

Atlas Copco air compressors

ZR/ZT 15-45

ZR/ZT 37 & 50 VSD

Oil-free rotary tooth compressor series



OIL-FREE...
TROUBLE-FREE



Atlas Copco rotary tooth compressors providing you with economical, high quality oil free compressed air.

Resulting from over 100 years of attention to individual customers requirements and over 40 years experience with oil free compressor technology, Atlas Copco is able to offer an unrivaled range of screw, tooth, scroll, centrifugal, and piston air compression technologies best suited to meet and exceed your specific application requirements.

The oil free rotary tooth ZT/ZR series of air compressors provides you with all of this experience and knowledge in an industry leading package that has the Atlas Copco commitment in providing high quality and a cost effective solution to our customer's requirements.

High quality oil free compressed air is a prerequisite for the continuity and trouble free quality of many manufacturing processes. It is our belief that the only way to ensure consistent oil free air is to prevent oil from entering the compression process in the first place, anything else is a compromise.

Meeting your demand through unrivaled knowledge and experience of your application.



The Application Engineer

Every application can benefit from oil free air by ensuring higher product consistency, lower operating costs, lower maintenance costs and a healthier working environment.



ZT/ZR air compressors, designed to meet the needs of everyone.



The Maintenance Engineer

The oil in compressed air after compression will attack downstream equipment, causing increased maintenance requirements and increased plant downtime.

- **Operator and service friendly**
- **Simple and low maintenance requirements**



The Financial Manager

Low cost oil lubricated compressors may look attractive, but when considering the total operating costs compared to oil free compressors, the extra investment in a ZT/ZR will easily pay for itself.

- **Easy and low cost maintenance**
- **Low energy consumption**



The Safety and Environmental Manager

Breathing oil fumes is definitely not a good idea and oil condensate can damage the environment. Why do it the hard way, when you can do it the smart way with ZT/ZR oil free compressors.

- **No oil condensate management problems**
- **Quiet low sound operation**



The Quality Manager

Do not accept the possibility of product contamination, and reduced product quality. Only oil free compressors can offer a 100% guarantee of Oil Free quality air.

- **No product spoilage**
- **Consistent performance over the lifetime**



The General Manager

If you require maximum reliability and energy efficiency to improve your total operating costs, the ZT/ZR provides you with the optimum compressed air generation solution.

- **Proven reliability**
- **The most cost effective solution**

A reliable quality air package

ZT/ZR 15-45 (ZT/ZR 37/50 VSD) compressors are designed as compact, complete, fully integrated sound attenuation packages with drive motors, coolers, moisture drains, and filtration along with a controller (Elektronikon) to ensure optimum efficiency and reliability. The Full Feature versions include the integration of a dryer to ensure compliance with your air quality requirements and make the best use of your valuable floor space.



The integrated frequency converter of the ZT/ZR VSD series will vary the speed of the drive motor to perfectly match capacity to air demand, saving energy power consumption.



Utilizing the integration concept, the converter-motor-compressor combination offers the advantages of:

- ensured electromagnetic compatibility (EMC compliant)
- full regulation between 30 and 100% of maximum capacity
- up to 25% energy savings

In addition, Atlas Copco VSDs (Variable Speed Drives) offer:

- process stability
- lower and constant net pressure
- low starting torque
- low starting currents
- constant, high power factor throughout speed range

Benefits of the advanced technology 100% oil-free compressed air



Efficient filtration of the intake air

Air filter specs:
SAE fine 99.5%
SAE course 99.9%



Total supervision and monitoring

Advanced Elektronikon control and monitoring system, designed for integration into (remote) process control systems.



High efficiency motor

A TEFC (IP55) induction motor is flange-mounted for perfect alignment.



Quiet operation

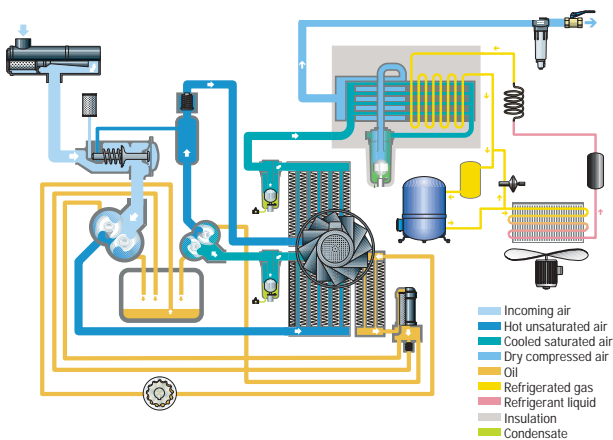
No separate compressor room required. A sound insulated canopy allows for installation in virtually all working environments.



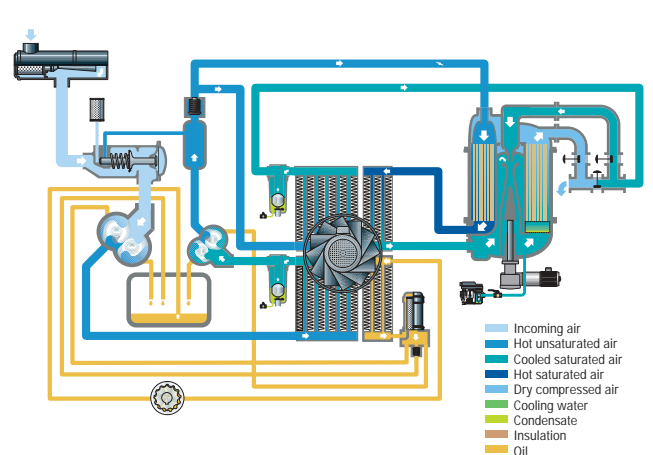
Two-stage compression efficiency

Lower energy consumption compared to single stage compression systems.

Air/oil flow air-cooled ZT/ID



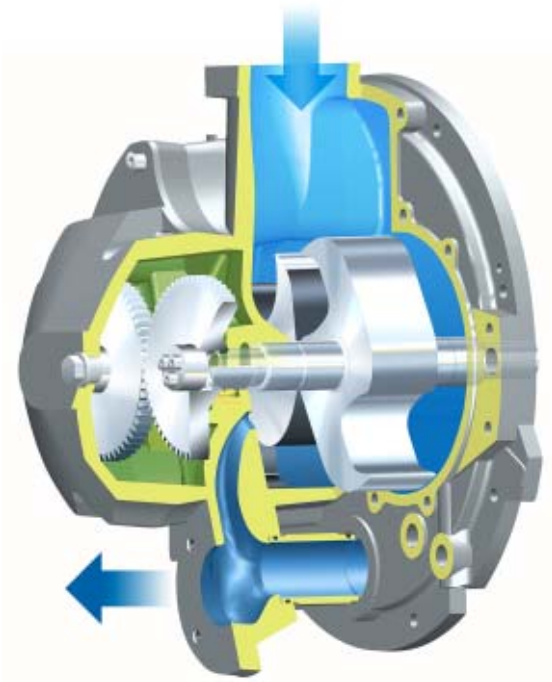
Air/oil flow air-cooled ZT/IMD



Proven highly efficient compression technology.

100% oil free air

- designed and manufactured by Atlas Copco
- proven, oil-free rotary tooth compression
- fully synchronized rotor assembly
- efficient shaft sealing
- no residual oil in the air



Rotors

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

Axial in- and outlet port

Straight rotor design with opposing axial in- and outlet port avoids axial load on element components, increasing element lifetime.

Air-cooled design

Hollow cast teeth allow efficient heat dissipation avoiding 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, safeguards the compression chamber from oil penetration.

Two-stage compression efficiency

Lower energy consumption compared to single stage compression systems.

Double tooth element

- Increased free air delivery
- Low specific energy consumption
- Symmetrical and dynamically balanced design
- Consistent performance over lifetime



Variable Speed Drive, caring for energy

With both air and water-cooled, 37 and 50kW versions available, the ZT/ZR VSD compressor offers you a wide range of energy saving opportunities.

Lowest possible running cost

- Air supply = air demand
- With a varying air demand pattern, motor speed regulation is the most efficient compressor control method
- Energy savings at partial load

Constant pressure

- Process stability improvement

Low starting currents

- Lower investments in electrical systems
- No peak current penalties
- Smooth starting

No speed windows

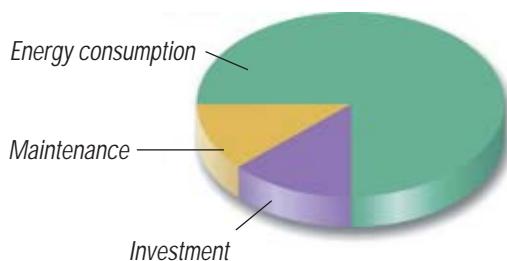
- Compressor can be regulated steplessly within the speed range

Drive motor and VSD, one brand

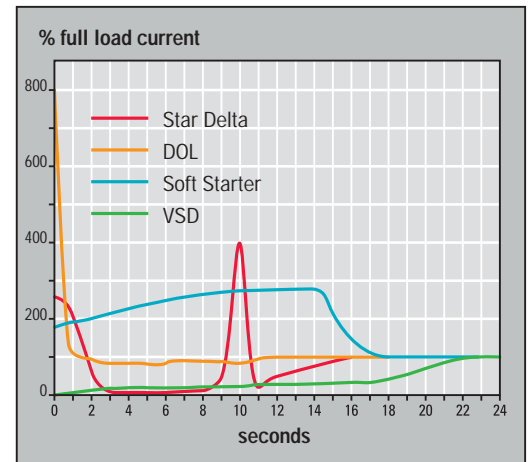
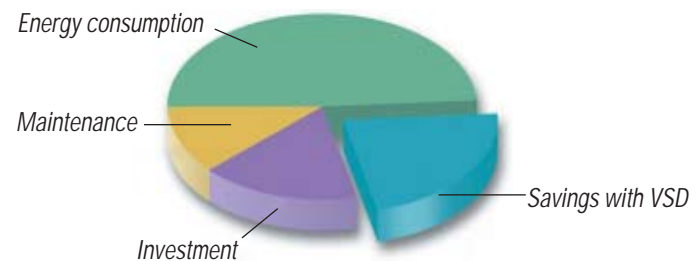
- Highest possible component synergy
- Simplified service
- Worldwide service support

Total compressor life cycle cost

Cost structure of a fixed speed compressor

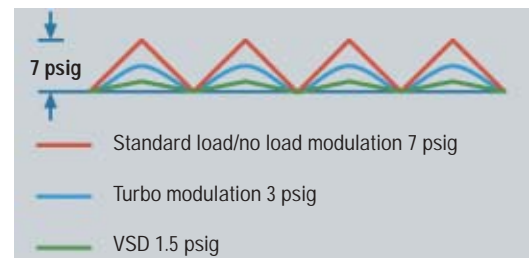


Cost structure of a Z VSD compressor



No current peaks

Compressor starts are even smoother than with so called "soft starters." This greatly simplifies the electrical installation. There are no current peaks and risk of penalties from the utility company.



Constant pressure

The output pressure is virtually constant over a wide capacity range (narrow pressure band within 1.5 psig). Unlike traditional regulation systems, VSDs optimize energy consumption and ensures high process stability when the air demand fluctuates.

Elektronikon®: A superior electronic control, monitoring and communication system



Atlas Copco's patented Elektronikon® is an advanced microprocessor based, real time operating system with an ergonomic alphanumeric user interface.

Reliability

- Pro-active protection of the compressor by means of service and warning indications
- Safely shuts down the compressor in case vital errors occur

Energy efficiency

- Precise pressure control for optimal efficiency
- As standard, the control mode DSS is programmed, eliminating the unloaded power consumption to the highest extent, resulting in energy savings up to 10%

User friendliness

- Can be programmed in 2 languages from a selection of 23 languages
- Setting of operating parameters (password protected)
 - Working pressure
 - Warning levels
 - Service levels
 - Week timer
- Historical and actual data read-out via the easy-to-read display
 - Working pressure, operating temperatures, number of motor starts, operating hours, service information
 - Status data during the 5 last shutdowns and emergency stops

Service friendliness

- Automatic indication when service is required, minimizing downtime and simplifying maintenance planning

Digital remote control and monitoring

- Possibility to start/stop-load/unload the compressor remotely.
- Remote indication of automatic operation, general warning, and shutdown

Communication

- CAN connection (standard)
- ModBUS/Profibus interface (optional)
- Air monitor interface to worldwide web (optional)

Compressor room control and monitoring

Multiple compressor installations can benefit from a centralized control system, which coordinates the operation of the individual compressors and ancillaries. From simple sequencing to complete compressor room monitoring, Atlas Copco can offer it all using the latest state-of-the-art communication technology.

Unlimited potential in savings with Full Feature compressors

ID



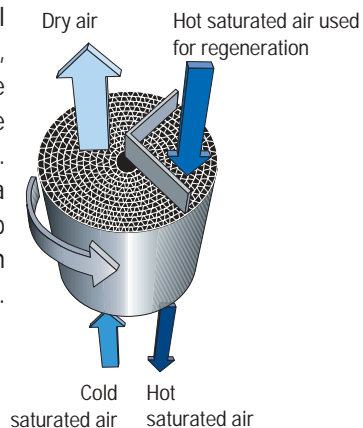
Integrated refrigerant dryer

The single pressure vessel is divided in two sectors, one of drying (75%) and one for regeneration of the desiccant material (25%). Through these sectors a glass fiber honeycomb drum impregnated with silicagel rotates.

IMD



Integrated adsorption dryer



To ensure we can meet your exacting requirements when it comes to compressed air quality, you are able to choose from either refrigerant or adsorption drying technology.

For a quality end product and reliable production process, Atlas Copco offers the unique range of MD adsorption dryers, specially designed to work with proven oil-free air Z compressors. An environmentally friendly and cost effective dryer:

- no Freon or CFC used
- use only 0.06 kW of additional power
- no loss of compressed air
- complete dryer corrosion protection
- water and air-cooled versions
- fully automatic operation
- continuous drying requeration using compression heat
- low dewpoint – 40° F (-40° C)

Optimize your installation.

Options

- Anti-condensation heaters
- ModBUS/profiBUS interface
- ANSI flanges
- IMD adsorption dryer
- ID refrigerant dryer
- WorkPlace Air System
- High ambient versions
- Drive motor thermistors
- Energy recovery (only ZR units)

Some applications may need or may benefit from additional options, more refined control, and air treatment systems. Tailored to your need, Atlas Copco has developed options and can easily integrate compatible equipment providing you the lowest cost compressed air for your requirements.

WorkPlace Air System™

Our standard compressor has one of the lowest sound levels in the industry. If you require an even lower sound level we can offer you the WorkPlace Package, that offers extra low noise levels.

Energy recovery

All water-cooled versions offer you the potential to recover a significant share of the heat of compression through the optional water-to-water energy recovery unit.

High ambient versions (HAV)

Ensures that the compressor performs even in the toughest environment of up to 120° F (50° C).

Simple, low cost maintenance

The simple modular construction and service friendly design of the Z range of compressors ensures that both frequency and time maintenance interventions are kept to a minimum.

- **low level consumable parts**
- **direct access to all service points**
- **single point greasing on all units of 30 kW and above**
- **greased for life motors on all units below 30 kW**
- **service indications available via the Elektronikon controller**



Easy and effective service access combined with extended service intervals reduces maintenance downtime and increases plant air reliability.



Aftermarket commitment

Regardless of the level of after-sales care, Atlas Copco will meet or exceed your requirements.



Global capability

Our local presence means that we can respond rapidly to any situation anywhere in the world.

Qualified, Dependable Service

Atlas Copco ensures that our properly trained service technicians are able to offer you the best possible support and assistance in operating your equipment.



World class logistics

No matter where you are located, we deliver our range of guaranteed quality spare parts in a quick and efficient manner.

Technical data ZT/ZR 15-45 and ZT/ZR 37-50 VSD compressors

Compressor type 50/60HZ	Max. working pressure				Capacity FAD ⁽¹⁾ min-max			Installed motor power		Noise level ⁽²⁾ dB(A)		Weight (kg)		
	Pack		Full Feature		l/s	m ³ /min	cfm	kW	hp	Pack	Work Place	Pack	FF with ID	FF with IMD
	bar(e)	psig	bar(e)	psig										
50 Hz version														
ZT 15-7.5	7.5	109	7.3	105	37.0	2.22	78	15	20	69	65	804	859	974
ZT 15-8.6	8.6	125	8.4	121	33.6	2.02	71	15	20	69	65	804	859	974
ZT 15-7.5	7.5	109	7.3	105	46.3	2.78	98	18	25	71	67	824	894	994
ZT 18-8.6	8.6	125	8.4	121	41.9	2.51	89	18	25	71	67	824	894	994
ZT 22-7.5	7.5	109	7.3	105	54.0	3.24	114	22	30	73	69	830	900	1000
ZT 22-8.6	8.6	125	8.4	121	51.3	3.08	109	22	30	73	69	830	900	1000
ZT 30-7.5	7.5	109	7.3	105	76.9	4.61	163	30	40	69	66	1239	1344	1443
ZT 30-8.6	8.6	125	8.4	121	71.2	4.27	151	30	40	69	66	1239	1344	1443
ZT 37-7.5	7.5	109	7.3	105	91.3	5.48	193	37	50	71	68	1285	1400	1489
ZT 37-8.6	8.6	125	8.4	121	84.8	5.09	180	37	50	71	68	1285	1400	1489
ZT 45-7.5	7.5	109	7.3	105	104.3	6.26	221	45	60	73	70	1330	1450	1534
ZT 45-8.6	8.6	125	8.4	121	99.2	5.95	210	45	60	73	70	1330	1450	1534
ZT 37VSD-8.6	8.6	125	8.4	121	41-93	2.46-5.58	87-197	37	50	71	68	1430	1545	1634
ZT 50VSD-8.6	8.6	125	8.4	121	41-125	2.46-7.50	87-265	50	67	73	70	1430	1550	1634
ZR 30-7.5	7.5	109	7.3	105	76.9	4.61	163	30	40	66	63	1239	1344	1443
ZR 30-8.6	8.6	125	8.4	121	71.2	4.27	151	30	40	66	63	1239	1344	1443
ZR 37-7.5	7.5	109	7.3	105	91.3	5.48	193	37	50	68	65	1285	1400	1489
ZR 37-8.6	8.6	125	8.4	121	84.8	5.09	180	37	50	68	65	1285	1400	1489
ZR 45-7.5	7.5	109	7.3	105	104.3	6.26	221	45	60	70	67	1330	1450	1534
ZR 45-8.6	8.6	125	8.4	121	99.2	5.95	210	45	60	70	67	1330	1450	1534
ZR 37VSD-8.6	8.6	125	8.4	121	41-93	2.46-5.58	87-197	37	50	68	65	1430	1545	1634
ZR 50VSD-8.6	8.6	125	8.4	121	41-125	2.46-7.50	87-265	50	67	70	67	1430	1550	1634
60 Hz version														
ZT 15-7.5	7.5	109	7.3	105	37.7	2.26	80	15	20	69	65	804	859	974
ZT 15-8.6	8.6	125	8.4	121	33.5	2.01	71	15	20	69	65	804	859	974
ZT 18-7.5	7.5	109	7.3	105	46.8	2.81	99	18	25	71	67	824	894	994
ZT 18-8.6	8.6	125	8.4	121	43.6	2.62	92	18	25	71	67	824	894	994
ZT 22-7.5	7.5	109	7.3	105	56.8	3.41	120	22	30	73	69	830	900	1000
ZT 22-8.6	8.6	125	8.4	121	52.8	3.17	112	22	30	73	69	830	900	1000
ZT 30-7.5	7.5	109	7.3	105	79.1	4.75	168	30	40	69	66	1239	1344	1443
ZT 30-8.6	8.6	125	8.4	121	74.4	4.46	158	30	40	69	66	1239	1344	1443
ZT 37-7.5	7.5	109	7.3	105	90.1	5.41	191	37	50	71	68	1285	1400	1489
ZT 37-8.6	8.6	125	8.4	121	85.6	5.14	181	37	50	71	68	1285	1400	1489
ZT 45-7.5	7.5	109	7.3	105	107.0	6.42	227	45	60	73	70	1330	1450	1534
ZT 45-8.6	8.6	125	8.4	121	101.8	6.11	216	45	60	73	70	1330	1450	1534
ZT 37VSD-8.6	8.6	125	8.4	121	41-93	2.46-.58	87-197	37	50	71	68	1430	1545	1634
ZT 50VSD-8.6	8.6	125	8.4	121	41-125	2.46-7.50	87-265	50	67	73	70	1430	1550	1634
ZR 30-7.5	7.5	109	7.3	105	79.1	4.75	168	30	40	66	63	1239	1344	1443
ZR 30-8.6	8.6	125	8.4	121	74.4	4.46	158	30	40	66	63	1239	1344	1443
ZR 37-7.5	7.5	109	7.3	105	90.1	5.41	191	37	50	68	65	1285	1400	1489
ZR 37-8.6	8.6	125	8.4	121	85.6	5.14	181	37	50	68	65	1285	1400	1489
ZR 45-7.5	7.5	109	7.3	105	107.0	6.42	227	45	60	70	67	1330	1450	1534
ZR 45-8.6	8.6	125	8.4	121	101.8	6.11	216	45	60	70	67	1330	1450	1534
ZR 37VSD-8.6	8.6	125	8.4	121	41-93	2.46-5.58	87-197	37	50	68	65	1430	1545	1634
ZR 50VSD-8.6	8.6	125	8.4	121	41-125	2.46-7.50	87-265	50	67	70	67	1430	1550	1634

(1) Unit performance measured according to ISO 1217, Ed. 3, Annex C-1996

Reference conditions:

- absolute inlet pressure 1 bar (14.5 psi)
- intake air temperature 20°C (68°F)

At the following working pressures:

- 7 bar for working condition for max. pressure 7.5 bar
- 8 bar for working condition for max. pressure 8.6 bar

(2) Noise level measured according to Pneurop/Cagi PN8NTC2 tolerance: 3 dB(A).

	Length (in)	Width (in)	Height (in)
Z 15-22	63	38	62
Z 30-45	74	38	68
Z 37-50 VSD	90	38	68





The face of interaction

What sets Atlas Copco apart? Our belief that, to excel, we must provide the best possible know-how and technology in ways that our customers value. Whether we're fully supporting existing products or advancing technology through innovation, we constantly focus on customer needs.

The Atlas Copco way of doing business grows from ongoing interaction, long-term relationships, and a commitment to understanding each customer's process and objectives. As a result, every compressed air solution we create helps a customer operate with greater efficiency, economy, and productivity.

Satisfying customer needs effectively has made Atlas Copco the number one compressor manufacturer in the world. We will continue to attract new business through our unwavering conviction to creating products and ideas that help our customers succeed.

Member:



Danger: Compressed air should never be supplied as breathing air unless air is properly purified for breathing. Atlas Copco assumes no responsibility or liability related to the purchaser's/user's breathing air system.

The information contained herein is general in nature and is not intended for specific construction, installation or application purposes



Atlas Copco Compressors Inc.
161 Lower Westfield Road
Holyoke, MA 01040
Tel. 413-536-0600 Fax. 413-536-0091
www.atlascopco.com