

# OIL-FREE ROTARY TOOTH COMPRESSORS



*Atlas Copco*

ZT 15-22, ZR/ZT 30-45, ZT 22 VSD, ZR/ZT 37-55 VSD





*Atlas Copco*

## ***ECONOMICAL, HIGH QUALITY OIL-FREE AIR***

Clean, oil-free compressed air is a prerequisite for the continuity and quality of many manufacturing processes. Over the past decades, Atlas Copco has pioneered the development of oil-free rotary tooth technology, resulting in a full range of highly reliable compressors delivering 100% oil-free, clean air. With the protection of your application in mind, the ZR/ZT series gives you all of this experience in a class leading package and meets your every need for pure oil-free air.

## **100% oil-free air**

Your activities in pharmaceutical production, food processing, critical electronics or in a similarly exacting industry demand the best air quality for a guaranteed end product and production process. Designed with your specific applications in mind, our rotary tooth compressors eliminate the risks of oil contamination and the accompanying product spoilage, brand damage and delays that represent extra costs. Preventing oil from entering the compression process is a necessity for the generation of consistent 100% oil-free air. Certified ISO 8573-1 CLASS 0 by the renowned TÜV institute, the ZR/ZT ensure the safety of your application and at the same time allow you to enjoy lower operating and maintenance costs.

## **Reduced energy costs**

As energy accounts for more than 70% of a compressor's lifecycle costs (LCC), its importance is obvious. The most cost-effective compressed air solution optimizes the pressure, volume and air treatment equipment for each production process. Our ZR/ZT compressors provide you with the ultimate all-in-one package to decrease your electricity bill by an average of 35%. To help you save energy, regardless of whether you require a low or high-capacity compressor, our VSD range has been expanded with the ZT 22 VSD and the ZR/ZT 55 VSD.

## **Proven peace of mind**

For sixty years, Atlas Copco has been leading the industry in oil-free compressed air technology, drawing on vast experience and continuous technological innovations. You can rest assured at all times: severe certification and testing procedures are conducted to ensure air is supplied to the highest standards of quality control. Backed by extensive know-how in the field of developing the most reliable quality air solutions, we are the only manufacturer that offers such a vast range of different technologies to match your exact needs. This ensures that you can always find the perfect solution for your specific application.



## **100% CERTIFIED OIL-FREE AIR**

Atlas Copco is renowned for designing and manufacturing the most durable oil-free tooth compressors. The ZR/ZT rotary tooth compressor comes out of this strong tradition. Ideal for industries where high-quality oil-free air is key, the ZR/ZT offers the highest reliability and safety in combination with low energy costs.



### **Pharmaceuticals**

- 100% oil-free air is vital to prevent contamination of processes (e.g. fermentation, aeration, tablet coating, packing and bottling, automated production lines).
- CLASS 0 eliminates risks and maintains high product quality and professional brand reputation.

### **Food & beverage**

- 100% pure, clean, oil-free air for all kinds of applications (e.g. fermentation, packaging, aeration, transportation, filling & capping, cleaning, instrument air).
- ISO 8573-1 CLASS 0 (2010) certification to avoid compromising the purity of your end product and ensure zero risk of contamination.

### **Electronics**

- Clean, dry, high-quality air is essential, produced with optimal energy efficiency.
- Applications include the removal of microscopic debris from the surfaces of computer chips and computer boards.

### **Health care**

- Ideal for hospitals, dental practices, veterinary labs or clinical work environments where maximum reliability is the main priority.
- Ultra-clean air to successfully perform clinical work and make sure your equipment functions effectively.

# 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, chemical and petrochemical processing, fermentation, wastewater treatment, pneumatic conveying, non-woven textile manufacturing and many more.

## First in oil-free air technology

Over the past sixty years we have 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, we 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/m <sup>3</sup>
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).



# A VARIETY OF BENEFITS

Set to meet your specific demands and tackle your daily challenges, we offer you the ZR/ZT rotary tooth compressors. Immediately ready to supply high quality oil-free air, this powerful solution provides you with the exceptional reliability, efficiency and integration you are looking for.



## Radial fan (only for ZT air-cooled)

- Ensures the unit is cooled effectively.
- Low noise.

1

## Intercooler and aftercooler

Thanks to the vertical layout of the coolers, the noise levels from the fan, motor and element have been drastically reduced.

2

## Two stage tooth element

- Lower energy consumption compared to single stage compression systems as no venting of the pressure is required.
- Minimum power consumption of the unloaded state is reached rapidly.

3

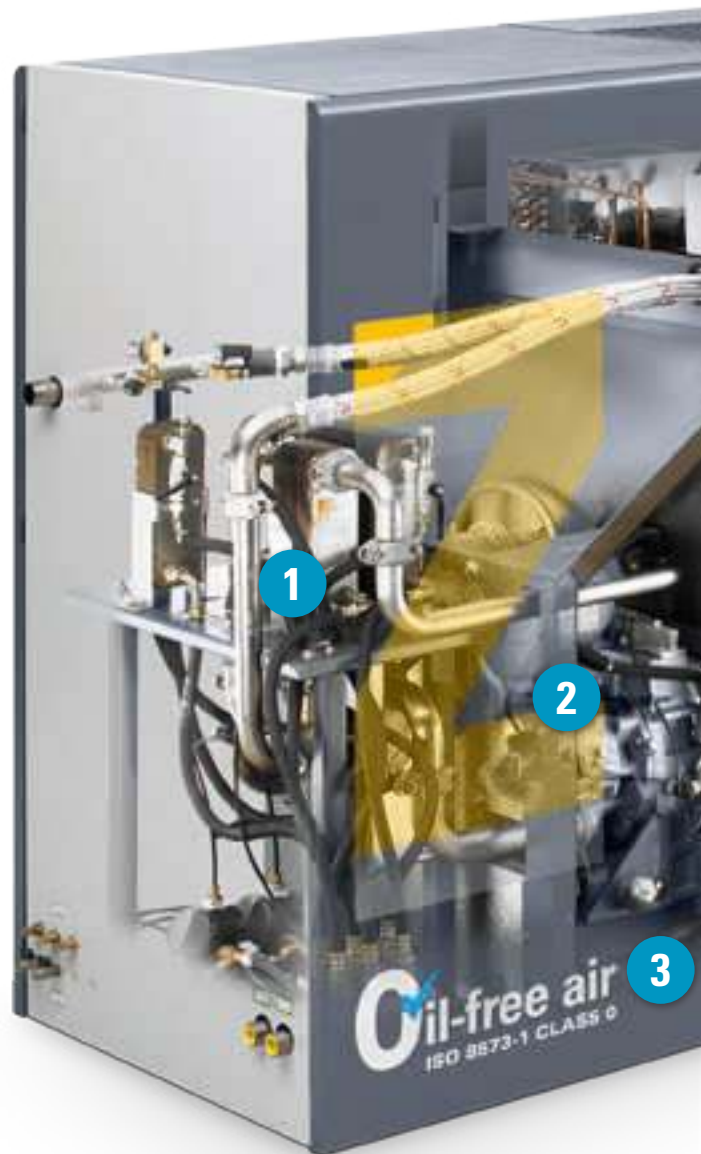
## Sound insulated canopy

- No separate compressor room required.
- Only available in WorkPlace Air System™ versions.

4

## Induction motor

- Flange-mounted for perfect alignment.
- Available in two versions: IP54 for VSD models and IE 3/NEMA Premium for fixed speed models.
- The dry motor coupling requires no lubrication, eliminating service requirements.





### Electronic water drains

- Mounted vibration-free on the frame.
- Constant removal of condensate for improved water separation and extended lifetime of the compressor.

5

### Air filter

- SAE fine 99.5%; SAE coarse 99.9%.
- Long lifetime and high reliability for long service intervals.
- Combined air filter and silencer to ensure sound insulation.

6

### Integrated VSD converter

- High energy efficiency thanks to no load operation and oil vessel blow-off losses.
- Operation in a narrow pressure band setting reduces the overall system working pressure.

7

### Elektronikon®

Advanced Elektronikon® control and monitoring system, designed for integration in a (remote) process control system.

### Integrated dryer

- Saver cycle technology reduces the energy consumption of the integrated air treatment in light load conditions.
- As the condensate separation is integrated, water separation is improved and the Pressure Dew Point (PDP) becomes more stable.



# PROVEN TECHNOLOGY, MAXIMIZED EFFICIENCY

To provide you with top-quality, 100% oil-free air, our ZR/ZT series incorporate a range of advanced technologies. The unique rotary tooth element increases efficiency thanks to two-stage compression. As no venting of the pressure element is required, the energy consumption is considerably lower compared to single stage compression systems. With its symmetrical and dynamically balanced design, the double tooth element ensures an increased free air delivery and delivers consistent performance over time.



## Rotors

Stainless steel symmetrical rotors ensure perfect dynamic balancing and minimum bearing load to guarantee a long life span.

## Axial in- and outlet port

The straight rotor design and the opposing axial in- and outlet port avoid axial load on element components, increasing element lifetime.

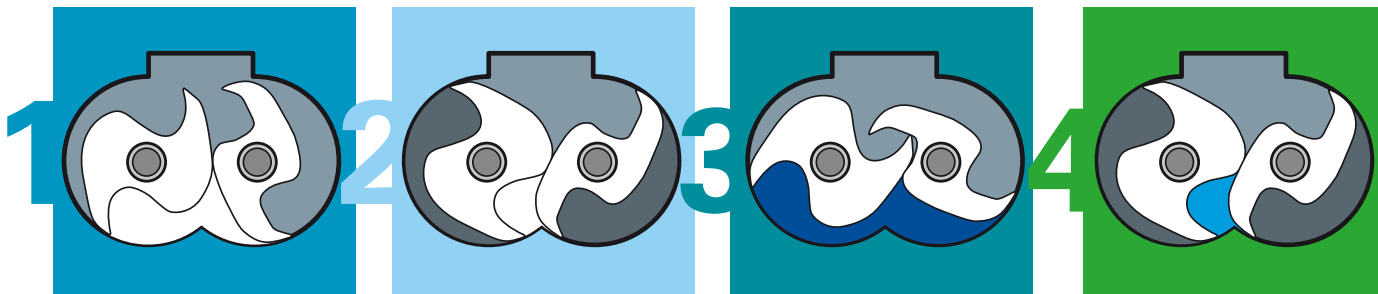
## Air-cooled design

Cast teeth allow for efficient heat dissipation, eliminating the need for a complex cooling water system and ensuring greater reliability.

## Seals

Two independent floating oil and air seals, separated by a neutral buffer area, safeguard the compression chamber from oil penetration.

## The rotary tooth working principle



1 Atmospheric air is drawn through the inlet port into the compressor chamber as a result of the rotational action of the tooth rotors.

2 Air is trapped between the teeth of the male and female rotors.

3 Compression takes place. The male and female rotor turn towards each other, decreasing the free space, resulting in an increase in pressure.

4 The female rotor exposes the outlet port and the compressed air is delivered to the system.

● Intake ● Transport ● Compression ● Delivery



# EXCEPTIONAL VERSATILITY

Contrary to traditional compressor installations, our ZR/ZT WorkPlace Air System™ compressors effortlessly fit onto your work floor. With their compact footprint and integration of air treatment equipment, ZR/ZT compressors ensure optimum efficiency and reliability. Thanks to the vertical layout of the coolers, the noise levels from the fan, motor and element have been drastically reduced. Designed to give the most versatile source of compressed air, they provide you with an all-in-one package that will have your production running smoothly for years to come.



## Traditional compressor set-up

- 1 High pressure drop across the system.
- 2 External filtration equipment/dryer.
- 3 Elaborate and costly piping system.
- 4 Multiple connections and air leaks.
- 5 Multiple monitoring points.

### High noise operation

- ↳ Separate compressor room
- ↳ Raised installation & energy costs as a result of high pressure drop

## WorkPlace Air System™

- 1 Limited internal system pressure drop.
- 2 Integrated air and condensate treatment equipment.
- 3 Reduced piping costs.
- 4 Single point connections.
- 5 Single point monitoring.

### Low noise operation

- ↳ No need for dedicated compressor room
- ↳ Minimized installation costs

# 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.



## Online & mobile monitoring

Monitor your compressors over the Ethernet with the new Elektronikon® 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.



## 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.*



## A COMPLETE FULL FEATURE PACKAGE

Our Full Feature concept stands for a compact, all-in-one quality air solution. Integrating the IMD or ID dryer and its Variable Speed Drive on VSD models, this integrated package offers the highest quality air at the lowest possible cost.

### Protect your compressed air system

A dry compressed air system is essential to maintain the reliability of production processes and the quality of the end products. Untreated air can cause corrosion in the pipe work, premature failure of pneumatic equipment and product spoilage.



### The IMD drying principle

- 1 Hot unsaturated air
- 2 Hot saturated air
- 3 Cold saturated air
- 4 Dry air
- 5 Drying section

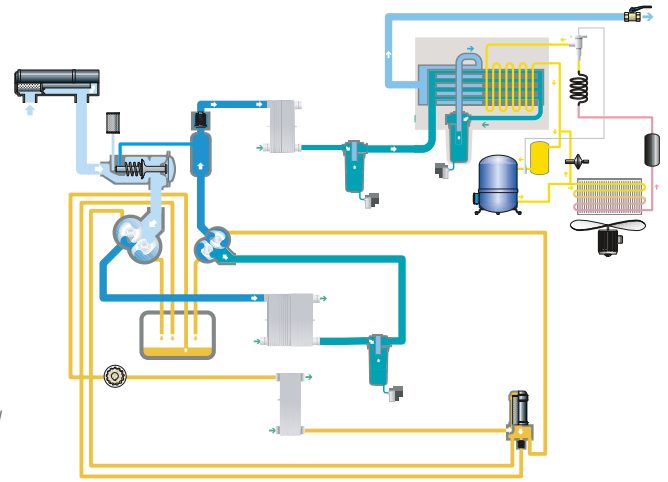
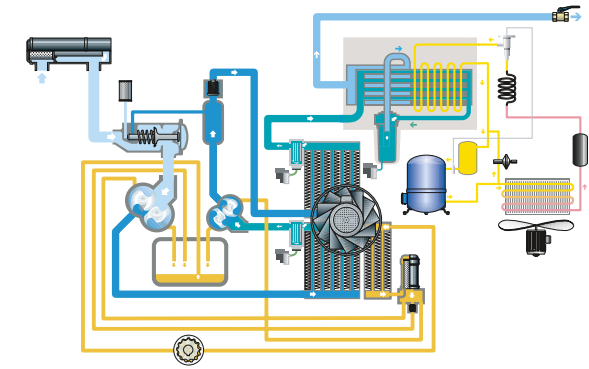
### IMD adsorption dryer

The IMD adsorption dryer eliminates the moisture before it enters the air net, ensuring a reliable process and an impeccable end product. As no external energy is needed to dry the air, large savings are obtained. The pressure drop through the dryer is minimal, which again cuts down the operating cost.

# ZTOOTH + ID (REFRIGERANT DRYER)

Air-cooled ZT + ID

Water-cooled ZR + ID

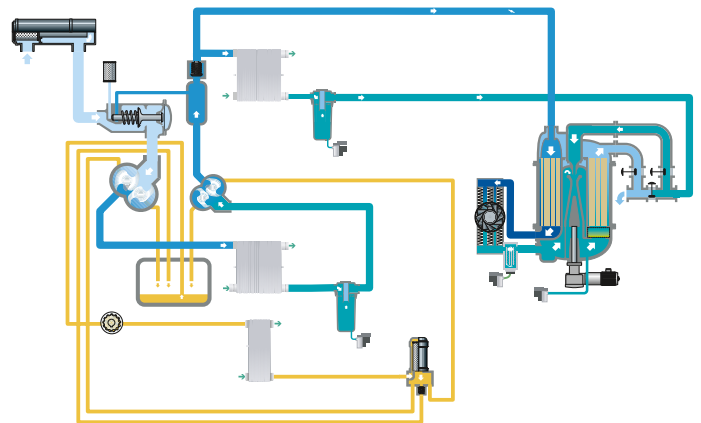
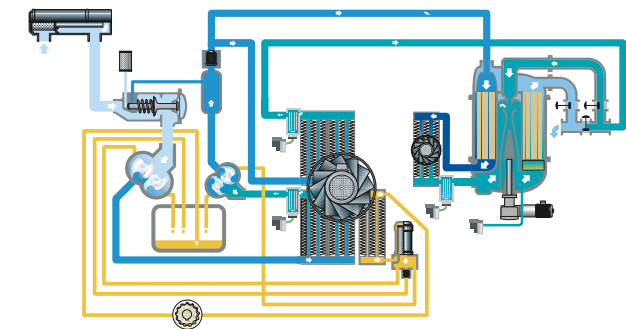


- Incoming air
- Dry compressed air
- Refrigerant liquid
- Hot unsaturated air
- Oil
- Insulation
- Cooled saturated air
- Refrigerant gas
- Insulation

# ZTOOTH + IMD (ROTARY DRUM DRYER)

Air-cooled ZT FF

Water-cooled ZR FF



- Incoming air
- Dry compressed air
- Refrigerant liquid
- Hot unsaturated air
- Oil
- Insulation
- Cooled saturated air
- Refrigerant gas
- Insulation

## OPTIMIZE YOUR SYSTEM

With the ZR/ZT, we provide an all-in-one standard package incorporating the latest technology in a built-to-last design. To further optimize your ZR/ZT's performance or to simply tailor it to your specific production environment, optional features are available.

### Options

Anchor pads	Integrated refrigerant dryer (ID)	Main power isolator switch	Anti condensation heaters and thermistors
ANSI flanges	Integrated MD dryer (IMD)	IT variant	<b>SMARTLINK</b>
High ambient variant	Integrated dryer bypass	5% input chokes	Test certificate
Water shut-off valve	Silicone-free rotor for MD		

Please note the availability of the option depends on the chosen configuration.

# TECHNICAL SPECIFICATIONS

## ZT 15-22, ZR/ZT 30-45, ZT 22 VSD, ZR/ZT 37-55 VSD

Type	Free air delivery <sup>(1)</sup>			Installed motor		Noise level dB(a) <sup>(2)</sup>	Weight without dryer <sup>(3)</sup>		Integrated dryer available
	l/s	m <sup>3</sup> /min	cfm	kW	hp	Pack	kg	lbs	
<b>Air-cooled</b>									
ZT 15 - 75	38.1	2.3	80.7						
ZT 15 - 8.6	35.5	2.1	75.2	15	20	72	975	2149	ID / IMD
ZT 15 - 10	30.4	1.8	64.4						
ZT 18 - 75	48.6	2.9	103.0						
ZT 18 - 8.6	46.4	2.8	98.3	18	24	72	995	2194	ID / IMD
ZT 18 - 10	36.7	2.2	77.8						
ZT 22 - 75	59.6	3.6	126.3						
ZT 22 - 8.6	54.0	3.2	114.4	22	30	72	1001	2207	ID / IMD
ZT 22 - 10	45.6	2.7	96.6						
ZT 30 - 75	78.8	4.7	167.0						
ZT 30 - 8.6	73.9	4.4	156.6	30	40	72	1201	2648	ID / IMD
ZT 37 - 75	96.6	5.8	204.7						
ZT 37 - 8.6	92.3	5.5	195.6	37	50	72	1251	2758	ID / IMD
ZT 45 - 75	114.3	6.9	242.2						
ZT 45 - 8.6	108.9	6.5	230.7	45	60	72	1289	2842	ID / IMD
<b>Water-cooled</b>									
ZR 30 - 75	78.8	4.7	167.0						
ZR 30 - 8.6	73.9	4.4	156.6	30	40	70	1150	2535	ID / IMD
ZR 37 - 75	96.6	5.8	204.7						
ZR 37 - 8.6	92.3	5.5	195.6	37	50	70	1200	2646	ID / IMD
ZR 45 - 75	114.3	6.9	242.2						
ZR 45 - 8.6	108.9	6.5	230.7	45	60	70	1222	2694	ID / IMD

Type	Working pressure	Free air delivery <sup>(1)</sup>			Installed motor		Noise level dB(A) <sup>(2)</sup>	Weight without dryer <sup>(3)</sup>		Integrated dryer available	
		bar(e)	l/s	m <sup>3</sup> /min	cfm	kW	hp	Pack	kg		lbs
<b>Air-cooled</b>											
ZT 22 VSD - 10 bar (e)	Minimum	4	21.5 - 57.3	1.3 - 3.4	45.6 - 121.4						
	Effective	7	20.6 - 56.4	1.2 - 3.4	43.7 - 119.5	22	30	72	1120	2469	ID / IMD
	Maximum	10	19.7 - 47.4	1.2 - 2.8	41.8 - 100.3						
ZT 37 VSD - 8.6 bar (e)	Minimum	4	42.4 - 102.3	2.5 - 6.1	89.9 - 216.9						
	Effective	7	41.3 - 101.2	2.5 - 6.1	87.4 - 214.4	37	50	72	1431	3155	ID / IMD
	Maximum	8.6	41.2 - 95.1	2.5 - 5.7	87.2 - 201.6						
ZT 55 VSD - 8.6 bar (e)	Minimum	4	42.4 - 143.7	2.5 - 8.6	89.9 - 304.5						
	Effective	7	41.3 - 142.5	2.5 - 8.6	87.4 - 302.0	55	75	72	1485	3274	ID / IMD
	Maximum	8.6	41.1 - 138.8	2.5 - 8.3	87.2 - 294.0						
<b>Water-cooled</b>											
ZR 37 VSD - 8.6 bar (e)	Minimum	4	42.0 - 102.3	2.5 - 6.1	89.0 - 216.9						
	Effective	7	40.8 - 101.2	2.4 - 6.1	86.5 - 214.4	37	50	70	1322	2914	ID / IMD
	Maximum	8.6	40.7 - 94.9	2.4 - 5.7	86.3 - 201.1						
ZR 55 VSD - 8.6 bar (e)	Minimum	4	42.4 - 140.6	2.5 - 8.4	89.9 - 297.8						
	Effective	7	41.3 - 139.4	2.5 - 8.4	87.4 - 295.4	55	75	70	1360	2998	ID / IMD
	Maximum	8.6	41.1 - 135.0	2.5 - 8.1	87.2 - 286.0						

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

Reference conditions:

- Relative humidity 0%

- Absolute inlet pressure: 1 bar (14.5 psi).

- Intake air temperature: 20°C, 68°F.

FAD is measured at the following working pressures:

- 7.5 bar versions at 7 bar.

- 8.6 bar versions at 8 bar.

- 10 bar versions at 9.5 bar.

For VSD at 7 bar

(2) A-weighted emission sound pressure level at the work station (LpWSAd).

Measured according to ISO 2151: 2004 using ISO 9614/2 (sound intensity scanning method).

The added correction factor is the total uncertainty value (KpAd) conform with the test code.

(3) Integrated dryers will increase the weight.

## DIMENSIONS

Type	A		B		C	
	Length		Width		Height	
	mm	inch	mm	inch	mm	inch
ZT 15-22	1760	69.3	1026	40.4	1621	63.8
ZR/ZT 30-45	2005	78.9	1026	40.4	1880	74.0
ZT 22 VSD	2195	86.4	1026	40.4	1621	63.8
ZR/ZT 37-55 VSD	2440	96.1	1026	40.4	1880	74.0



# Oil-free rotary screw compressors



*Atlas Copco*

ZR/ZT 55-90 (FF) & ZR/ZT 75-90 VSD (FF)





## ***Setting the standard in energy efficiency, safety and reliability***

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



## **Core technology**

Atlas Copco masters each compression principle and offers the most energy efficient technology for the application. Fixed speed machines are efficient at full load but when air demand fluctuates, a Variable Speed Drive ensures substantial savings. The integrated adsorption dryer offers high quality dry air with the lowest pressure drop and uses the heat of the compressor for regeneration. Two features that lead to significant energy savings.

## **Optimal use**

Central control of a multi-compressor installation reduces the pressure band and achieves the lowest overall energy cost. Heat of compression can be recovered and put to good use in industrial processes like pre-heating of boiler feed water, heating of buildings etc.

## **Oil-free compression**

Our oil-free screw compressors have compressor chambers completely free of oil. This is possible because there is no metal contact between the precision cut rotors and hence no need for lubrication. Process, products and environment are safeguarded from contamination. The first air compressors TUV-certified as "oil-free" (ISO 8573-1 CLASS 0).

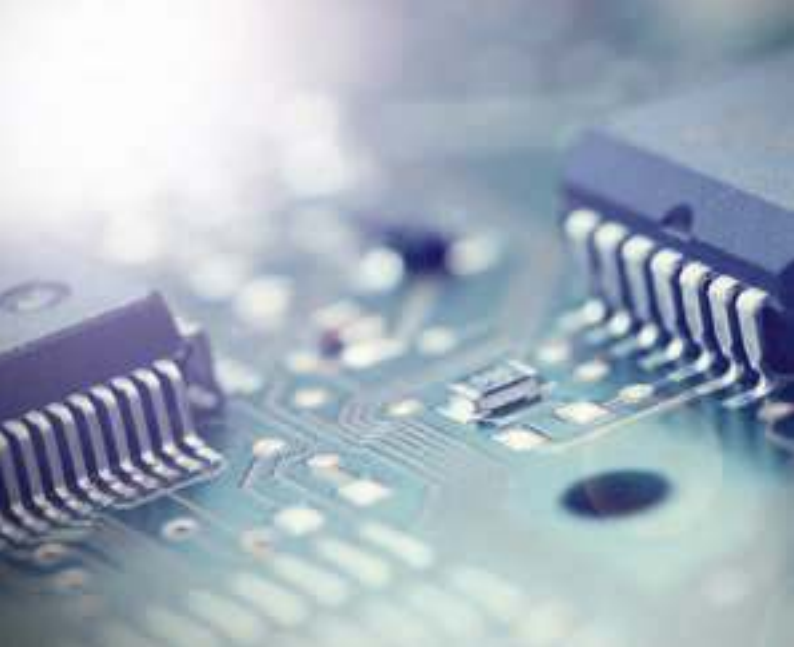
## **The integrated design**

Internal piping, high end design features, Variable Speed Drive, 100% matched components... the only way to ensure total reliability. Each machine is tested to ensure it meets specifications, complete security and no surprises. The ZR/ZT oil-free compressor is truly plug-and-play. Put it on a flat floor, connect the power line and the air outlet... and push the start button.

## **Global presence - local service**

Our aftermarket product portfolio is designed to add maximum value for our customers by ensuring the optimum availability and reliability of their compressed air equipment with the lowest possible operating costs. We deliver this complete service guarantee through our extensive service organization, maintaining our position as leader in compressed air.





## ***100% certified oil-free air***

Atlas Copco is renowned for designing and manufacturing some of the most durable oil-free screw compressors. The ZR/ZT high-end rotary screw compressor comes out of this strong tradition. Ideal for industries where high-quality oil-free air is key, the ZR/ZT offers the highest reliability and safety in combination with extremely low energy costs.



### **Food & beverage**

- 100% pure, clean, oil-free air for all kinds of applications (e.g. fermentation, packaging, aeration, transportation, filling & capping, cleaning, instrument air).
- ISO 8573-1 CLASS 0 (2010) certification to avoid compromising the purity of your end product and ensure zero risk of contamination.

### **Electronics**

- Clean, dry, high-quality air is essential, produced with optimal energy efficiency.
- Applications include the removal of microscopic debris from the surfaces of computer chips and computer boards.

### **Petrochemicals**

- A dependable stream of 100% certified oil-free compressed air is crucial to keep the production up and running.
- Operation in extreme temperatures and humidity conditions where high performance levels and reliability are essential.

### **Pharmaceuticals**

- 100% oil-free air is vital to prevent contamination of processes (e.g. fermentation, aeration, tablet coating, packing and bottling, automated production lines).
- CLASS 0 eliminates risks and maintains high product quality and professional brand reputation.

# 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, 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 we have 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, we 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.

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



# ZR (water-cooled) version: the full feature, compact, all-in-one solution

1

## Energy recovery

- With our integrated energy recovery system, it is feasible to recover up to 90% of the power input as hot air or hot water.
- Important energy cost savings and a high return on investment through efficiency usage of the recovered energy.
- Applications: preheated boiler feed water for industrial processes, space heating by circulation in radiators or for showers and other industrial applications like dyeing textiles, operation of absorption chillers and others.

2

## Water separator

- The labyrinth design efficiently separates the condensate from the compressed air.
- Low moisture carry-over protects downstream equipment.
- Long high pressure element lifetime.
- Better dryer performance.



3

## Efficient & reliable water cooling (ZR)

- Corrosion resistant stainless steel tubing.
- Highly reliable robot welding; no risk of leaks.
- Aluminium star insert increases heat transfer.





4

### Full Feature

- Compact, all-in-one quality air solution.
- Integrated package offering the highest quality air at the lowest possible cost.
- IMD adsorption dryer:
  - Eliminates the moisture before it enters the air net, ensuring a reliable process and an impeccable end product.
  - No external energy is needed to dry the air, resulting in large savings in comparison to conventional dryers.
  - The pressure drop through the dryer is minimal, which again cuts down the operating cost.

5

### Totally enclosed motor

- IP55TEFC protection against dust and humidity.
- Highly efficient fixed speed motor according to IE3 (equal to NEMA Premium).



6

### Effective electronic regulating drains

- Reliable solid state actuation, no loss of air.
- Alarm for malfunction on the Elektronikon® display.

# ZT (air-cooled) version: superior design in every detail



## 1 High efficiency air cooling (ZT)

- Stainless steel pre-cooler with fins.
- Excellent heat transfer.
- Easy access for cleaning.
- Low noise + low energy radial cooling fans.



## 2 World class oil-free compression element

- 100% oil-free rotary screw compression for high quality air.
- High overall efficiency thanks to superior rotor coating and element cooling jackets.

## 3 Superior element bearings

- High stability under varying load conditions.





4

### **Advanced Elektronikon® unit controller**

- One integrated control system for compressor and dryer.
- Overall system performance status with pro-active service indications, alarms for malfunctions and safety shutdowns.
- Multi-language selectable display.
- Designed for interfacing with the ES system level control and integration into standard serial communication protocols.

5

### **Integrated VSD**

- Direct energy savings up to 35% with Variable Speed Drive (VSD) motor.
- Unload losses are reduced to a minimum.
- No blow-off of compressed air to the atmosphere.
- Full regulation between 30 to 100% of the maximum capacity.

6

### **AGMA A5/DIN Class 5 gears in the main drive**

- Long lifetime.
- Low transmission losses, low noise and vibration.

# Monitoring and control: how to get the most from the least

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Monitor your compressors over the Ethernet with the new Elektronikon® 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.



## 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.*

# Protect your compressed air system

A dry compressed air system is essential to maintain the reliability of production processes and the quality of the end products. Untreated air can cause corrosion in the pipe work, premature failure of pneumatic equipment and product spoilage.

## The Full Feature compressor: a compact, all-in-one quality air solution

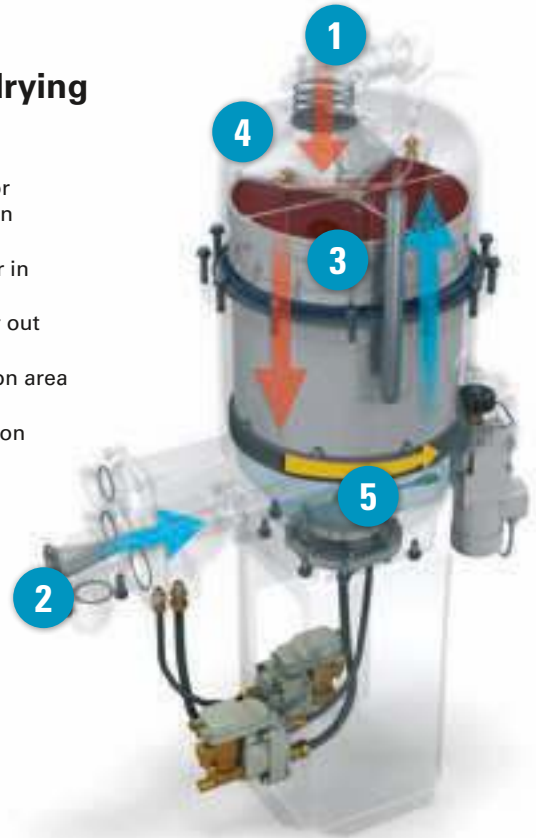
Our Full Feature concept stands for a compact, all-in-one quality air solution. Integrating the IND or IMD dryer and its Variable Speed Drive on VSD models, this complete package offers the highest quality air at the lowest possible cost.

## IMD adsorption dryer

The IMD adsorption dryer eliminates the moisture before it enters the air net, ensuring a reliable process and an impeccable end product. As no external energy is needed to dry the air, large savings are obtained. The pressure drop through the dryer is minimal, which again cuts down the operating cost.

## The IMD drying principle

- 1 Hot air in for regeneration
- 2 Cold wet air in
- 3 Cold dry air out
- 4 Regeneration area
- 5 Drum rotation



# A dryer solution for every need

Atlas Copco believes in effective prevention and also provides a complete range of free-standing refrigerant and rotary drum heat-of-compression dryers.

## Rotary drum heat of compression dryers: ND & MD

- Use of freely available heat of compression.
- Negligible power consumption.
- Variants with extra heat augmentation for lower dew points.

## Refrigerant dryer: FD

- Use of cooling circuit for cooling down compressed air.
- Guaranteed pressure dew points.
- Lowest energy consumption in all operating conditions.
- Air and water-cooled variants.





# Technical specifications

## ZR/ZT 55-90 (FF)

Type	Free air delivery <sup>(1)</sup>			Installed motor		Noise level <sup>(2)</sup>	Weight			
	l/s	m <sup>3</sup> /min	cfm	kW	hp		Standard		Full Feature	
							kg	lb	kg	lb
<b>50 Hz</b>										
ZR 55 - 7.5	148.3	8.9	314	55	75	74	1800	3968	2050	4519
ZR 55 - 8.6	133.9	8.0	284	55	75	74	1800	3968	2050	4519
ZR 55 - 10	123.1	7.4	261	55	75	74	1800	3968	2050	4519
ZR 75 - 7.5	204.6	12.3	434	75	100	74	1890	4167	2135	4707
ZR 75 - 8.6	189.6	11.4	402	75	100	74	1890	4167	2135	4707
ZR 75 - 10	181.2	10.9	384	75	100	74	1890	4167	2135	4707
ZR 90 - 7.5	241.4	14.5	511	90	120	74	1925	4244	2175	4795
ZR 90 - 8.6	227.6	13.7	482	90	120	74	1925	4244	2175	4795
ZR 90 - 10	214.6	12.9	455	90	120	74	1925	4244	2175	4795
<b>60 Hz</b>										
ZR 55 - 7.25	160.2	9.6	340	55	75	74	1800	3968	2050	4519
ZR 55 - 9	140.6	8.4	298	55	75	74	1800	3968	2050	4519
ZR 55 - 10.4	130.2	7.8	276	55	75	74	1800	3968	2050	4519
ZR 75 - 7.25	217.1	13.0	460	75	100	74	1890	4167	2135	4707
ZR 75 - 9	200.1	12.0	424	75	100	74	1890	4167	2135	4707
ZR 75 - 10.4	192.1	11.5	407	75	100	74	1890	4167	2135	4707
ZR 90 - 7.25	268.1	16.1	568	90	120	74	1925	4244	2175	4795
ZR 90 - 9	240.9	14.5	510	90	120	74	1925	4244	2175	4795
ZR 90 - 10.4	230.9	13.9	489	90	120	74	1925	4244	2175	4795

Type	Free air delivery <sup>(1)</sup>			Installed motor		Noise level <sup>(2)</sup>	Weight			
	l/s	m <sup>3</sup> /min	cfm	kW	hp		Standard		Full Feature	
							kg	lb	kg	lb
<b>50 Hz</b>										
ZT 55 - 7.5	146.3	8.8	310	55	75	76	1900	4189	2520	5556
ZT 55 - 8.6	132.7	8.0	281	55	75	76	1900	4189	2520	5556
ZT 55 - 8.6 HAT <sup>(3)</sup>	122.5	7.4	260	55	75	76	1900	4189	2520	5556
ZT 55 - 10	122.3	7.3	259	55	75	76	1900	4189	2520	5556
ZT 75 - 7.5	200.9	12.1	426	75	100	76	2000	4409	2600	5732
ZT 75 - 8.6	186.7	11.2	396	75	100	76	2000	4409	2600	5732
ZT 75 - 8.6 HAT <sup>(3)</sup>	178.8	10.7	379	75	100	76	2000	4409	2600	5732
ZT 75 - 10	178.7	10.7	379	75	100	76	2000	4409	2600	5732
ZT 90 - 7.5	236.0	14.2	500	90	120	76	2050	4519	2650	5842
ZT 90 - 8.6	223.3	13.4	473	90	120	76	2050	4519	2650	5842
ZT 90 - 8.6 HAT <sup>(3)</sup>	211.4	12.7	448	90	120	76	2050	4519	2650	5842
ZT 90 - 10	211.3	12.7	448	90	120	76	2050	4519	2650	5842
<b>60 Hz</b>										
ZT 55 - 7.25	157.8	9.5	334	55	75	76	1900	4189	2520	5556
ZT 55 - 8.6 HAT <sup>(3)</sup>	129.5	7.8	274	55	75	76	1900	4189	2520	5556
ZT 55 - 9	139.2	8.4	295	55	75	76	1900	4189	2520	5556
ZT 55 - 10.4	129.3	7.8	274	55	75	76	1900	4189	2520	5556
ZT 75 - 7.25	212.8	12.8	451	75	100	76	2000	4409	2600	5732
ZT 75 - 8.6 HAT <sup>(3)</sup>	189.2	11.4	401	75	100	76	2000	4409	2600	5732
ZT 75 - 9	196.7	11.8	417	75	100	76	2000	4409	2600	5732
ZT 75 - 10.4	189.1	11.3	401	75	100	76	2000	4409	2600	5732
ZT 90 - 7.25	261.3	15.7	554	90	120	76	2050	4519	2650	5842
ZT 90 - 8.6 HAT <sup>(3)</sup>	226.9	13.6	481	90	120	76	2050	4519	2650	5842
ZT 90 - 9	236.1	14.2	500	90	120	76	2050	4519	2650	5842
ZT 90 - 10.4	226.8	13.6	481	90	120	76	2050	4519	2650	5842

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

Reference conditions:

- Relative humidity: 0%.

- Absolute inlet pressure: 1 bar (14.5 psi).

- Intake air temperature: 20°C/68°F.

FAD is measured at the following working pressures:

Fixed speed:

- 7.25/7.5/7 bar versions at 7 bar.

- 8.6/9 bar versions at 8 bar.

- 10/10.4 bar versions at 9 bar.

For VSD: at their maximum working pressure.

(2) A-weighted emission sound pressure level at the work station (LpWSAd).

Measured according to ISO 2151: 2004 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.

(3) Maximum intake/cooling air temperature is 50°C/122 °F for HAT versions.

# Technical specifications

## ZR 75-90 VSD (FF) (50/60 Hz)

Type	Working pressure <sup>(1)</sup>		Free air delivery <sup>(2)</sup>			Noise level <sup>(3)</sup>	Weight			
							Standard		Full Feature	
	bar(e)		l/s	m <sup>3</sup> /min	cfm	dB(A)	kg	lb	kg	lb
ZR 75 VSD - 8.6 bar (e)	Minimum	4	76 - 259	4.6 - 15.5	161 - 548	74	1925	4244	2170	4784
	Effective	7	75 - 222	4.5 - 13.3	158 - 470					
	Maximum	8.6	74 - 201	4.4 - 12.1	157 - 426					
ZR 75 VSD - 10.4 bar (e)	Minimum	4	76 - 259	4.6 - 15.5	161 - 549	74	1925	4244	2170	4784
	Effective	9	74 - 196	4.4 - 11.8	157 - 415					
	Maximum	10.4	96 - 178	5.8 - 10.7	203 - 377					
ZR 90 VSD - 8.6 bar (e)	Minimum	4	76 - 259	4.6 - 15.5	161 - 548	74	1970	4343	2220	4894
	Effective	7	75 - 258	4.5 - 15.5	158 - 548					
	Maximum	8.6	74 - 240	4.4 - 14.4	157 - 509					
ZR 90 VSD - 10.4 bar (e)	Minimum	4	76 - 259	4.6 - 15.5	161 - 549	74	1970	4343	2220	4894
	Effective	9	74 - 237	4.4 - 14.2	157 - 502					
	Maximum	10.4	96 - 221	5.8 - 13.3	203 - 469					

# Technical specifications

## ZT 75-90 VSD (FF) (50/60 Hz)

Type	Working pressure <sup>(1)</sup>		Free air delivery <sup>(2)</sup>			Noise level <sup>(3)</sup>	Weight			
							Standard		Full Feature	
	bar(e)		l/s	m <sup>3</sup> /min	cfm	dB(A)	kg	lb	kg	lb
ZT 75 VSD - 8.6 bar (e)	Minimum	4	75 - 252	4.5 - 15.1	160 - 534	76	2030	4475	2630	5798
	Effective	7	75 - 217	4.5 - 13.0	158 - 460					
	Maximum	8.6	74 - 198	4.4 - 11.9	157 - 420					
ZT 75 VSD - 10.4 bar (e)	Minimum	4	75 - 252	4.5 - 15.1	159 - 534	76	2030	4475	2630	5798
	Effective	9	74 - 193	4.4 - 11.6	157 - 409					
	Maximum	10.4	96 - 176	5.7 - 10.6	203 - 373					
ZT 90 VSD - 8.6 bar (e)	Minimum	4	75 - 252	4.5 - 15.1	160 - 535	76	2100	4630	2700	5952
	Effective	7	75 - 252	4.5 - 15.1	158 - 534					
	Maximum	8.6	74 - 235	4.4 - 14.1	157 - 498					
ZT 90 VSD - 10.4 bar (e)	Minimum	4	75 - 252	4.5 - 15.1	159 - 534	76	2100	4630	2700	5952
	Effective	9	74 - 232	4.4 - 13.9	157 - 492					
	Maximum	10.4	96 - 217	5.7 - 13.0	203 - 460					

(1) For the working pressure of the FF variant, please consult Atlas Copco.

(3) A-weighted emission sound pressure level at the work station (LpWSAd).

(2) Unit performance measured according to ISO 1217, Annex C, Edition 4 (2009).

Measured according to ISO 2151: 2004 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.

Reference conditions:

- Relative humidity 0%.
- Absolute inlet pressure: 1 bar (14.5 psi).
- Intake air temperature: 20°C/68°F.

FAD is measured at the following working pressures:

Fixed speed:

- 7.25/7.5/7 bar versions at 7 bar.
- 8.6/9 bar versions at 8 bar.
- 10/10.4 bar versions at 9 bar.

For VSD: at their maximum working pressure.

## Dimensions

Type	Standard						Full Feature					
	A (Length)		B (Width)		C (Height)		A (Length)		B (Width)		C (Height)	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
ZR 55-90	2180	85.8	1450	57.1	2184	86.0	2180	85.8	1450	57.1	2184	86.0
ZR 75-90 VSD	2180	85.8	1450	57.1	2184	86.0	2180	85.8	1450	57.1	2184	86.0
ZT 55-90	2180	85.8	1450	57.1	2184	86.0	2880	113.4	1450	57.1	2184	86.0
ZT 75-90 VSD	2180	85.8	1450	57.1	2184	86.0	2880	113.4	1450	57.1	2184	86.0



# ***Oil-free rotary screw compressors***

ZT 90-160 (FF) & ZT 90-160 VSD (FF)

***Atlas Copco***





## ***Setting the standard in energy efficiency, safety and reliability***

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 for 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 60 years, Atlas Copco Z compressors have set the benchmark for durability. They are built using long-standing internal engineering practices, and are designed and manufactured according to ISO 9001, ISO 14001, ISO 22000 & OHSAS 18001. The high-end ZT uses time-proven state-of-the-art screw technology, cooling and pulsation dampers and provides you with the highest reliability.

## 100% oil-free compressed air

The ZT offers you 100% pure, clean air that complies with ISO 8573-1 CLASS 0 (2010) certification. This means zero risk of contamination; zero risk of damaged products; zero risk of losses from operational downtime; and zero risk of damaging your company's hard-won professional reputation.

## Maximum energy efficiency

The ZT's superior oil-free screw elements provide the optimum combination of high Free Air Delivery (FAD) with the lowest energy consumption. Ample sized cooling, low pressure drops and an extremely efficient drive train result in the highest compressor package efficiency.

## The most complete package

With the ZT compressor, Atlas Copco provides a superior solution without hidden costs. The totally integrated, ready-to-use package includes internal piping, coolers, motor, lubrication and control system. The Full Feature version even integrates an IMD adsorption dryer for an impeccable end product. Installation is fault-free, commissioning time is low and no external instrument air is required. You simply plug and run.

## Global presence - local service

Our aftermarket product portfolio is designed to add maximum value for our customers by ensuring the optimum availability and reliability of their compressed air equipment with the lowest possible operating costs. We deliver this complete service guarantee through our extensive service organization, maintaining our position as leader in compressed air.



# 100% certified oil-free air

Atlas Copco is renowned for designing and manufacturing some of the most durable oil-free screw compressors. The ZT high-end rotary screw compressor comes out of this strong tradition. Ideal for industries where high quality oil-free air is key, the ZT offers the highest reliability and safety in combination with low energy costs.



## — Food & beverage

ZT air cooled oil-free air compressors provide 100% pure, clean, oil-free air for all kinds of applications in the food and beverage industry such as fermentation, packaging, aeration, transportation, filling & capping, cleaning, instrument air. Class 0 certified ZT rotary screw compressors avoid compromising the purity of your end product and ensure zero risk of contamination.

## — Textiles

The oil-free air ZT compressors guarantee a CLASS 0 certified air quality for the highly sensitive production processes in the textile industry. This high quality air is used in a variety of textile applications such as spinning, weaving, dyeing, texturizing, winding and coning.





## Oil & gas

Through the years, we have built up extensive experience in providing compressed air and a strong global service support for the oil & gas industry. 100% oil-free compressed air is used for control and instrument air or buffer air.

## Power plants

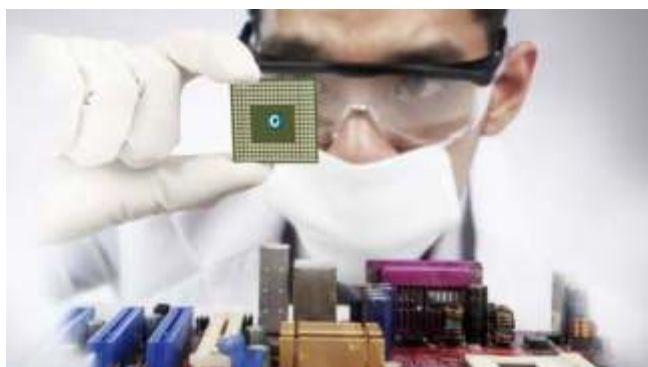
Power plants run round-the-clock to supply vital energy with a continuous supply of compressed air, critical for trouble-free continuous operation. ZT air cooled oil-free air compressors provide a reliable source of compressed air for applications such as flue gas desulphurization, oxidation air and fluidized beds.



## Pharmaceuticals

Strict moisture control is a key factor in the manufacture of most pharmaceuticals. Many materials used to produce pharmaceuticals have a physical affinity for moisture, which can cause powdered material to aggregate. Other powders that are formed into a tablet under high pressures will adhere only when in a dry state. Humidity can cause a tablet to crumble or the drug to decompose and diminish in its therapeutic value. To assure consistently high-quality drugs, the presence of dry air in the processing area and machinery is therefore vital.

# *Class 0: the industry standard*



## **Class 0: oil-free air**

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.



CLASS	Concentration total oil (aerosol, liquid, vapor) mg/m <sup>3</sup>
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

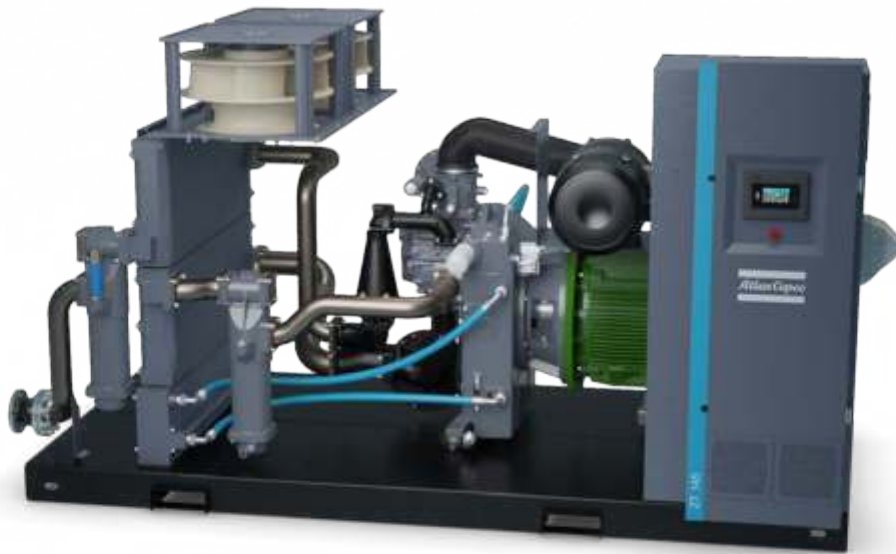
Current ISO 8573-1:2010 classes (the five main classes and the associated maximum concentrations in mg/m<sup>3</sup> of aerosol).

## 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.



# Proven Z technology: ZT (air-cooled) version



## 100% oil-free air (Class 0)

- Unique Z seal design guarantees 100% certified oil-free air.
- Superior rotor coating for high efficiency and durability.
- Cooling jackets to ensure world class compression in different conditions.

## High efficiency motor

- IP 55 TEFC motor protects against dust, chemicals and humidity.
- Continuous operation under severe ambient temperature conditions.

## Efficient intake air filtration

- 2-stage dust removal system (99,9% for 3 micron).
- Efficient protection of the compressor.
- Minimum intake losses and low pressure drop.

## High efficiency coolers

- Compact and efficient design with low air approach temperature and low pressure drop.
- Water separator to efficiently separate the condensate from the compressed air.
- Low moisture carry-over protects downstream equipment.



## Reliable load/unload regulation

- No external air supply required.
- Mechanical interlock of inlet and blow-off valve.
- Low unload power.



## Advanced touch screen monitoring system

- User-friendly Elektronikon® Touch, with enhanced connectivity potential.
- Integrated smart algorithms to optimize system pressure and maximize energy efficiency.
- Included warning indications, maintenance scheduling and online visualization of the machine's condition.

## Complete plug-and-play package

- All-in-one solution: fault-free installation, easy commissioning and quick start-up.
- Includes internal piping, coolers, motor, drive, lubrication and control system.



## Sound proof 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.

## Ease of maintenance

- Minimal service time with service parts grouped together for ease of access.
- All components are designed for serviceability and long lasting lifetime.
- Optional service plans available to extend the warranty.

# Monitoring and control

How to get the most from the least

## Elektronikon® MK5 Touch

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

The full color touch 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 integrated webpage.
- Integrated **SMARTLINK**
- Support for 31 different languages, including character based languages.

## Online & mobile monitoring

Monitor your machines over the ethernet with the Elektronikon® unit controller and the **SMARTLINK** service. Monitoring features include warning indications, compressor shut-down, sensor trending and maintenance scheduling.



## Dual set-point and automatic stop

Most production processes create fluctuating levels of demand which, in turn, can create energy waste in low use periods. Using the Elektronikon® unit controller, you can manually or automatically switch between two different setpoints to optimize energy use and reduce costs at low use times. In addition, the sophisticated algorithm runs the drive motor only when needed. As the desired setpoint is maintained while the drive motor's run time is minimized, energy consumption is kept to a minimum.

## 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.



## Optimize your compressed air system

### Minimizing Excess Pressure

Optimizer 4.0 minimizes the generation of excess compressed air by starting and stopping compressors. Its user friendly interface enables you to set multiple pressure bands, allowing you to optimize your compressor installation for varying circumstances, such as non-productive hours.

### Full VSD Benefits

With Optimizer 4.0 you can realize the full energy saving potential of VSD (Variable Speed Drive). It regulates the VSD to ensure that the compressed air output is proportional to the demand, preventing higher pressures than required, excess unloaded running, and spiraling energy costs.

### Improving Uptime

Optimizer 4.0 effectively eliminates production downtime caused by unexpected system pressure drops, because it regulates the system pressure instead of the compressor output pressure.

This means Optimizer 4.0 will automatically adjust the system pressure to compensate for pressure drops due to filters, piping and dryers for example.

### Optimizing Wear and Tear

Optimizer 4.0 comes in different variants, for up to 4, up to 8 or over 8 machines and centrifugals.

We also provide additional functionality and services on Optimizer 4.0 to ensure that your energy savings will stand the test of time. Even when your installation needs adaptations or your demand changes.



# Optimize your system

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



## Innovative technology

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.



## 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.



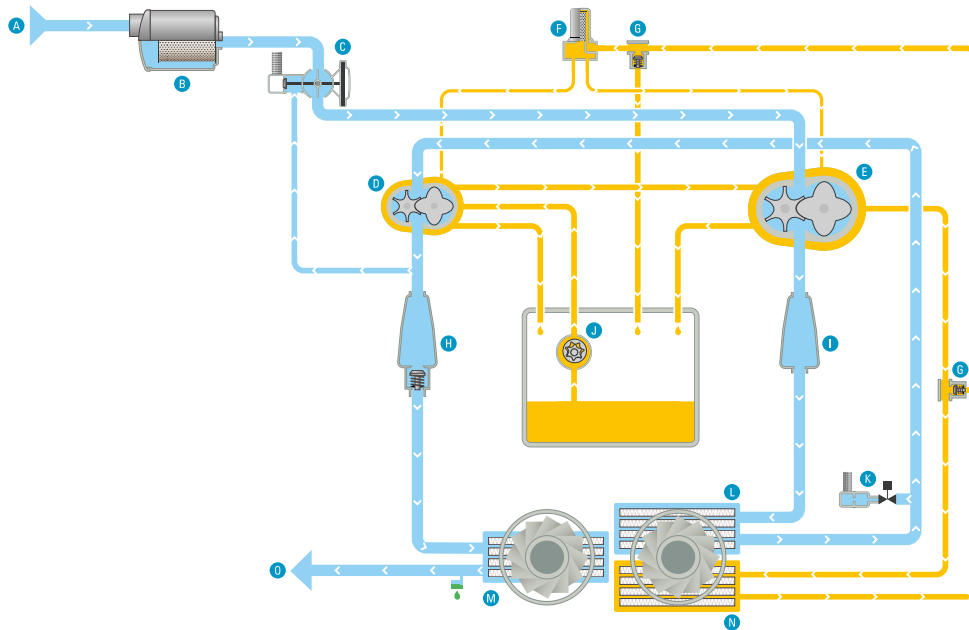
## Innovative engineering

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.

# Flowchart ZT

Process flow, oil flow and cooling flow - step by step

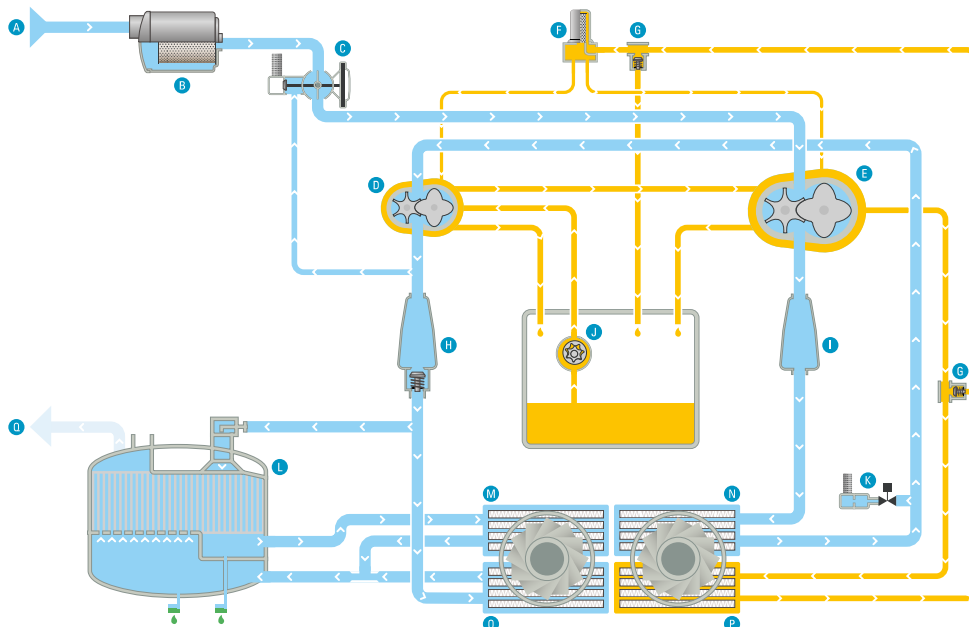
ZT 90-160 (VSD)



- A Air in
- B Air filter
- C Throttle valve (with blow off)
- D High pressure element
- E Low pressure element
- F Oil filter
- G Bypass valve
- H Pulsation damper (with check valve)
- I Pulsation damper
- J Oil pump
- K Blow off valve
- L Intercooler
- M Aftercooler
- N Oil cooler
- D Air out

- Air
- Condensate
- Oil

ZT 90-160 (VSD) FF



- A Air in
- B Air filter
- C Throttle valve (with blow off)
- D High pressure element
- E Low pressure element
- F Oil filter
- G Bypass valve
- H Pulsation damper (with check valve)
- I Pulsation damper
- J Oil pump
- K Blow off valve
- L Rotary drum dryer (integrated MD)
- M Regeneration cooler
- N Intercooler
- O Aftercooler
- P Oil cooler
- D Air out

- Air
- Dry compressed air
- Condensate
- Oil



# Technical specifications

## ZT 90-160 (FF)

TYPE	Working pressure (1)		Free Air Delivery (2)			Installed motor power	Noise level (3)	Weight			
	bar(e)	psig	l/s	m³/min	cfm			Pack		Full Feature (iMD)	
								kg	lb	kg	lb
<b>50 Hz</b>											
ZT 90 - 7.5	7.5	100	236	14.2	500						
ZT 90 - 8.6	8.6	125	223	13.4	473	90 / 120	79	3850	8500	4250	9400
ZT 90 - 10	10	145	211	12.7	447						
ZT 110 - 7.5	7.5	100	314	18.8	664						
ZT 110 - 8.6	8.6	125	293	17.6	621	110 / 150	79	3850	8500	4250	9400
ZT 110 - 10	10	145	273	16.4	579						
ZT 132 - 7.5	7.5	100	358	21.5	758						
ZT 132 - 8.6	8.6	125	334	20.0	707	132 / 175	79	3850	8500	4250	9400
ZT 132 - 10	10	145	310	18.6	656						
ZT 145 - 7.5	7.5	100	387	23.2	820						
ZT 145 - 8.6	8.6	125	359	21.5	760	145 / 200	79	3850	8500	4250	9400
ZT 145 - 10	10	145	346	20.7	732						
ZT 160 - 7.5	7.5	100	428	25.7	906						
ZT 160 - 8.6	8.6	125	412	24.7	873	160 / 215	79	3850	8500	4250	9400
ZT 160 - 10	10	145	393	23.6	833						
<b>60 Hz</b>											
ZT 90 - 8.6	8.6	125	236	14.2	500	90 / 120	79	3850	8500	4250	9400
ZT 90 - 10.4	10.4	150	227	13.6	481						
ZT 110 - 8.6	8.6	125	323	19.4	683						
ZT 110 - 10.4	10.4	150	303	18.2	643	110 / 150	79	3850	8500	4250	9400
ZT 145 - 8.6	8.6	125	389	23.3	824						
ZT 145 - 10.4	10.4	150	352	21.1	746	145 / 200	79	3850	8500	4250	9400
ZT 160 - 8.6	8.6	125	419	25.1	887						
ZT 160 - 10.4	10.4	150	390	23.4	827	160 / 215	79	3850	8500	4250	9400

(1) For the FF variant, please consult Atlas Copco.

(2) Unit performance measured according to ISO 1217, Annex C, Edition 4 (2009) Reference conditions:

- Relative humidity 0%.
- Absolute inlet pressure 1 bar (14.5 psi).
- Intake air temperature 20°C (68°F).

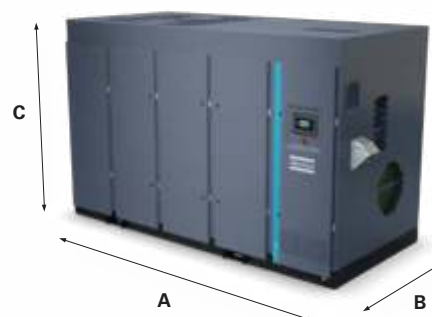
Free Air Delivery (FAD) is measured at the following working pressures:

- 7,5 / 8,6 bar version at 7 bar.
- 10,4 bar version at 9 bar.

(3) 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.

TYPE	A (Length)		B (Width)		C (Height)	
	mm	inch	mm	inch	mm	inch
ZT 90 - 160	3400	135	1650	65	2150	85
ZT 90 - 160 FF (iMD)	4085	160	1650	65	2150	85



# Technical specifications

## ZT 90-160 VSD (FF)

TYPE	Working pressure (1)			Free Air Delivery (2)								Installed motor power	Noise level (3)	Weight				
		bar(e)	psig	l/s		m <sup>3</sup> /min		cfm		kW / hp				Pack		Full Feature (iMD)		
														kg	lb	kg	lb	
ZT 90 VSD - 8.6	Minimum	4	60	100	-	252	6.0	-	15.1	212	-	534	90 / 120	79	3850	8500	4250	9400
	Effective	7	100	100	-	252	6.0	-	15.1	212	-	534						
	Maximum	8.6	125	100	-	235	6.0	-	14.1	212	-	498						
ZT 90 VSD - 10.4	Minimum	6	90	165	-	232	9.9	-	13.9	350	-	492	90 / 120	79	3850	8500	4250	9400
	Effective	9	130	165	-	232	9.9	-	13.9	350	-	492						
	Maximum	10.4	150	191	-	217	11.5	-	13.0	405	-	460						
ZT 110 VSD - 8.6	Minimum	4	60	100	-	295	6.0	-	17.7	212	-	625	110 / 150	79	3850	8500	4250	9400
	Effective	7	100	100	-	295	6.0	-	17.7	212	-	625						
	Maximum	8.6	125	100	-	273	6.0	-	16.4	212	-	579						
ZT 110 VSD - 10.4	Minimum	6	90	165	-	267	9.9	-	16.0	350	-	566	110 / 150	79	3850	8500	4250	9400
	Effective	9	130	165	-	267	9.9	-	16.0	350	-	566						
	Maximum	10.4	150	191	-	255	11.5	-	15.3	405	-	540						
ZT 132 VSD - 8.6	Minimum	4	60	125	-	357	7.5	-	21.4	265	-	757	132 / 175	79	3850	8500	4250	9400
	Effective	7	100	125	-	357	7.5	-	21.4	265	-	756						
	Maximum	8.6	125	125	-	336	7.5	-	20.2	265	-	712						
ZT 132 VSD - 10.4	Minimum	6	90	165	-	331	9.9	-	19.9	350	-	702	132 / 175	79	3850	8500	4250	9400
	Effective	9	130	165	-	331	9.9	-	19.9	350	-	701						
	Maximum	10.4	150	191	-	316	11.5	-	19.0	405	-	670						
ZT 160 VSD - 8.6	Minimum	4	60	144	-	410	8.6	-	24.6	305	-	870	160 / 215	79	3850	8500	4250	9400
	Effective	7	100	144	-	410	8.6	-	24.6	305	-	869						
	Maximum	8.6	125	144	-	385	8.6	-	23.1	305	-	816						
ZT 160 VSD - 10.4	Minimum	6	90	165	-	378	9.9	-	22.7	350	-	802	160 / 215	79	3850	8500	4250	9400
	Effective	9	130	165	-	378	9.9	-	22.7	350	-	801						
	Maximum	10.4	150	191	-	361	11.5	-	21.7	405	-	765						

(1) For the FF variant, please consult Atlas Copco.

(2) Unit performance measured according to ISO 1217, Annex C & E, Edition 4 (2009)  
Reference conditions:

- Absolute inlet pressure 1 bar (14.5 psi)

- Intake air temperature 20°C (68°F)

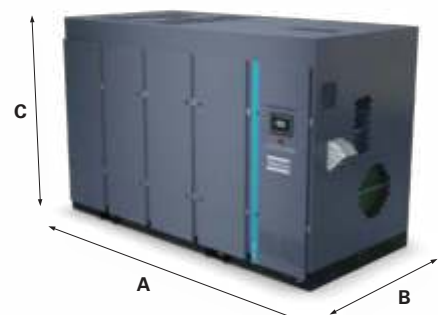
Free Air Delivery (FAD) is measured at maximum working pressure.

(3) 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.

TYPE	A (Length)		B (Width)		C (Height)	
	mm	inch	mm	inch	mm	inch
ZT 90 - 160	3400	135	1650	65	2150	85
ZT 90 - 160 FF (iMD)	4085	160	1650	65	2150	85



# Technical specifications

## ZR 110-275 (FF)

Type	Free air delivery <sup>(1)</sup>			Installed motor		Noise level <sup>(2)</sup>	Weight			
	l/s	m <sup>3</sup> /min	cfm	kW	hp		Standard		Full Feature	
							kg	lb	kg	lb
<b>50 Hz</b>										
ZR 110 - 7.5	318.2	19.1	674	110	150	69	2635	5809	2880	6349
ZR 110 - 8.6	286.1	17.2	606	110	150	69	2635	5809	2880	6349
ZR 110 - 10	266.5	16.0	565	110	150	69	2635	5809	2880	6349
ZR 132 - 7.5	365.6	21.9	775	132	150	69	2760	6085	2940	6482
ZR 132 - 8.6	326.4	19.6	692	132	150	69	2760	6085	2940	6482
ZR 132 - 10	314.2	18.9	666	132	150	69	2760	6085	2940	6482
ZR 145 - 7.5	391.6	23.5	830	145	200	70	2900	6393	3080	6790
ZR 145 - 8.6	361.7	21.7	766	145	200	70	2900	6393	3080	6790
ZR 145 - 10	334.5	20.1	709	145	200	69	2900	6393	3080	6790
ZR 145 - 13	304.0	18.2	644	145	200	73	2900	6393	3080	6790
ZR 160 - 7.5	472.2	28.3	1001	160	200	69	3850	8488	5650	12456
ZR 160 - 8.6	435.9	26.2	924	160	200	69	3850	8488	5650	12456
ZR 160 - 10	402.6	24.2	853	160	200	69	3850	8488	5650	12456
ZR 200 - 7.5	602.1	36.1	1276	200	250	67	4000	8818	5800	12787
ZR 200 - 8.6	551.6	33.1	1169	200	250	67	4000	8818	5800	12787
ZR 200 - 10	506.2	30.4	1073	200	250	69	4000	8818	5800	12787
ZR 250 - 7.5	717.6	43.1	1521	250	300	67	4100	9039	5900	13007
ZR 250 - 8.6	683.8	41.0	1449	250	300	67	4100	9039	5900	13007
ZR 250 - 10	622.5	37.4	1319	250	300	67	4100	9039	5900	13007
ZR 250 - 13 <sup>(3)</sup>	514.9	30.9	1091	250	300	70	4100	9039		
ZR 275 - 7.5	774.1	46.4	1640	275	350	67	4300	9480	6100	13448
ZR 275 - 8.6	717.6	43.1	1521	275	350	67	4300	9480	6100	13448
ZR 275 - 10	683.5	41.0	1448	275	350	67	4300	9480	6100	13448
ZR 275 - 13 <sup>(3)</sup>	561.8	33.7	1190	275	350	70	4300	9480		
<b>60 Hz</b>										
ZR 110 - 7	347.7	20.9	737	110	150	69	2635	5809	2880	6349
ZR 110 - 8.6	318.2	19.1	674	110	150	69	2635	5809	2880	6349
ZR 110 - 10.4	288.7	17.3	612	110	150	69	2635	5809	2880	6349
ZR 145 - 8.6	395.7	23.7	838	145	200	68	2900	6393	3080	6790
ZR 145 - 10.4	335.9	20.2	712	145	200	69	2900	6393	3080	6790
ZR 145 - 13	315.2	18.9	668	145	200	73	2900	6393	3080	6790
ZR 160 - 7	465.4	27.9	986	160	200	69	3850	8488	5650	12456
ZR 160 - 8.6	423.5	25.4	897	160	200	69	3850	8488	5650	12456
ZR 160 - 10.4	375.5	22.5	796	160	200	69	3850	8488	5650	12456
ZR 200 - 7	575.1	34.5	1219	200	250	67	4000	8818	5800	12787
ZR 200 - 8.6	519.1	31.1	1100	200	250	69	4000	8818	5800	12787
ZR 200 - 10.4	459.6	27.6	974	200	250	69	4000	8818	5800	12787
ZR 250 - 7	667.0	40.0	1413	250	300	67	4100	9039	5900	13007
ZR 250 - 8.6	621.7	37.3	1317	250	300	67	4100	9039	5900	13007
ZR 250 - 10.4	546.9	32.8	1159	250	300	69	4100	9039	5900	13007
ZR 250 - 13 <sup>(3)</sup>	500.6	30.0	1061	250	300	70	4100	9039		
ZR 275 - 7	749.9	45.0	1589	275	350	67	4300	9480	6100	13448
ZR 275 - 8.6	725.3	43.5	1537	275	350	67	4300	9480	6100	13448
ZR 275 - 10.4	640.0	38.4	1356	275	350	67	4300	9480	6100	13448
ZR 275 - 13 <sup>(3)</sup>	561.5	33.7	1190	275	350	70	4300	9480		

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

Reference conditions:

- Relative humidity 0%.
- Absolute inlet pressure: 1 bar (14.5 psi).
- Intake air temperature: 20°C/68°F.

FAD is measured at the following working pressures:

Fixed speed:

- 7/7.5/8.6 bar versions at 7 bar.
- 10/10.4 bar versions at 9 bar.
- 13 bar version at 12 bar.

For VSD: at their maximum working pressure.

(2) A-weighted emission sound pressure level at the work station (LpWSAd).

Measured according to ISO 2151: 2004 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.

(3) Not available as FF variant.

# Technical specifications

## ZT 110-275 (FF)

Type	Free air delivery <sup>(1)</sup>			Installed motor		Noise level <sup>(2)</sup>	Weight			
	l/s	m <sup>3</sup> /min	cfm	kW	hp		Standard		Full Feature	
							kg	lb	kg	lb
<b>50 Hz</b>										
ZT 110 - 7.5	306.9	18.4	650	110	150	71	3560	7848	4070	8973
ZT 110 - 8.6	286.2	17.2	606	110	150	71	3560	7848	4070	8973
ZT 110 - 10	266.9	16.0	566	110	150	71	3560	7848	4070	8973
ZT 132 - 7.5	363.1	21.8	769	132	150	72	3700	8157	4210	9281
ZT 132 - 8.6	325.2	19.5	689	132	150	72	3700	8157	4210	9281
ZT 132 - 10	313.3	18.8	664	132	150	72	3700	8157	4210	9281
ZT 145 - 7.5	387.3	23.2	821	145	200	72	3850	8488	4360	9612
ZT 145 - 8.6	358.4	21.5	759	145	200	72	3850	8488	4360	9612
ZT 145 - 10	332.3	19.9	704	145	200	72	3850	8488	4360	9612
ZT 160 - 7.5	465.5	27.9	986	160	200	77	5150	11354	6350	13999
ZT 160 - 8.6	429.4	25.8	910	160	200	77	5150	11354	6350	13999
ZT 160 - 10	396.3	23.8	840	160	200	78	5150	11354	6350	13999
ZT 200 - 7.5	568.4	34.1	1204	200	250	78	5250	11574	6450	14220
ZT 200 - 8.6	521.7	31.3	1105	200	250	78	5250	11574	6450	14220
ZT 200 - 10	499.6	30.0	1059	200	250	78	5250	11574	6450	14220
ZT 250 - 7.5	706.3	42.4	1497	250	300	77	5300	11684	6500	14330
ZT 250 - 8.6	673.5	40.4	1427	250	300	78	5300	11684	6500	14330
ZT 250 - 10	613.9	36.8	1301	250	300	78	5300	11684	6500	14330
ZT 275 - 7.5	738.1	44.3	1564	275	350	77	5400	11905	6600	14550
ZT 275 - 8.6	706.3	42.4	1497	275	350	78	5400	11905	6600	14550
ZT 275 - 10	673.1	40.4	1426	275	350	78	5400	11905	6600	14550
<b>60 Hz</b>										
ZT 110 - 8.6	317.7	19.1	673	110	150	71	3560	7848	4070	8973
ZT 110 - 10.4	288.6	17.3	612	110	150	71	3560	7848	4070	8973
ZT 145 - 8.6	391.2	23.5	829	145	200	72	3850	8488	4360	9612
ZT 145 - 10.4	334.1	20.0	708	145	200	72	3850	8488	4360	9612
ZT 160 - 8.6	416.9	25.0	883	160	200	77	5150	11354	6350	13999
ZT 160 - 10.4	371.0	22.3	786	160	200	78	5150	11354	6350	13999
ZT 200 - 8.6	512.1	30.7	1085	200	250	77	5150	11354	6350	13999
ZT 200 - 10.4	453.2	27.2	960	200	250	78	5150	11354	6350	13999
ZT 250 - 8.6	613.0	36.8	1299	250	300	78	5300	11684	6500	14330
ZT 250 - 10.4	540.1	32.4	1144	250	300	78	5300	11684	6500	14330
ZT 275 - 8.6	713.7	42.8	1512	275	350	78	5400	11905	6600	14550
ZT 275 - 10.4	630.9	37.9	1337	275	350	78	5400	11905	6600	14550

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

Reference conditions:

- Relative humidity 0%.
- Absolute inlet pressure: 1 bar (14.5 psi).
- Intake air temperature: 20°C/68°F.

FAD is measured at the following working pressures:

- Fixed speed:
- 7/7.5/8.6 bar versions at 7 bar.
- 10/10.4 bar versions at 9 bar.
- 13 bar version at 12 bar.

For VSD: at their maximum working pressure.

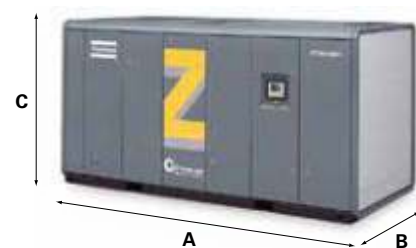
(2) A-weighted emission sound pressure level at the work station (LpWSAd).

Measured according to ISO 2151: 2004 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.

## Dimensions

Type	Standard						Full Feature					
	A (Length)		B (Width)		C (Height)		A (Length)		B (Width)		C (Height)	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
ZR 110-145	2540	100.0	1650	65.0	2000	78.7	3440	135.4	1650	65.0	2000	78.7
ZR 160-275	3140	123.0	1650	65.0	2000	78.7	4340	170.9	1650	65.0	2000	78.7
ZT 110-145	4040	159.1	1650	65.0	2000	78.7	4040	159.1	1650	65.0	2000	78.7
ZT 160-275	5040	198.4	1650	65.0	2100	82.7	5040	198.4	1650	65.0	2100	82.7



# Technical specifications

## ZR 132-315 VSD (FF) (50/60 Hz)

Type	Working pressure <sup>(1)</sup>		Free air delivery <sup>(2)</sup>			Noise level <sup>(3)</sup>	Weight			
		bar(e)	l/s	m <sup>3</sup> /min	cfm		Standard		Full Feature	
						dB(A)	kg	lb	kg	lb
ZR 132 VSD - 8.6 bar(e)	Minimum	3.5	130 - 440	78 - 26.4	276 - 932	74	2870	6327	3500	7716
	Effective	7	129 - 374	77 - 22.4	273 - 792					
	Maximum	8.6	128 - 343	77 - 20.6	272 - 727					
ZR 132 VSD - 10.4 bar(e)	Minimum	6	119 - 373	71 - 22.4	252 - 789	74	2870	6327	3500	7716
	Effective	9	122 - 337	73 - 20.2	258 - 715					
	Maximum	10.4	137 - 313	8.2 - 18.8	291 - 663					
ZR 160 VSD - 8.6 bar(e)	Minimum	3.5	130 - 440	78 - 26.4	276 - 931	74	2870	6327	3500	7716
	Effective	7	129 - 431	77 - 25.9	273 - 914					
	Maximum	8.6	128 - 398	77 - 23.9	272 - 843					
ZR 160 VSD - 10.4 bar(e)	Minimum	6	119 - 412	71 - 24.7	252 - 872	74	2870	6327	3500	7716
	Effective	9	122 - 392	73 - 23.5	258 - 831					
	Maximum	10.4	137 - 366	8.2 - 21.9	291 - 774					
ZR 250 VSD - 8.6 bar(e)	Minimum	3.5	244 - 831	14.7 - 49.8	518 - 1760	73	4600	10141	6400	14109
	Effective	7	243 - 714	14.6 - 42.9	514 - 1514					
	Maximum	8.6	242 - 660	14.5 - 39.6	513 - 1399					
ZR 250 VSD - 10.4 bar(e)	Minimum	6	211 - 742	12.7 - 44.5	447 - 1572	73	4600	10141	6400	14109
	Effective	9	234 - 640	14.0 - 38.4	496 - 1357					
	Maximum	10.4	322 - 592	19.3 - 35.5	682 - 1254					
ZR 315 VSD - 8.6 bar(e)	Minimum	3.5	244 - 831	14.7 - 49.8	518 - 1760	73	4600	10141	6400	14109
	Effective	7	243 - 830	14.6 - 49.8	514 - 1759					
	Maximum	8.6	242 - 775	14.5 - 46.5	513 - 1642					
ZR 315 VSD - 10.4 bar(e)	Minimum	6	211 - 749	12.7 - 44.9	447 - 1587	73	4600	10141	6400	14109
	Effective	9	234 - 737	14.0 - 44.2	496 - 1563					
	Maximum	10.4	322 - 698	19.3 - 41.9	682 - 1478					

(1) For the working pressure of the FF variant, please consult Atlas Copco.

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

Reference conditions:

- Relative humidity 0%.
- Absolute inlet pressure: 1 bar (14.5 psi).
- Intake air temperature: 20°C/68°F.

FAD is measured at the following working pressures:

Fixed speed:

- 7/7.5/8.6 bar versions at 7 bar.
- 10/10.4 bar versions at 9 bar.
- 13 bar version at 12 bar.

For VSD: at their maximum working pressure.

(3) A-weighted emission sound pressure level at the work station (LpWSAd).

Measured according to ISO 2151: 2004 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

## ZT 132-315 VSD (FF) (50/60 Hz)

Type	Working pressure <sup>(1)</sup>		Free air delivery <sup>(2)</sup>			Noise level <sup>(3)</sup>	Weight			
		bar(e)	l/s	m <sup>3</sup> /min	cfm		Standard		Full Feature	
						kg	lb	kg	lb	
ZT 132 VSD - 8.6 bar(e)	Minimum	3.5	128 - 419	7.7 - 25.1	272 - 888	76	3820	8422	4330	9546
	Effective	7	127 - 363	7.6 - 21.8	269 - 768					
	Maximum	8.6	127 - 335	7.6 - 20.1	268 - 711					
ZT 132 VSD - 10.4 bar(e)	Minimum	6	148 - 362	8.9 - 21.7	315 - 768	76	3820	8422	4330	9546
	Effective	9	178 - 330	10.7 - 19.8	377 - 699					
	Maximum	10.4	199 - 307	11.9 - 18.4	421 - 651					
ZT 160 VSD - 8.6 bar(e)	Minimum	3.5	128 - 419	7.7 - 25.1	272 - 888	76	3820	8422	4330	9546
	Effective	7	127 - 409	7.6 - 24.6	269 - 868					
	Maximum	8.6	127 - 380	7.6 - 22.8	268 - 806					
ZT 160 VSD - 10.4 bar(e)	Minimum	6	148 - 392	8.9 - 23.5	315 - 831	76	3820	8422	4330	9546
	Effective	9	178 - 375	10.7 - 22.5	377 - 795					
	Maximum	10.4	199 - 352	11.9 - 21.1	421 - 746					
ZT 250 VSD - 8.6 bar(e)	Minimum	3.5	240 - 824	14.4 - 49.4	508 - 1746	78	5750	12676	6950	15322
	Effective	7	238 - 697	14.3 - 41.8	504 - 1477					
	Maximum	8.6	237 - 645	14.2 - 38.7	502 - 1367					
ZT 250 VSD - 10.4 bar(e)	Minimum	6	216 - 727	13.0 - 43.6	458 - 1540	78	5750	12676	6950	15322
	Effective	9	214 - 638	12.9 - 38.3	454 - 1352					
	Maximum	10.4	416 - 596	25.0 - 35.7	881 - 1262					
ZT 315 VSD - 8.6 bar(e)	Minimum	3.5	240 - 833	14.4 - 50.0	508 - 1765	78	5750	12676	6950	15322
	Effective	7	238 - 788	14.3 - 47.3	504 - 1670					
	Maximum	8.6	237 - 735	14.2 - 44.1	502 - 1557					
ZT 315 VSD - 10.4 bar(e)	Minimum	6	216 - 763	13.0 - 45.8	458 - 1616	78	5750	12676	6950	15322
	Effective	9	214 - 725	12.9 - 43.5	454 - 1535					
	Maximum	10.4	416 - 681	25.0 - 40.9	881 - 1444					

(1) For the working pressure of the FF variant, please consult Atlas Copco.

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

Reference conditions:

- Relative humidity 0%.

- Absolute inlet pressure: 1 bar (14.5 psi).

- Intake air temperature: 20°C/68°F.

FAD is measured at the following working pressures:

Fixed speed:

- 7/7.5/8.6 bar versions at 7 bar.

- 10/10.4 bar versions at 9 bar.

- 13 bar version at 12 bar.

For VSD: at their maximum working pressure.

(3) A-weighted emission sound pressure level at the work station (LpWSAd).

Measured according to ISO 2151: 2004 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.

## Dimensions

Type	Standard						Full Feature					
	A (Length)		B (Width)		C (Height)		A (Length)		B (Width)		C (Height)	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
ZR 132-160 VSD	2540	100.0	1650	65.0	2000	78.7	3440	135.4	1650	65.0	2000	78.7
ZR 250-315 VSD	3140	123.6	1650	65.0	2000	78.7	4340	170.9	1650	65.0	2000	78.7
ZT 132-160 VSD	4040	159.1	1650	65.0	2000	78.7	4040	159.1	1650	65.0	2000	78.7
ZT 250-315 VSD	5040	198.4	1650	65.0	2100	82.7	5040	198.4	1650	65.0	2100	82.7

