are designed for serviceability and long lasting lifetime.

ZT 200-355 VSD+ FF (iMD)

LEFT VIEW

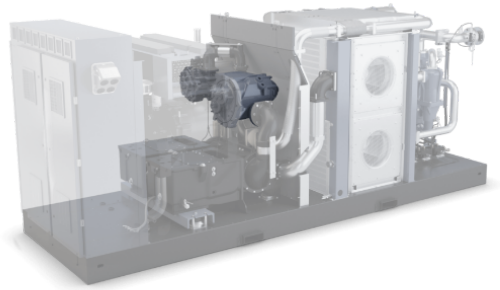


RIGHT VIEW



1 High performance elements

- Next generation world class compression element
- Atlas Copco superior rotor coating for high durability
- Thermal efficiency reduces the expansion leading to reduced wear and increased reliability
- More compact, improved rotor profiles and cooling jackets for maximum durability

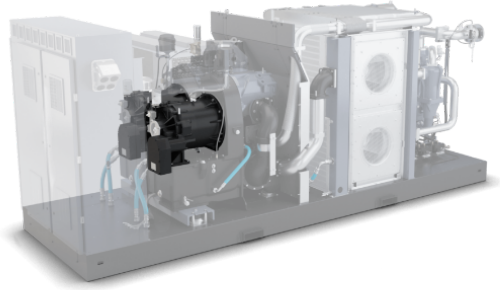


2 Advanced touch screen monitoring system

- User-friendly Elektronikon® Touch, with enhanced connectivity potential
- Included warning indications, maintenance scheduling and online visualization of the machine's condition for increased reliability

3 Efficient motor

- Permanent Magnet oil-cooled motor with oil lubricated bearings
- Rock-solid reliability prevents dust and water entering the motor.

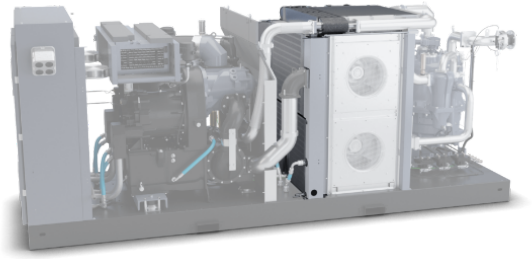


4 NEOS drive

- Atlas Copco NEOS inverter is designed to work in the harsh conditions of the compressor house
- Modular design allows replacement of individual components, reducing maintenance cost
- The cubicle keeps the inverter cool extending the lifetime & increasing operational efficiency

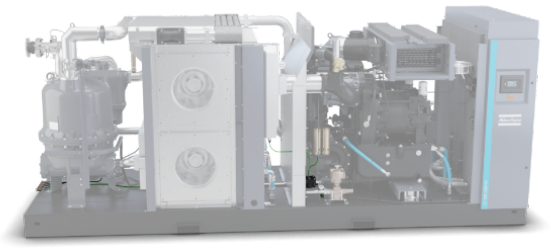
5 Reliable cooling

- Coolers with highly efficient water separator for higher reliability
- Stainless steel precooler to protect aftercooler from heat loads
- Stress-free connections
- Compact integrated design resulting in low pressure drop
- High efficiency radial fans and Aluminium brazed heat exchanger lead to low cooler approach temperatures



6 Zero loss drains

- Clearance of all water & contamination
- Increasing both product & system reliability



7 Easy access

- Easy access to all components to minimize maintenance times
- Hinged doors for easy routine maintenance eg. cleaning
- Saves valuable and often expensive floor space in a facility
- Highest ratio flow/footprint on the market

8 Soundproof design

- Silenced canopy ensures optimal working conditions for everyone in the immediate environment
- Optimized internal ducting and integrated pulsation damper to reduce the noise level
- High quality coated canopy to prevent dust

9 Grouped service items

- Minimal service time because service parts are grouped together for ease of access
- All components are designed for serviceability and long lasting lifetime

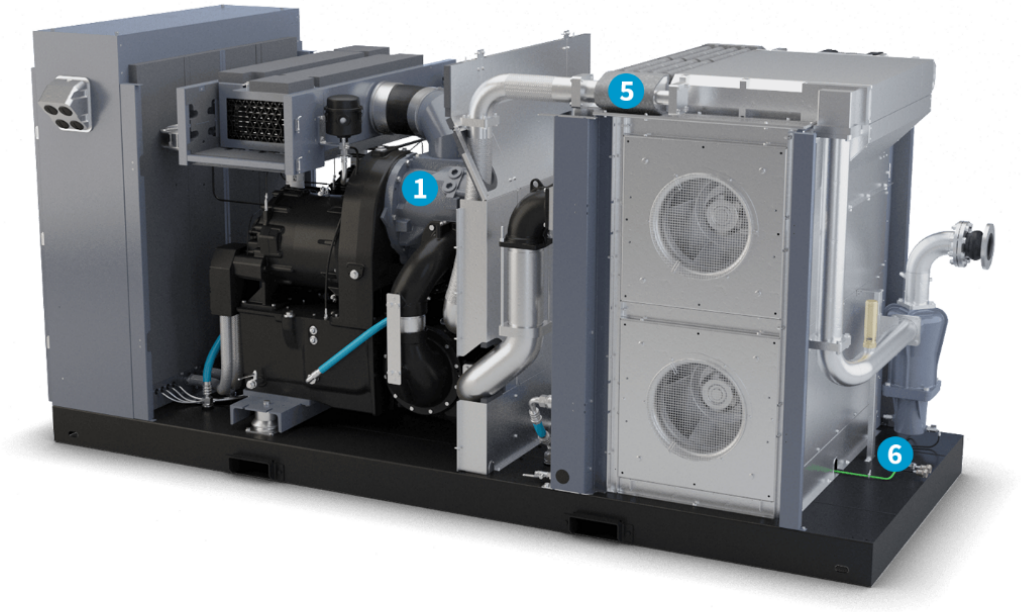
10 Integrated dryer

- Having an integrated dryer helps for easier installation, less pressure drop because of more efficient connections
- On top of that it also saves a lot of space in your compressor room.

ZT 200-355 VSD+ Pack

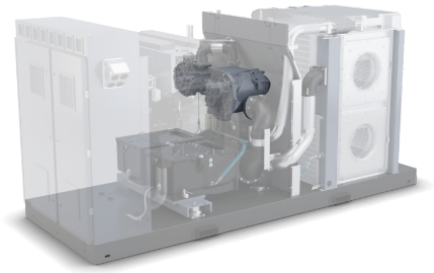
LEFT VIEW

RIGHT VIEW



1 High performance elements

- Next generation world class compression element
- Atlas Copco superior rotor coating for high durability
- Thermal efficiency reduces the expansion leading to reduced wear and increased reliability
- More compact, improved rotor profiles and cooling jackets for maximum durability

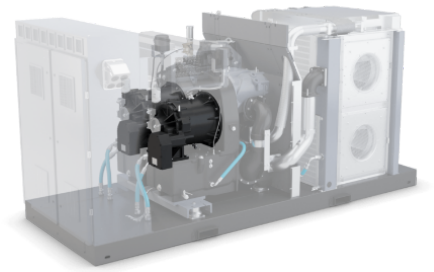


2 Advanced touch screen monitoring system

- User-friendly Elektronikon® Touch, with enhanced connectivity potential
- Included warning indications, maintenance scheduling and online visualization of the machine's condition for increased reliability

3 Efficient motor

- Permanent Magnet oil-cooled motor with oil lubricated bearings
- Rock-solid reliability prevents dust and water entering the motor

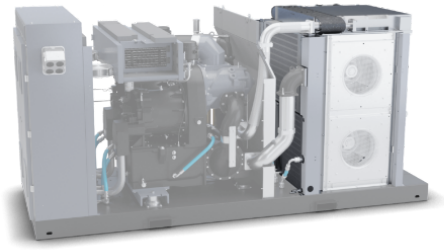


4 NEOS drive

- Atlas Copco NEOS inverter is designed to work in the harsh conditions of the compressor house
- Modular design allows replacement of individual components, reducing maintenance cost
- The cubicle keeps the inverter cool extending the lifetime & increasing operational efficiency

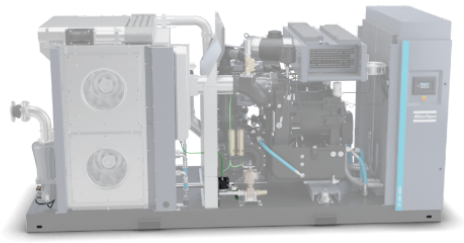
5 Reliable cooling

- Coolers with highly efficient water separator for higher reliability
- Stainless steel precooler to protect aftercooler from heat loads
- Stress-free connections
- Compact integrated design resulting in low pressure drop
- High efficiency radial fans and Aluminium brazed heat exchanger lead to low cooler approach temperatures



6 Zero loss drains

- Clearance of all water & contamination
- Increasing both product & system reliability



7 Easy access

- Easy access to all components to minimize maintenance times
- Hinged doors for easy routine maintenance eg. cleaning
- Saves valuable and often expensive floor space in a facility
- Highest ratio flow/footprint on the market

8 Soundproof design

- Silenced canopy ensures optimal working conditions for everyone in the immediate environment
- Optimized internal ducting and integrated pulsation damper to reduce the noise level
- High quality coated canopy to prevent dust

9 Grouped service items

- Minimal service time because service parts are grouped together for ease of access
- All components are designed for serviceability and long lasting lifetime

Optimum air quality

By using our compressors and air treatment equipment you will avoid dust, water or oil in your process. It's important to have the right air quality to maximize your efficiency. If the air quality is too low, you will reduce the reliability of production equipment or processes. If the air quality is too high you're wasting energy. Therefore it's crucial to have the right air quality for your needs.

The perfect installation for your requirements

You have to avoid 3 things: water, dust & oil contaminants.

Water

Water in compressed air creates corrosion, rust and can damage your end product. We have twin, desiccant and rotary drum dryers to remove any level of water in your air.

Dust

Dust in your compressed air creates extra friction, which leads to extra wear & tear in e.g. pneumatics. Our wide range of filtration solutions can remove all levels of dust in your system.

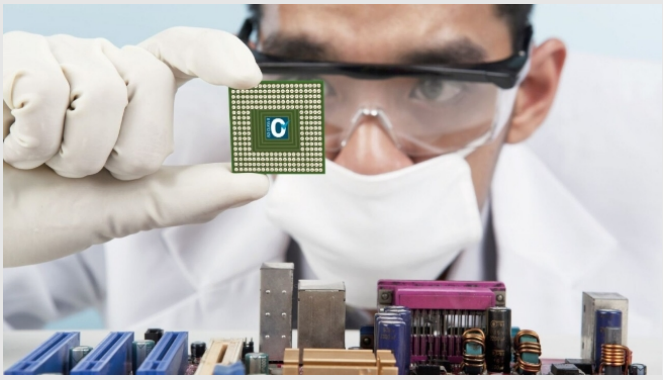
Oil

Oil particles entering the compressed air system can create product contamination and damage your end products. With our oil-free products and filtration solutions we can deliver Class-0 air for industries like food & beverage, medical & health care, textiles, chemical,…

Which air quality do you require?

CLASS 0 = As specified by the equipment user or supplier and more stringent than class 1
CLASS 1 = < 0.01
CLASS 2 = < 0.0
CLASS 3 = < 1
CLASS 4 = < 5

Current ISO 8573-1 (2010) classes (the five main classes and the associated maximum concentration in total oil content). Concentration total oil (aerosol, liquid, vapor) mg/m^3. Contact your local Atlas Copco representative to decide the right air quality for your application needs.



Our air treatment portfolio

Refrigerant dryer
Refrigerant dryers are the most common and consist of an air-to-air heat exchanger and an air-to-Freon heat exchanger. They are used to avoid free water and corrosion in the system. A relative humidity of below 50% is enough to achieve this. Refrigerant dryers are available in water-& air-cooled variants.

Desiccant dryer
Adsorption dryers are used when the compressed air application requires a pressure dew point below 0°C. In most cases, the dryers consist of two pressure vessels next to each other. Both vessels are filled with desiccant. When one vessel is removing moisture, the other is regenerating and vice versa.

Drum dryer
A variant on the twin tower heat of compression adsorption dryer is the rotary drum adsorption dryer. A rotary drum dryer exists of one vessel with a drum. This drum is a honeycomb structure on which the adsorption material is impregnated. ¾ of the drum is used to dry the compressed air, while the other quarter is used for regeneration. The regeneration is done with hot compressed air.

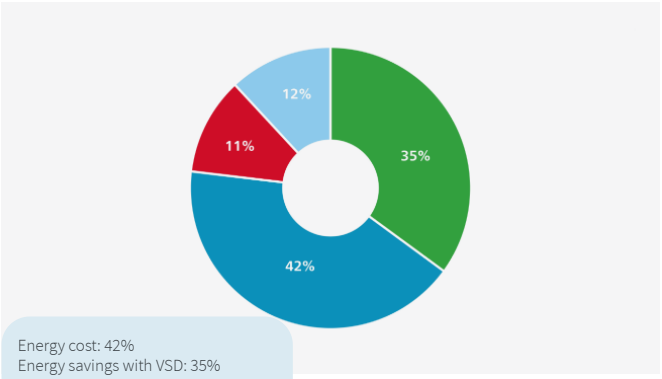
Filters
We offer a wide selection of utility and process filtration solutions for compressed air and gas with different filter types and grades to remove any dust, micro organisms or oil from your compressed air system.

Highest efficiency

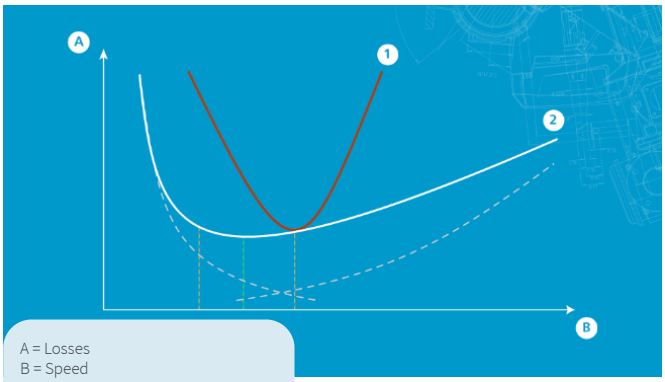
Over **80%** of a compressor's lifecycle cost is taken up by the energy it consumes. Moreover, the generation of compressed air can account for more than **40%** of a plant's total electricity bill. The ZR/ZT is not only designed for reliability, but also for efficiency. Our unique and patented elements are designed in-house for maximum efficiency. The superior rotor coating, compact rotor profiles and cooling jackets guarantee maximum compression efficiency. The unique Z seal design guarantees efficient and 100% certified oil-free air for your application.

Designed for VSD

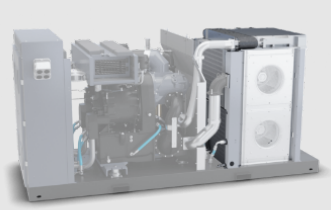
Compressors don't always run at full load, because your application often has a varying air demand. Atlas Copco's VSD technology closely follows the air demand by automatically adjusting the motor speed. This results in large energy savings of up to 35%. The elements of the ZR/ZT are designed for VSD machines to run efficiently at the broadest possible range. For this unit we also designed our own NEOS inverter to constantly optimize the motor speed and our own Permanent Magnet Motor for class-leading efficiency.



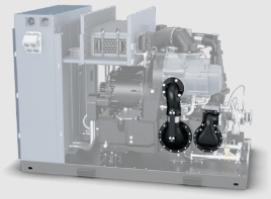
Energy cost: 42%
Energy savings with VSD: 35%
Investment: 12%
Maintenance: 11%



A = Losses
B = Speed
1 = Total losses traditional element
2 = Total losses AC element



ZT 200-355 VSD+



ZR 200-355 VSD+

VSD⁺ concept

The ZR/ZT VSD⁺ range with its dual NEOS drives has the widest operating range on the market today. These units can operate from 11 to 100% load without wasting energy from unloaded operation, resulting in huge energy savings during periods of low to medium air demand. Another advantage of the dual NEOS drives is that the ZR/ZT VSD⁺ always works at optimal efficiency at any pressure, when comparing to standard fixed speed and VSD machines that have a fixed gear ratio.

Optimized air flow in the machine

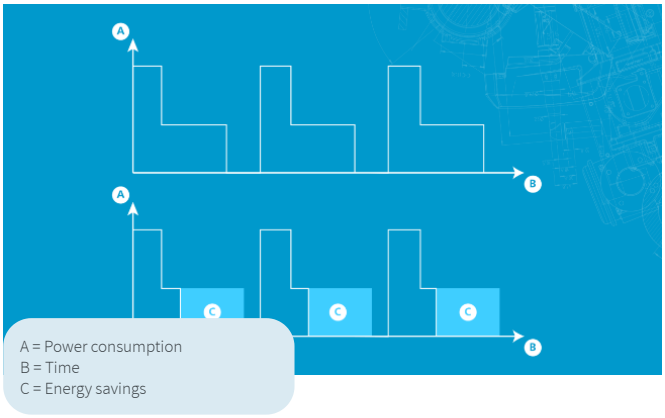
The ZR/ZT 200-355 VSD⁺ brings cool dense air into the package for optimal compression efficiency. The piping and components are strategically placed to minimize the pressure drop in the package, leading to optimal efficiency. The coolers have been carefully designed to keep the pressure drop at a bare minimum. Our zero loss drains account for zero waste of compressed air, making the ZR/ZT VSD⁺ the most efficient machine on the market.

Elektronikon® Mk5 Touch control

80% of your costs with a compressor come from energy consumption.

The Elektronikon® compressor monitoring system saves energy by using:

- **Delayed second stop** to stop the compressor whenever possible.
- **Dual pressure band** for lower pressure in the systems during weekends and nights.
- **Automatic main motor speed adjustments** depending on air demand.
- **Adapting dryer speed** according to your needs.



SMARTLINK

- Monitor your compressed air installation with SMARTLINK: Knowing the status of your compressed air equipment at all times is the surest way to achieve optimal efficiency and maximum availability.
- Go for energy efficiency: customized reports on the energy efficiency of your compressor room.
- Increase uptime: all components are replaced on time, ensuring maximum uptime.
- Save money: early warnings avoid breakdowns and production loss.

A look at your installation

A compressor is only one component in the bigger picture of a smart AIR solution. Only a complete compressed air system is an energy-efficient solution. We designed a range of class-leading compressed air products, fully optimized to work better together. A smart AIR solution is the most efficient and reliable combination of a compressor with our air and gas equipment. This solution can include dryers, filters, controllers, energy recovery systems, nitrogen or oxygen generators, air receivers, coolers or boosters specified to your needs.

ZR 200-355 VSD^{+} Compressor Room Installation

2
1
6
3
4
5

1 Compressors

Often people buy the same size compressor, but to optimize the system it's better to make a combination of different size compressors, technologies and controls.

2 Central controller

Having a central controller reduces the average pressure band. It also reduces the operating pressure of your machines.

- By reducing the pressure by 1 bar (or 14.5 psi), your energy usage lowers by 7%.
- By reducing the pressure by 1 bar (or 14.5 psi) decreases air leakages by 13%.

Multiple embedded functions in the Optimizer 4.0 in which pressure, capacity and speed can be regulated.

3 Integrated dryers

Our full feature concept offers an integrated dryer in the compressor. This has additional benefits, reducing installation cost, time and complexity, having dryers controlled together with the compressors, reducing connecting pipes, hence the chance of leakages and extra pressure drops. Another key benefit is the space savings that a full feature machine brings.

4 Air receiver

A correctly sized air receiver brings both energy efficiency and system reliability. It allows a narrow pressure band and limits the un-& offload cycles to reduce stress on element bearings and other internal components.

5 Air treatment portfolio

Atlas Copco has a wide air treatment portfolio that matches your needs. Our portfolio ranges from removing water, oil and dust from your compressed air to generating Oxygen and Nitrogen on site.

6 AIRnet

AIRnet is a piping solution that guarantees operational excellence for compressed air, vacuum, nitrogen and other inert gas applications. Available in aluminium and stainless steel. AIRnet Aluminium is the most effective solution for your air or gas network. Its fast and easy installation gets your operations up and running in record time. AIRnet is leak-proof and corrosion-free. Its pipes and fittings come with a 10-year warranty.

ZT 200-355 VSD^{+} Compressor Room Installation

1 Compressors

Often people buy the same size compressor, but to optimize the system it's better to make a combination of different size compressors, technologies and controls.

2 Central controller

Having a central controller reduces the average pressure band. It also reduces the operating pressure of your machines.

- By reducing the pressure by 1 bar (or 14.5 psi), your energy usage lowers by 7%.
- By reducing the pressure by 1 bar (or 14.5 psi) decreases air leakages by 13%.

Multiple embedded functions in the Optimizer 4.0 in which pressure, capacity and speed can be regulated.

3 Integrated dryers

Our full feature concept offers an integrated dryer in the compressor. This has additional benefits, reducing installation cost, time and complexity, having dryers controlled together with the compressors, reducing connecting pipes, hence the chance of leakages and extra pressure drops. Another key benefit is the space savings that a full feature machine brings.

4 Air receiver

A correctly sized air receiver brings both energy efficiency and system reliability. It allows a narrow pressure band and limits the un-& offload cycles to reduce stress on element bearings and other internal components.

5 Air treatment portfolio

Atlas Copco has a wide air treatment portfolio that matches your needs. Our portfolio ranges from removing water, oil and dust from your compressed air to generating Oxygen and Nitrogen on site.

Optimize your system

With the ZR 200-355 VSD^{+} , Atlas Copco provides an all-in-one standard package incorporating the latest technology -in a built-to-last design. To further optimize your ZR's performance or to simply tailor it to your specific production environment, optional features are available.

	ZR 200-355 VSD^{+}	ZT 200-355 VSD^{+}
Anchor pads	•	•
Energy recovery	•	not applicable
Silicone-free rotor	•	•
High ambient temperature version	•	•
Kit for purge of dry air during standstill	•	•
IT network	•	•
Wooden case protection packaging	•	•
Test certificate	•	•
Witnessed performance test	•	•

Please note that the availability of the option depends on the chosen configuration.
With a dedicated customization team, we can further tailor our units to your requirements.

Engineered solutions

Atlas Copco recognizes the need to combine our serially produced compressors 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 technologies

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 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.

Top quality services

Properly caring for your air compressor helps you lower your operating costs and minimizes the risk for unplanned breakdowns or production stops. Atlas Copco offers energy efficiency checks, service, repairs, spare parts and maintenance plans for all air compressors. Entrust your servicing to our expert professionals and ensure your business continues to run efficiently. Our plans cover repairs, preventative maintenance, spare parts, and more.

Total Responsibility Plan

Complete compressor care with our Total Responsibility Plan
We take care of all your compressor maintenance, upgrades, repairs and even breakdowns for an all-inclusive price.

Complete compressor care
On-time maintenance by expert service engineers, genuine parts, proactive upgrades and compressor overhauls.

Total risk coverage
This means we take care of all your compressor 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.

TotalCare Plan

Energy efficiency
Energy consumption is the biggest part of the total cost of ownership for compressed air equipment. Without proper maintenance, pressure drops may occur, decreasing the system's efficiency. With TotalCare Plan, all consumables are replaced on time using genuine parts.

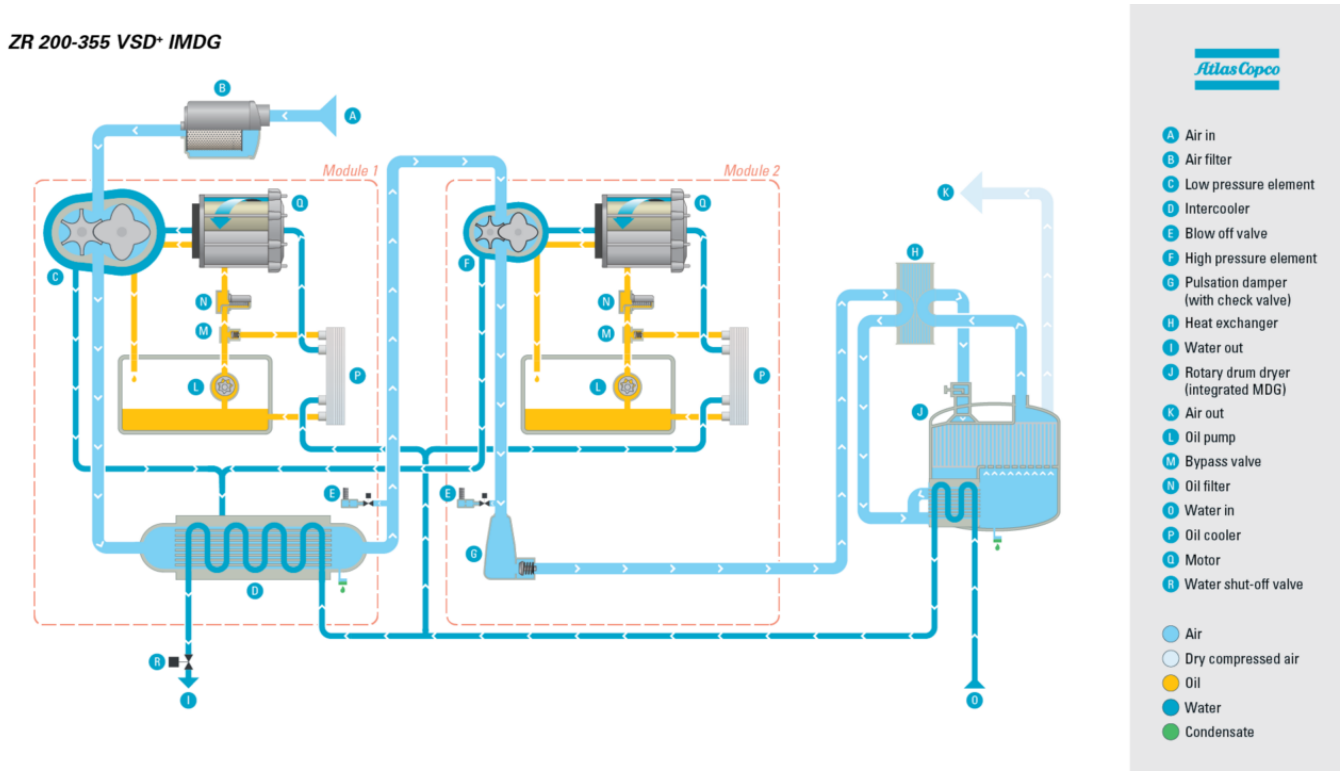
Greater uptime
Compressed air is a vital part of your production process. A small disturbance could lead to a production stop, lost business, wasted materials, product contamination… As a TotalCare Plan customer, you are given top priority for urgent repairs.

Fixed budget
In 7 years, maintenance costs may fluctuate considerably. If an expensive repair comes up, this could seriously disrupt your budget. TotalCare Plan covers all repairs and comes with a fixed annual cost.

AIRScan

As an energy conscious buyer, you have bought the most energy efficient equipment in the market. But in time, how sure are you that your equipment is still running in the most optimal and energy efficient conditions? If that is the case, it is time to ask Atlas Copco to audit your installation.

Oil and air flows: your step-by-step guide



Filtration & compression

The air is drawn into the compressor through the inlet filter where the air is cleaned. It then continues to the first compression stage where the air is compressed to an intermediate pressure.

Cooling & second compression

After the first compression, the air is cooled down in the intercooler. Once the air is cooled down, it passes through a moisture separation system before entering the high-pressure stage. In the high-pressure stage, the pressure is brough to its final pressure.

Exchanging heat & cooling

The hot wet compressed air at the outlet of the high-pressure stage goes through the pulsation damper with integrated check valve to the heat exchanger. Here it transfers the heat to the integrated dryer used further in the process. The air continues to the aftercooler where it is cooled down and the poisture gets separated and drained.

Integrated dryer

The cooled wet compressed air is now mixed with 40% of the cooled regeneration air and enters the dryer. The dry compressed air with guaranteed dew point is now ready for use in your application.

Heat exchanger

40% of the dry air goes into the heat exchanger, where it picks up the heat from the incoming hot wet compressed air. This dry and hot regeneration air enters the regeneration section of the drum, which passes through the regeneration cooler where it is cooled down and moisture is separated and drained. Afterwards it is mixed with the incoming cooled wet compressed air.

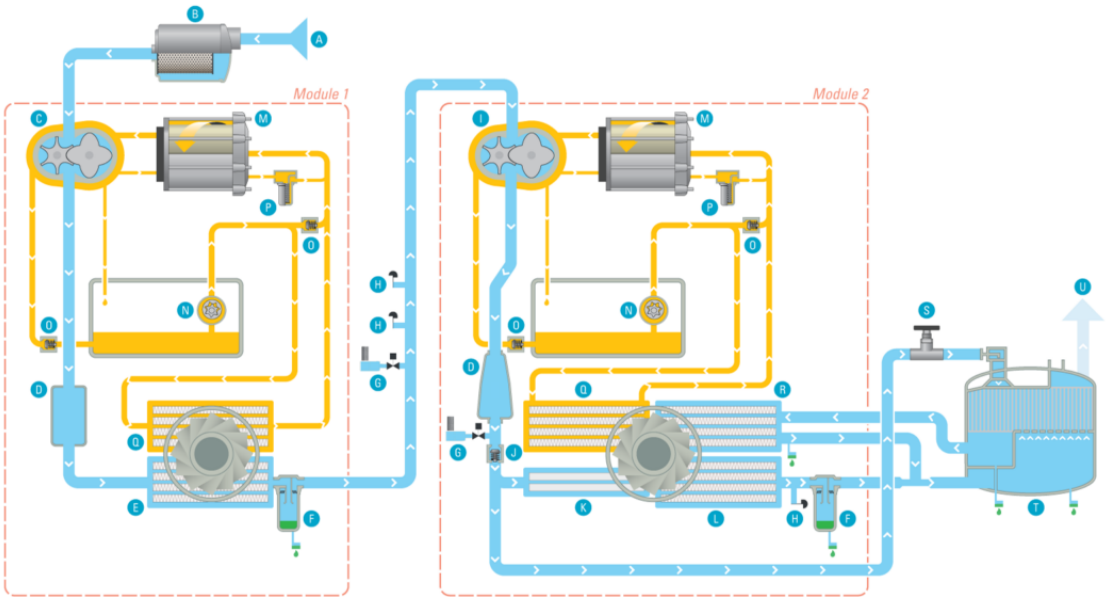
Oil

The yellow lines represent the oil flow of the compressor. Oil is pumped from the reservoir through a high efficiency filter to provide clean, cooled oil to the gears for lubrication. Afterwards the oil flows back into the reservoir. There is also a bypass valve that allows the oil to flow to the oil cooler, so the optimal temperature is guaranteed, increasing efficiency and durability of the components.

Water

The dark blue lines represent the water flow. Cooling water is brought into the cycle and splits towards both modules and the dryer. First of all, the cooling water is directed to the integrated dryer. Secondly, the water goes to both the inter- and aftercooler te reduce the temperatie of the compressed air. Lastly, the water splits to the oil coolers to reduce the temperature of the oil. It then passes through the jackets of the motor and elements to guarantee an optimal temperature. The water continues back to the cooler and is directed further to the water outlet.

ZT 200 - 355 VSD+ FF (IMD)



- A Air in
- B Air filter
- C Low pressure element
- D Pulsation dampener
- E Intercooler
- F Condensate separator with drain
- G Blow off valve
- H Pressure relief valve
- I High pressure element
- J Check valve
- K Precooler
- L Aftercooler
- M Motor
- N Oil pump
- O Bypass valve
- P Oil filter
- Q Oil cooler
- R Regeneration cooler
- S Regeneration flow control valve
- T Rotary drum dryer (integrated MD)
- U Air out

Oil Air
Condensate

Filtration & 1st stage compression

The air is drawn into the compressor through the inlet filter where it is cleaned. Then, it continues to the first compression stage. There, it is compressed to an intermediate pressure.

Cooling - 1st stage

The compressed air flows through the pulsation dampener to the intercooler. It is cooled down there. After the intercooler, it passes through a moisture separation system with automated drains to remove the condensate before entering the high-pressure stage. The blow off valve and two pressure relief valves located after the moisture separator. They safeguard the system from accidents.

2nd stage compression

After the intercooler, the air is compressed in the high-pressure stage to the final pressure. The high pressure compressed air then flows through pulsation dampener and check valve.

Cooling – 2nd stage

For a machine without integrated dryer, compressed air flows through precooler and aftercooler where it is cooled. Then, it moves to the outlet of the machine.

For a machine with an integrated dryer, the compressor air flow splits into two parts. Approximately 60% of the first flow goes through precooler and aftercooler where it is cooled down. There, moisture is separated and evacuated. The second part goes directly to the regeneration area of the heat of compression MD dryer.

Integrated dryer

The flow to regeneration side of the dryer can be controlled through the flow control valve present in the circuit. In the regeneration area of the dryer, the hot air regenerates the adsorption drum after which it passes through the regeneration cooler where it is cooled down and moisture is separated and evacuated. The cold air coming from the regeneration section is then mixed with the cold air from the aftercooler in the nozzle before passing through the drying section of the adsorption drum where the moisture is removed. Dry air leaves the compressor through the outlet connection flange.

Oil

The yellow flow is the oil path within the compressor where the oil pump sucks oil from the oil sump and pumps it through the oil cooler. The cooled oil from oil cooler splits into two flows. The first oil flow line is directed towards motor jacket and element jacket to remove heat from both the motors and elements. The second flow line moves through a high efficiency filter to give cool and clean oil to the gears for lubrication. Then, the oil flows back to the oil sump. The oil bypass valves present in the oil circuit protect the oil filter from high oil pressure and make sure sufficient oil pressure is maintained in the oil circuit.

Technical specifications

Specifications ZR 200-355 VSD⁺ Pack

Model	Working pressure		Free Air Delivery (1)		Installed power	Motor Specifications	Noise level (2)	Weight
		bar(e)	l/s	m³/min	kW		dB(A)	kg
ZR 200 VSD⁺ 10.4	Minimum	4	210 – 696	12.6 – 41.8	200	2 x 100	72	5439
	Effective	7	210 – 658	12.6 – 39.5				
	Maximum	10.4	208 – 528	12.5 – 31.7				
ZR 250 VSD⁺ 10.4	Minimum	4	210 – 846	12.6 – 50.8	250	2 x 125	73	
	Effective	7	210 – 806	12.6 – 48.4				
	Maximum	10.4	208 – 668	12.5 – 40.1				
ZR 315 VSD⁺ 10.4	Minimum	4	210 – 974	12.6 – 58.5	315	2 x 160		
	Effective	7						
	Maximum	10.4	208 – 838	12.5 – 50.3				
ZR 355 VSD⁺ 8.6	Minimum	4	210 – 1084	12.6 – 65.1	355	2 x 180		
	Effective	7		12.6 – 65.0				
	Maximum	8.6	209 – 1014	12.5 – 60.8				
ZR 355 VSD⁺ 10.4	Minimum	4	210 – 1014	12.6 – 60.8				
	Effective	7						
	Maximum	10.4	208 – 935	12.5 – 56.1				

Specifications ZR 200-355 VSD⁺ Pack

Model	Working pressure		Free Air Delivery (1)		Installed power	Motor specifications	Noise level (2)	Weight
		psig	l/s	cfm	hp		dB(A)	lb
ZR 200 VSD⁺ 10.4	Minimum	58	210 – 696	445 – 1474	268	2 x 134	72	11991
	Effective	100	210 – 658	445 – 1394				
	Maximum	150	208 – 528	441 – 1118				
ZR 250 VSD⁺ 10.4	Minimum	58	210 – 846	445 – 1792	335	2 x 168	73	
	Effective	100	210 – 806	445 – 1707				
	Maximum	150	208 – 668	441 – 1415				
ZR 315 VSD⁺ 10.4	Minimum	58	210 – 974	445 – 2064	422	2 x 215		
	Effective	100						
	Maximum	150	208 – 838	441 – 1775				
ZR 355 VSD⁺ 8.6	Minimum	58	210 – 1084	445 – 2297	476	2 x 241		
	Effective	100		444 – 2296				
	Maximum	150	209 – 1014	443 – 2147				
ZR 355 VSD⁺ 10.4	Minimum	58	210 – 1014	445 – 2147				
	Effective	100						
	Maximum	150	208 – 935	441 – 1980				

Dimensions ZR 200-355 VSD+ Pack

Model	Length	Width	Height
	mm		
ZR 200-355 VSD+ Pack	3044	1760	2150

Dimensions ZR 200-355 VSD+ Pack

Model	Length	Width	Height
	inch		
ZR 200-355 VSD+ Pack	120	69	85

(1) Unit performance measured according to ISO 1217, Annex E, Edition 4 (2009).

Reference conditions:
– Relative humidity 0%
– Absolute inlet pressure 1 bar (14.5 psi)
– Intake air temperature 20°C (68°F)

Free Air Delivery (FAD) is measured at effective working pressure.

(2) A-weighted emission sound pressure level at the work station (LpWSAd). Measured according to ISO 2151:2008 using ISO 9614-2 (sound intensity scanning method). The added correction factor (+/- 3 db(A)) is the total uncertainty value (KpAd) conform with the test code.

Specifications ZT 200-355 VSD+ Pack

Model	Working pressure		FAD		Installed power	Motor Specifications	Noise level	Weight
		bar(e)	l/s	m³/min	kW		db(A)	kg
ZT 200 VSD+ 10.4	Minimum	4	187 – 662	11 – 40	200	2 x 100	78	6560
	Effective	7	186 – 622	11 – 37				
	Maximum	10.4	181 – 481	11 – 29				
ZT 250 VSD+ 10.4	Minimum	4	187 – 812	11 – 49	250	2 x 125		
	Effective	7	186 – 770	11 – 46				
	Maximum	10.4	181 – 621	11 – 37				
ZT 315 VSD+ 10.4	Minimum	4	187 – 948	11 – 57	315	2 x 160		
	Effective	7	186 – 946					
	Maximum	10.4	181 – 796	11 – 48				
ZT 355 VSD+ 8.6	Minimum	4	188 – 1050	11 – 63	355	2 x 180		
	Effective	7	186 – 1048					
	Maximum	8.6	184 – 976	11 – 59				
ZT 355 VSD+ 10.4	Minimum	4	187 – 978					
	Effective	7	186 – 978					
	Maximum	10.4	181 – 895	11 – 54				

Specifications ZT 200-355 VSD+ Pack

Model	Working pressure		Free Air Delivery		Installed power	Motor specifications	Noise level	Weight
		psi(e)	l/s	cfm	hp		db(A)	lbs
ZT 200 VSD+ 10.4	Minimum	58	187 – 662	397 – 1402	268	2 x 134	78	14462.18
	Effective	100	186 – 622	394 – 1319				
	Maximum	150	181 – 481	383 – 1020				
ZT 250 VSD+ 10.4	Minimum	58	187 – 812	397 – 1720	335	2 x 168		
	Effective	100	186 – 770	394 – 1632				
	Maximum	150	181 – 621	383 – 1317				
ZT 315 VSD+ 10.4	Minimum	58	187 – 948	397 – 2008	422	2 x 215		

Model	Working pressure		Free Air Delivery		Installed power	Motor specifications	Noise level	Weight
		psi(e)	l/s	cfm	hp		db(A)	lbs
	Effective	100	186 – 946	394 – 2005				
	Maximum	150	181 – 796	383 – 1686				
ZT 355 VSD+ 8.6	Minimum	58	188 – 1050	397 – 2226	476	2 x 241		
	Effective	100	186 – 1048	395 – 2220				
	Maximum	125	184 – 976	390 – 2069				
ZT 355 VSD+ 10.4	Minimum	58	187 – 978	397 – 2071				
	Effective	100	186 – 978	394 – 2071				
	Maximum	150	181 – 895	383 – 1896				

Dimensions ZT 200-355 VSD+ Pack

Model	Length	Width	Height
	mm		
ZT 200-355 VSD+	4417	1754	2150

Dimensions ZT 200-355 VSD+ Pack

Model	Length	Width	Height
	inch		
ZT 200-355 VSD+	173.9	69.1	84.6

(1) Unit performance measured according to ISO 1217, Annex E, Edition 4 (2009).

Reference conditions:
– Relative humidity 0%
– Absolute inlet pressure 1 bar (14.5 psi)
– Intake air temperature 20°C (68°F)

Free Air Delivery (FAD) is measured at effective working pressure.

(2) A-weighted emission sound pressure level at the work station (LpWSAd). Measured according to ISO 2151:2008 using ISO 9614-2 (sound intensity scanning method). The added correction factor (+/- 3 db(A)) is the total uncertainty value (KpAd) conform with the test code.

Technical specifications

Specifications ZR 200-355 VSD+ FF (iMD)

Model	Working pressure		Free Air Delivery (1)		Installed power	Motor specifications	Noise level (2)	Weight
		bar(e)	l/s	m³/min	kW		dB(A)	kg
ZR 200 VSD+ 10.4	Minimum	6	210 – 689	12.6 – 41.3	200	2 x 100	72	6687
	Effective	7	209 – 652	12.5 – 39.1				
	Maximum	10.4	208 – 524	12.5 – 31.4				
ZR 250 VSD+ 10.4	Minimum	6	251 – 834	15.1 – 50.0	250	2 x 125	73	
	Effective	7	251 – 796	15.1 – 47.8				
	Maximum	10.4	249 – 664	14.9 – 39.8				
ZR 315 VSD+ 10.4	Minimum	6	306 – 960	18.4 – 57.6	315	2 x 160		6730
	Effective	7						
	Maximum	10.4	304 – 830	18.2 – 49.8				
ZR 355 VSD+ 8.6	Minimum	6	341 – 1064	20.5 – 63.8	355	2 x 180		
	Effective	7						
	Maximum	8.6	340 – 998	20.4 – 59.9				
ZR 355 VSD+ 10.4	Minimum	6	319 – 998	19.1 – 59.9				
	Effective	7						
	Maximum	10.4	317 – 924	19.0 – 55.4				

Specifications ZR 200-355 VSD+ FF (iMD)

Model	Working pressure		Free Air Delivery (1)		Installed power	Motor specifications	Noise level (2)	Weight
		psig	l/s	cfm	hp		dB(A)	lb
ZR 200 VSD+ 10.4	Minimum	87	210 – 689	445 – 1459	268	2 x 134	72	14742
	Effective	102	209 – 652	443 – 1381				
	Maximum	151	208 – 524	441 – 1110				
ZR 250 VSD+ 10.4	Minimum	87	251 – 834	532 – 1766	335	2 x 168	73	
	Effective	102	251 – 796	532 – 1686				
	Maximum	151	249 – 664	527 – 1406				
ZR 315 VSD+ 10.4	Minimum	87	306 – 960	648 – 2033	422	2 x 215		14837
	Effective	102						
	Maximum	151	304 – 830	644 – 1758				
ZR 355 VSD+ 8.6	Minimum	87	341 – 1064	722 – 2254	476	2 x 241		
	Effective	102						
	Maximum	125	340 – 998	720 – 2114				
ZR 355 VSD+ 10.4	Minimum	87	319 – 998	676 – 2114				
	Effective	102						
	Maximum	151	317 – 924	671 – 1957				

Dimensions ZR 200-355 VSD+ FF (iMD)

Model	Length	Width	Height
	mm		
ZR 200-355 VSD+ FF (iMD)	4414	1760	2183

Dimensions ZR 200-355 VSD+ FF (iMD)

Model	Length	Width	Height
	inch		
ZR 200-355 VSD+ FF (iMD)	174	69	86

(1) Unit performance measured according to ISO 1217, Annex E, Edition 4 (2009).

Reference conditions:
– Relative humidity 0%
– Absolute inlet pressure 1 bar (14.5 psi)
– Intake air temperature 20°C (68°F)

Free Air Delivery (FAD) is measured at effective working pressure.

(2) A-weighted emission sound pressure level at the work station (LpWSAd). Measured according to ISO 2151:2008 using ISO 9614-2 (sound intensity scanning method). The added correction factor (+/- 3 db(A)) is the total uncertainty value (KpAd) conform with the test code.

Technical specifications

Specifications ZT 200-355 VSD+ FF (iMD)

Model	Working pressure		FAD		Installed power	Motor specifications	Noise level	Weight
		bar(e)	l/s	m³/min	kW		db(A)	kg
ZT 200 VSD+ 10.4	Minimum	6	211 – 649	13 – 39	200	2 x 100	78	7792
	Effective	7	210 – 611	13 – 37				
	Maximum	10.4	204 – 477	12 – 29				
ZT 250 VSD+ 10.4	Minimum	6	258 – 794	15 – 48	250	2 x 125		
	Effective	7	256 – 756	15 – 45				
	Maximum	10.4	249 – 619	15 – 37				
ZT 315 VSD+ 10.4	Minimum	6	300 – 922	18 – 55	315	2 x 160		7900
	Effective	7	298 – 920					
	Maximum	10.4	289 – 793	17 – 48				
ZT 355 VSD+ 8.6	Minimum	6	332 – 1018	20 – 61	355	2 x 180		
	Effective	7	330 – 1015					
	Maximum	8.6	326 – 957	20 – 57				
ZT 355 VSD+ 10.4	Minimum	6	313 – 959	19 – 58				
	Effective	7	311 – 959					
	Maximum	10.4	302 – 890	18 – 53				

Specifications ZT 200-355 VSD+ FF (iMD)

Model	Working pressure		FAD		Installed power	Motor specifications	Noise level	Weight
		psi(e)	l/s	cfm	hp		db(A)	lbs
ZT 200 VSD+ 10.4	Minimum	58	211 – 649	447 – 1375	268	2 x 134	78	17178
	Effective	100	210 – 611	444 – 1295				
	Maximum	150	204 – 477	432 – 1011				

Model	Working pressure		FAD		Installed power	Motor specifications	Noise level	Weight
		psi(e)	l/s	cfm	hp		db(A)	lbs
ZT 250 VSD+ 10.4	Minimum	58	258 – 794	546 – 1682	335	2 x 168		
	Effective	100	256 – 756	543 – 1601				
	Maximum	150	249 – 619	527 – 1312				
ZT 315 VSD+ 10.4	Minimum	58	300 – 922	635 – 1954	422	2 x 215		
	Effective	100	298 – 920	632 – 1950				
	Maximum	150	289 – 793	613 – 1681				
ZT 355 VSD+ 8.6	Minimum	58	332 – 1018	703 – 2157	476	2 x 241		17416
	Effective	100	330 – 1015	699 – 2152				
	Maximum	125	326 – 957	690 – 2027				
ZT 355 VSD+ 10.4	Minimum	58	313 – 959	662 – 2033				
	Effective	100	311 – 959	659 – 2031				
	Maximum	150	302 – 890	640 – 1885				

Dimensions ZT 200-355 VSD+ FF (iMD)

Model	Length	Width	Height
	mm		
ZT 200-355 VSD+ FF (iMD)	5348	1754	2200

Dimensions ZT 200-355 VSD+ FF (iMD)

Model	Length	Width	Height
	inch	inch	
ZT 200-355 VSD+ FF (iMD)	210.6	69.1	86.6

(1) Unit performance measured according to ISO 1217, Annex E, Edition 4 (2009).

Reference conditions:
– Relative humidity 0%
– Absolute inlet pressure 1 bar (14.5 psi)
– Intake air temperature 20°C (68°F)

Free Air Delivery (FAD) is measured at effective working pressure.

(2) A-weighted emission sound pressure level at the work station (LpWSAd). Measured according to ISO 2151:2008 using ISO 9614-2 (sound intensity scanning method). The added correction factor (+/- 3 db(A)) is the total uncertainty value (KpAd) conform with the test code.

Technical specifications

Specifications ZR 200-355 VSD⁺ FF (iMDG)

Model	Working pressure		Free Air Delivery (1)		Installed motor power	Noise level (2)	Weight
		bar(e)	l/s	m³/min	kW	dB(A)	kg
ZR 200 VSD⁺ 10.4	Minimum	6	209 – 689	12.5 – 41.3	200	72	Pack: 4979 iMDG dryer: 2530
	Effective	7	209 – 652	12.5 – 39.1			
	Maximum	10.4	208 – 524	12.5 – 31.4			
ZR 250 VSD⁺ 10.4	Minimum	6	209 – 834	12.5 – 50.0	250	73	
	Effective	7	209 – 796	12.5 – 47.8			
	Maximum	10.4	208 – 664	12.5 – 39.8			
ZR 315 VSD⁺ 10.4	Minimum	6	209 – 960	12.5 – 57.6	315		
	Effective	7					
	Maximum	10.4	208 – 830	12.5 – 49.8			
ZR 355 VSD⁺ 8.6	Minimum	6	208 – 1064	12.5 – 63.8	355		
	Effective	7					
	Maximum	8.6	209 – 998	12.5 – 59.9			
ZR 355 VSD⁺ 10.4	Minimum	6					
	Effective	7					
	Maximum	10.4	208 – 924	12.5 – 55.4			

Specifications ZR 200-355 VSD⁺ FF (iMDG)

Model	Working pressure		Free Air Delivery (1)		Installed motor power	Noise level (2)	Weight
		psig	l/s	cfm	hp	dB(A)	lb
ZR 200 VSD⁺ 10.4	Minimum	87	209 – 689	443 – 1459	270	72	Pack: 10,977 iMDG dryer: 5578
	Effective	102	209 – 652	443 – 1381			
	Maximum	151	208 – 524	441 – 1110			
ZR 250 VSD⁺ 10.4	Minimum	87	209 – 834	443 – 1766	335	73	
	Effective	102	209 – 796	443 – 1686			
	Maximum	151	208 – 664	441 – 1406			
ZR 315 VSD⁺ 10.4	Minimum	87	209 – 960	443 – 2033	422		
	Effective	102					
	Maximum	151	208 – 830	441 – 1758			
ZR 355 VSD⁺ 8.6	Minimum	87	208 – 1064	443 – 2254	476		
	Effective	102					
	Maximum	125	209 – 998	443 – 2114			
ZR 355 VSD⁺ 10.4	Minimum	87					
	Effective	102					
	Maximum	151	208 – 924	441 – 1957			

Dimensions ZR 200-355 VSD+ FF (iMDG)

Model	Length	Width	Height
	mm		
ZR 200-355 VSD+ FF (iMDG)	5651	1927	2150

Dimensions ZR 200-355 VSD+ FF (iMDG)

Model	Length	Width	Height
	inch		
ZR 200-355 VSD+ FF (iMDG)	222	76	85

(1) Unit performance measured according to ISO 1217, Annex E, Edition 4 (2009).

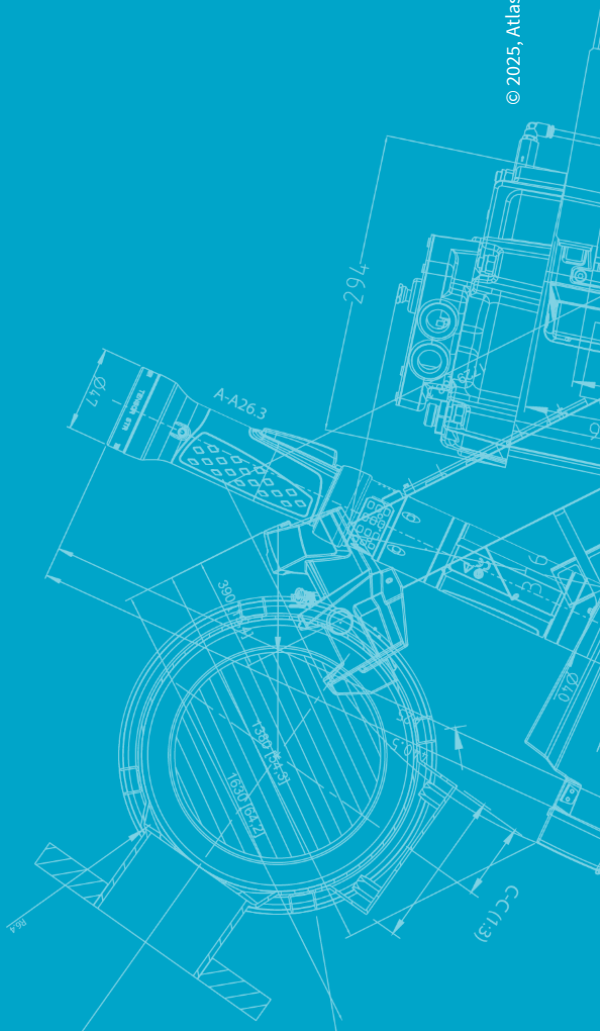
Reference conditions:
– Relative humidity 0%
– Absolute inlet pressure 1 bar (14.5 psi)
– Intake air temperature 20°C (68°F)

Free Air Delivery (FAD) is measured at effective working pressure.

(2) A-weighted emission sound pressure level at the work station (LpWSAd). Measured according to ISO 2151:2008 using ISO 9614-2 (sound intensity scanning method). The added correction factor (+/- 3 db(A)) is the total uncertainty value (KpAd) conform with the test code.

© 2025, Atlas Copco Airpower NV, Belgium. All rights reserved. Designs and specifications are subject to change without notice or obligation.
Read all safety instructions in the manual before usage.

WWW.ATLASCOPCO.COM



Atlas Copco AB
(publ) SE-105 23 Stockholm, Sweden
Phone: +46 8 743 80 00
Reg. no: 556014-2720