



Atlas Copco

Pure air.
Pure efficiency.

ZR/ZT 30-55 FLX dual-speed oil-free compressor





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A legacy of leadership

Atlas Copco has always been a pioneer. Believing that our customers deserve first-in-class solutions, we innovate ahead of market demands. And every time we expand our portfolio, we raise the bar for performance and reliability across the industry. We are the specialist in the Smart Utility Solution – expertly integrating a growing range of equipment for the next generation of plant utility rooms.

Uniting our proven technologies with tailored innovations and smart control and monitoring, we give you everything you need to lower energy and production costs and efficiently grow your business.

Let's level up to a smarter, more sustainable future – together.

TOP LEVEL: COOLING & HVAC SYSTEMS

A Coolers

C Coolers

B Chillers

D Dryers

MIDDLE LEVEL: WATER TREATMENT & PROCESS EQUIPMENT

E Steam compressors

H Heat pumps

F Dehumidifiers

I Air handling units

G Filtration

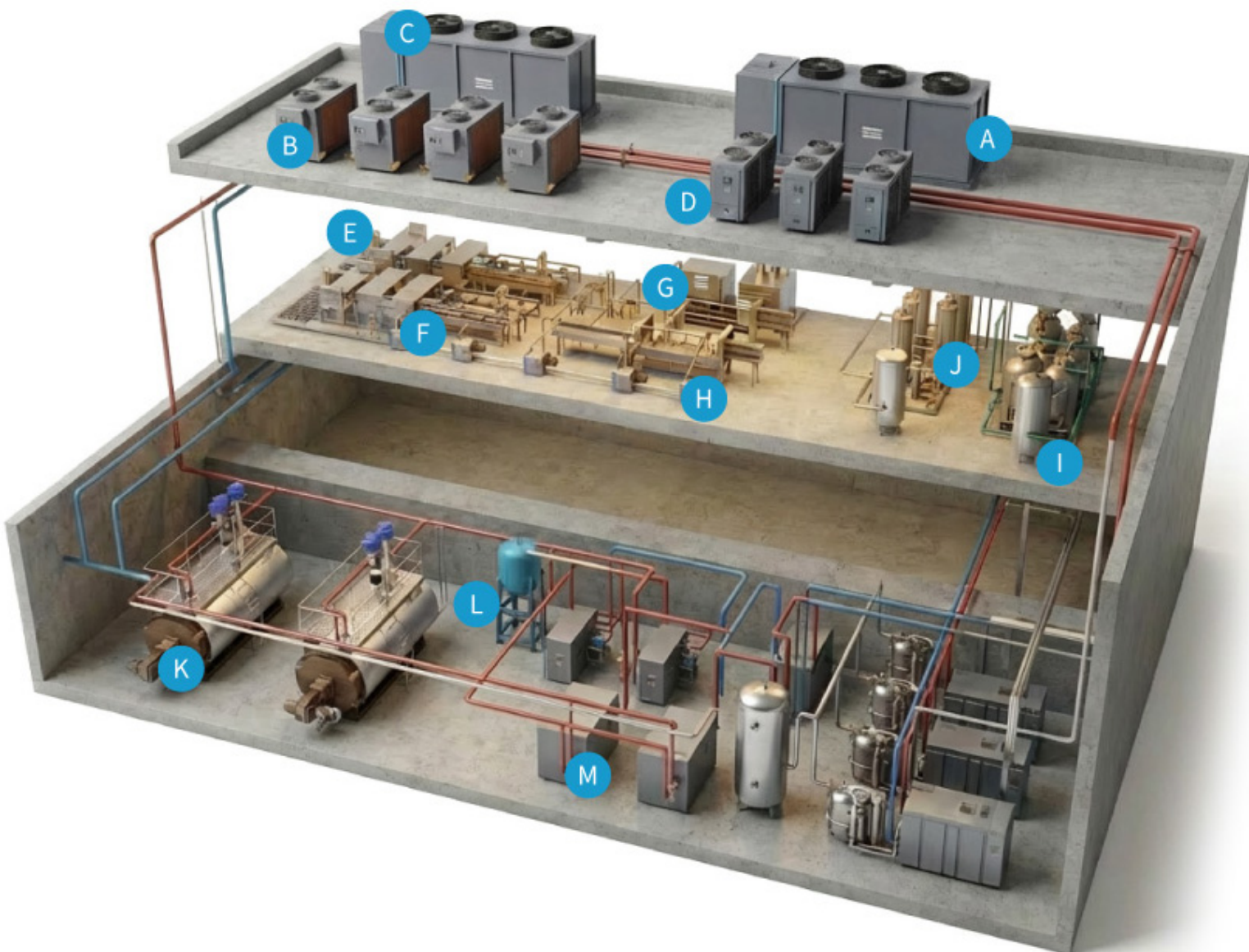
BOTTOM LEVEL: STEAM & POWER GENERATION

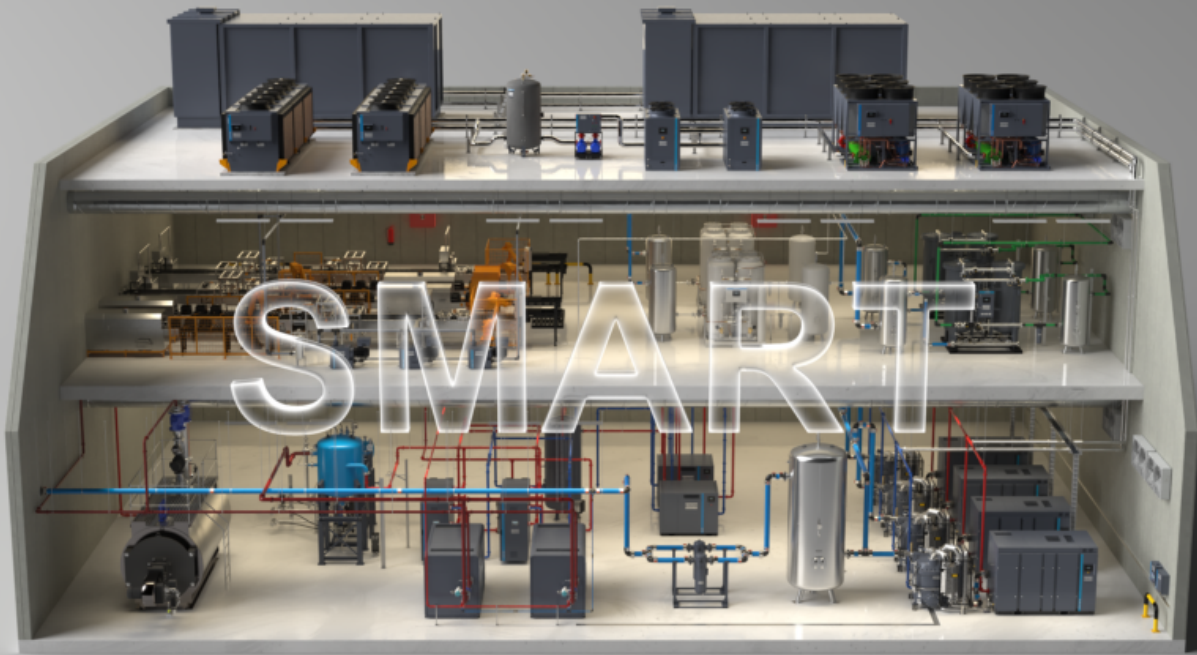
J Boilers

L Heat exchangers

K Heat pumps

M Humidifiers





Everything you need in one intelligent package

Our Smart Utility Solution empowers you to better understand and integrate your processes, boost energy efficiency, and fully seize the potential of Industry 4.0.

Enabled by AI and backed by over 15 years of industry-leading data, it incorporates an advanced suite of monitoring equipment and digitally connected technologies that coordinate and optimize every utility – not just air and gas – across your plant. Excess energy is captured and repurposed, reducing consumption and maximizing return on investment for all your equipment.

A **SINGLE** source of supply to ensure system optimization.
Continuous **MONITORING** and control for peak efficiency.
AI-ENABLED predictive maintenance to foresee and prevent issues.
REDUCTION in downtime and life cycle costs.
Digitally connected **TECHNOLOGY** that adapts to various conditions.





Take uncertainty out of your air supply

A reliable flow of compressed air is essential for many industrial processes, yet it often remains one of the most unpredictable aspects of production. Contamination risks, rising energy costs, fluctuating demand, and unplanned downtime can all impact output and profits.

At Atlas Copco, we believe your air supply should never be a source of uncertainty. It should be a dependable resource that strengthens your production, lowers your operating costs, and frees your teams from unnecessary complexity.

This belief is at the heart of the ZR/ZT 30–55 FLX oil-free rotary tooth compressor. Designed around your real-world needs, it delivers reliability, energy efficiency, and easy maintenance in one intelligently engineered solution.

Engineered to solve your challenges

The ZR/ZT 30-55 FLX is designed to deliver energy savings well beyond the capabilities of traditional fixed-speed compressors. The dual-speed system reduces the motor speed to a minimum during unload, dramatically reducing electricity consumption. Optimal air flow is delivered at every pressure set point for superior performance and flexibility.

Advanced **Elektronikon® control and monitoring** enhances efficiency with embedded control algorithms and intuitive touch screen operation.

The overall design prioritizes **durable, low-maintenance components** and easy access for servicing. That includes oil-lubricated motor bearings with no re-greasing requirement.



Designed in-house, the **oil-free tooth element** maximizes the efficiency of the working area and delivers a 40% longer lifetime.

A frequency-controlled fan provides **reliable cooling in all running conditions**. The ZR/ZT 30-55 FLX is available in air-cooled and water-cooled versions.

Robust **permanent magnet motors** reduce RPM during unload. IP66-rated and protected by reliable oil cooling, they are engineered for durability. Intercooler pressure is optimized across the full speed range to deliver premium efficiency.

NEOS Next frequency converters provide stable operation at ambient temperatures up to 50°C/122°F. They operate between 28 and 100% of compressor's maximum capacity (72% turndown), maintaining stable net pressures while maximizing energy savings. IP54 protection ensures resistance to dust and water.



A **compact design and soundproof canopy** allow installation almost anywhere, with no need for a separate compressor room.

Explore the
360° view

A rounded rectangular button with a black border. On the left, the text "Explore the 360° view" is written in a blue, sans-serif font. On the right, there is a square QR code.



Build energy savings into your process

With rising energy costs, reducing consumption is an obvious target for businesses wanting to reduce their operating expenses. For Atlas Copco, it is a leading design priority.

The ZR/ZT 30-55 FLX dual-speed rotary compressor is optimized to save energy in every component and throughout the lifetime of your investment.

IT'S TIME TO TAKE CONTROL



On average, compressed air generation accounts for over **40%** of a plant's total electricity costs.



In a traditional installation, energy consumption represents more than **80%** of a compressor's lifecycle costs.



CLASS-LEADING ENERGY EFFICIENCY

The oil-cooled permanent magnet motor leads its class in efficiency (IE5 – 97%). It allows full regulation between 30 to 100% of the maximum capacity, boosting versatility and ensuring energy savings at lower demand.

The oil-free tooth element is the most efficient in its power range. Its unique design and superior rotor coating also contribute to class-leading durability.

The purpose-designed cooling air flow, supported by a VSD cooling fan, ensures maximum energy savings during unload.

VSD: THE GOLD STANDARD FOR COST SAVINGS

Variable Speed Drive technology powers our most energy-efficient solutions. By automatically matching the motor speed to air demand, it can cut energy use by up to 35% and reduce your compressor's life-cycle cost by an average of 22%.

If you are looking to future-proof your operation but are not yet ready to invest in VSD, the ZR/ZT 30-55 FLX will help you start saving now – while offering the option of upgrading to VSD later.





A system that simply works

The ZR/ZT 30-55 FLX compressors integrate our advanced control and monitoring control systems to secure and future-proof your factory. Operated via intuitive, familiar interfaces, they are engineered to fit into your plant architecture for a continuous experience that optimizes your entire system.

ELEKTRONIKON® MK5 TOUCH CONTROLLER



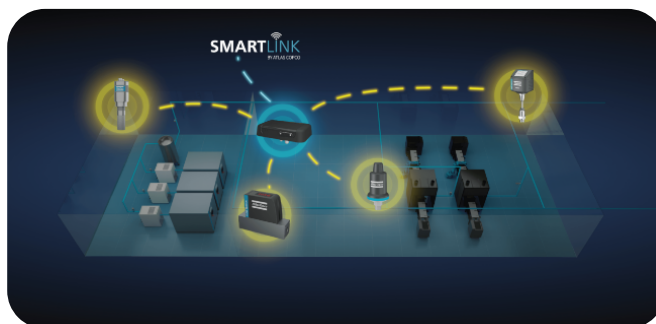
- Centralize pressure setpoint management and switch easily between pre-set pressure bands for a narrower range and more stable output.
- Access energy-smart features like Delayed Second Stop, dual pressure band, automatic motor speed adjustments, and adapted dryer speed.
- Continuously track pressure, temperature, and motor speed and improve performance based on real-time system data.
- Unlock more uptime and efficiency with data-driven insights into energy consumption, faults, and upcoming maintenance needs.

SMARTLINK FOR 24/7 REMOTE ACCESS



Our cloud-based SMARTLINK system provides continuous access to real-time data, operational insights, and alerts – all from your computer or mobile device.

- Live system status
- Event alerts
- Maintenance timelines
- Energy KPIs
- Real-time parameters and logs



SMARTLINK
BY ATLAS COPCO

Download
SMARTLINK
now!





Everything you need to optimize your installation

COMPREHENSIVE COOLING

We provide chillers, coolers, pump skids, tanks, and controls, all built for reliable industrial process cooling. Our eco-friendly chillers run efficiently for long hours and use low-impact refrigerants to support sustainability. Patented adiabatic coolers cut water use and offer a durable, cost-effective solution for high-temperature processes.



ATLAS COPCO OPTIMIZER

This advanced central controller helps your machines run more efficiently by narrowing pressure bands and reducing operating pressure. With embedded functions to control pressure, capacity, and speed, it maximizes energy savings and system performance.



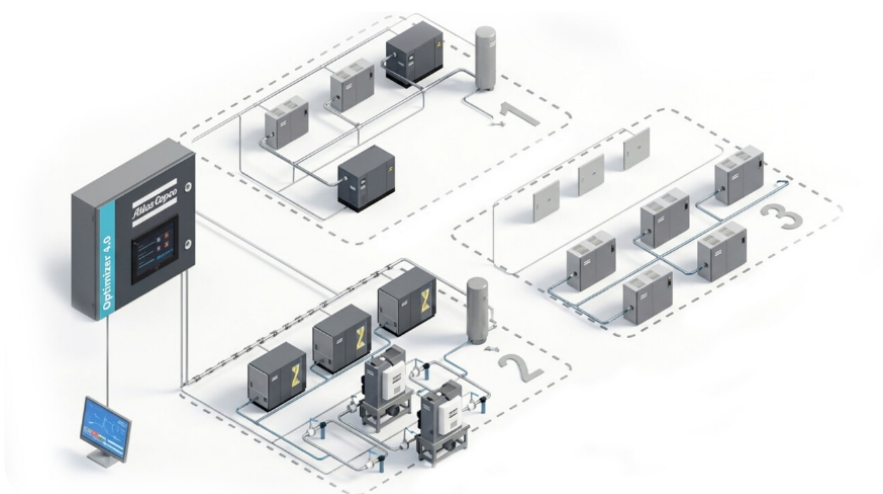


ENERGY CONVERSION

Add an energy control unit to turn your compressor into an energy source. Waste energy can be repurposed for steam generation, electricity, or cooling to save costs and help you decarbonize your utilities.

FLOW CONTROL

Our flow control technology supports variable and constant flow for complex processes, matching demand to avoid energy waste and optimizing VSD compressor performance.



SMART OPERATING MODES

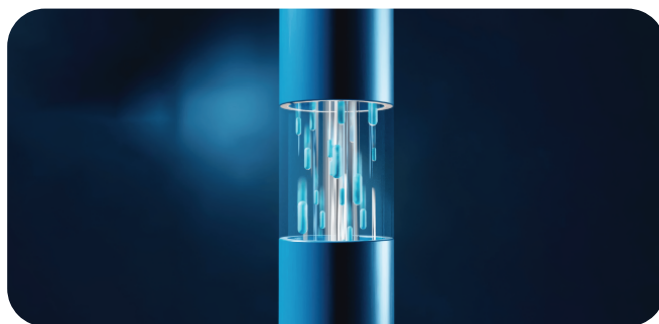
Energy Saving Mode minimizes unload time, optimizes machine efficiency, and maintains stable pressure.

Multiple pressure bands and forced sequencing allow flexible control of compressor operation and pressure settings, matching production demand and reducing energy use.

- 1 Energy savings & optimization
- 2 Dryer control
- 3 Ancillary control

AIRNET

AIRnet is our leak-proof, corrosion-free piping solution for compressed air, vacuum, nitrogen, and inert gases. Available in aluminum and stainless steel, it accelerates installation and optimizes performance. All pipes and fittings come with a ten-year warranty.





Installation and customization options

We specialize in complete compressed air solutions that take as much work as possible out of our customers' hands. This includes assistance with equipment selection, purchasing, installation, adaptations, optimization, auditing, maintenance, spare parts, service plans, and access to our profound and wide-ranging expertise.

CHOOSE YOUR INSTALLATION

FULL FEATURE

Simplify installation with the compressor, dryer, and all necessary options combined in one compact package. We handle all mechanical and electrical connections—saving you time, money, and valuable floor space.



Full Feature



Pack

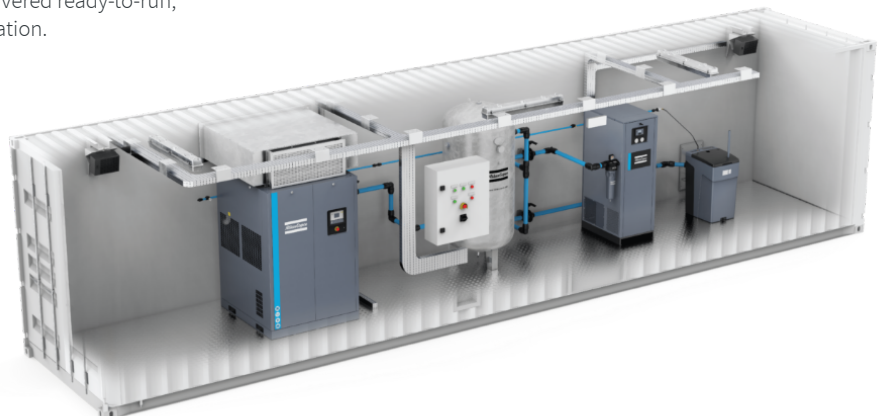


TURNKEY SOLUTIONS

Turnkey solutions cover installation, testing, and documentation. We handle the entire process, from design to commissioning, through one point of contact. This means smooth execution, reliable results, and complete peace of mind.

AIRCUBE™

Our AIRCUBE™ modular solution comprises >90 kW compressors with downstream air treatment and ancillaries. It is delivered ready-to-run, offering scalability, flexibility and simplified integration.



CUSTOMIZE FOR YOUR NEEDS

ZR/ZT 33-50 FLX OPTIONS

VSD license	Energy Recovery	Water shut-off valve	Silicone-free rotor (for MD) for deeper dewpoints
Anchor pads	Main power isolator switch	Integrated refrigerant dryer (ID)	Anti condensation heaters
ANSI flanges	IT variant (IEC variants only)	Integrated MD dryer (iMD) for moisture sensitive applications	MD heater for deeper dewpoints
High ambient variant for warm regions (50°C ambient temperature)	Test certificate	SPM equipment monitoring	Customization options
Flanged inlet	Fast Acting Fuse		

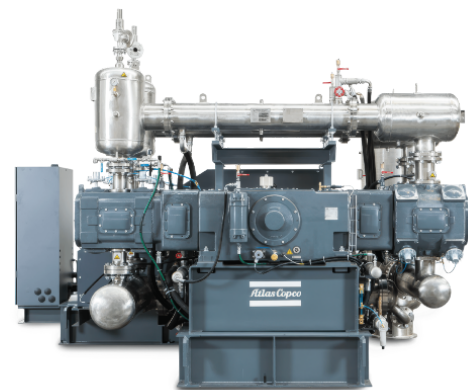


CUSTOM DESIGN SERVICE

Starting from our own proven designs, internal standards, and decades of expertise, we customize your solution to match the operating environment, preferred material, and vendor.

ENGINEERED SOLUTIONS

Our foundation is a set of pre-engineered products meeting global standards. We adapt these based on customer specifications, documentation, and testing requirements.







Tailored performance for consistent oil-free air

THE RIGHT TECHNOLOGY FOR YOUR APPLICATION

Every compression technology – scroll, oil-injected tooth, or oil-free tooth – has its own optimum performance curve. The key to success is to choose the right one for your power range. A benchmark in compressor innovation, our patented oil-free tooth element leads the way in the lower capacity range. Its stainless steel rotors feature a special coating that contributes to outstanding efficiency and a 40% longer lifetime. The unique Z seal design further reduces running costs and guarantees 100% certified oil-free air.

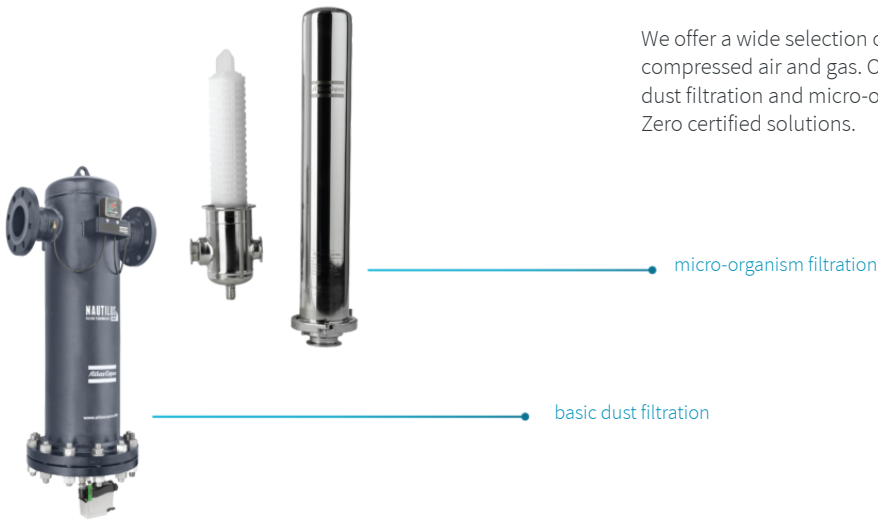


ZERO CONTAMINATION RISK FOR SENSITIVE APPLICATIONS

We understand the importance of clean, dry, oil-free air to protect your output, uptime, and reputation. Eliminate contamination risk with filtration and dryer solutions that are tailored for your needs. They are all designed to optimize the performance of your Atlas Copco compressor and are tested across a range of temperatures and pressures to give you complete peace of mind.

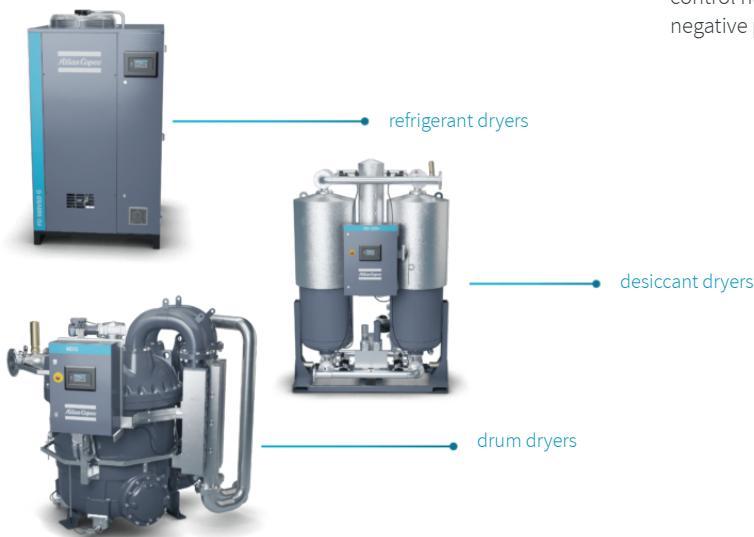
FILTERS

We offer a wide selection of utility and process filtration solutions for compressed air and gas. Our filter types and grades range from basic dust filtration and micro-organism filtration up to sterile grade and Class Zero certified solutions.



DRYERS

Select from our lineup of refrigerant, desiccant, and drum dryers to control humidity, prevent corrosion, and achieve ultra-low or even negative pressure dew points.





Services that level up your experience

With proper care and maintenance, our products will deliver the quality air you need over a long, rewarding lifetime. Our services, Genuine Parts and Uptime Guarantee contracts are all designed to keep your utility room running optimally.



DEDICATED TECHNICAL SUPPORT

Our service technicians are at your service for regular checks and maintenance. We have more than 5,000 service technicians worldwide, all trained and certified in our service academies to guarantee expert support for your equipment.

SMARTLINK asset management system provides real-time insight into your system performance, allowing us to respond proactively to maintenance needs and propose energy-saving optimizations.

LOCAL PRESENCE, GLOBAL EXPERTISE

Our technicians bring Atlas Copco's worldwide expertise to your doorstep. With operations in over 180 countries, we can offer local service in your language through a single, integrated point of contact and with the support of our global knowledge center.

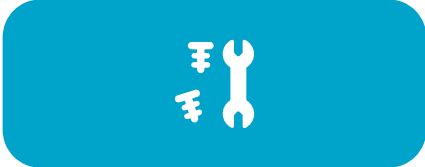


THE SMART ROUTE TO ALL-ROUND SAVINGS



EXPLORE

Request an AIRScan audit. We will assess the cost-effectiveness of your compressed air system and provide you with a comprehensive report and a customized action plan.



ACTIVATE

We help you implement improvements, such as fixing leaks, adding a centralized controller, or adding energy recovery to maximize uptime, reduce costs and minimize your carbon footprint.



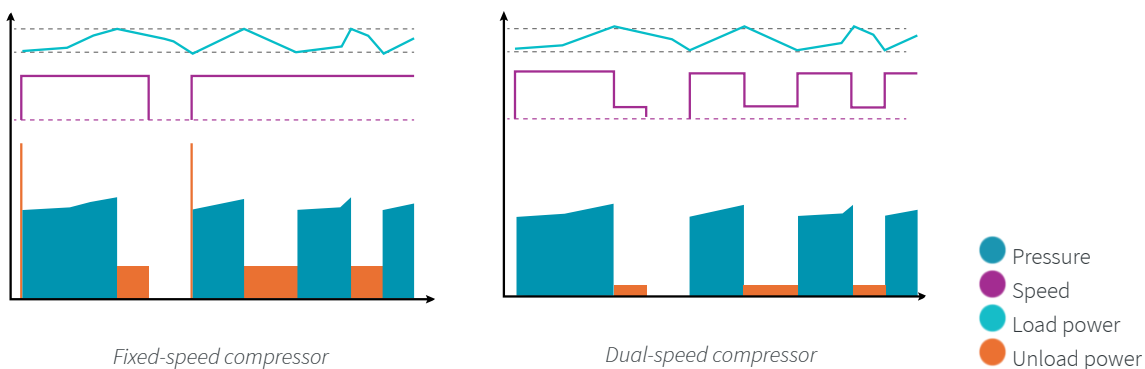
SECURE

Lock in your savings with AIRnet and SMART AIRnet to prevent pressure losses, guarantee air quality, and detect deviations in your system.



What is a dual speed compressor?

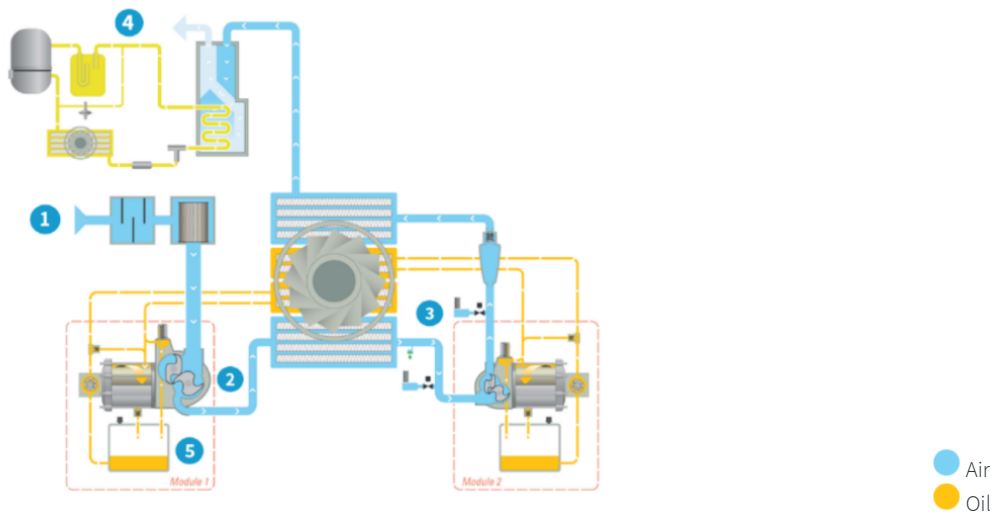
Our dual-speed tooth compressors achieve higher efficiency by operating at two different speeds: one for maximum capacity and another (with a reduced speed) during unload. This adjustment minimizes energy consumption and eliminates the problem of high starting current peaks.



WHEN TO CHOOSE A ZR/ZT 30-55 FLX DUAL-SPEED TOOTH COMPRESSOR

- **You are working with materials needing oil-free air to prevent contamination**, as in the food and beverage or pharmaceutical industries.
- **You want to improve operational efficiency.** By adapting compressor speed to demand, the ZR/ZT 30-55 FLX will save energy, reduce wear and tear, and extend your equipment lifespan.
- **You are looking to future-proof your operation**, but not ready to invest in VSD. The ZR/ZT 30-55 FLX will help you save now, while offering the option of upgrading to VSD later.

OIL AND AIR FLOWS



1 INLET & FILTRATION

Air is drawn in through the inlet filter, where it is cleaned. It passes through the throttle valve with its integrated blow off valve, which takes care of load/unload regulation.

2 FIRST COMPRESSION & COOLING

In the first compression stage, the air pressure is raised to an intermediate pressure and then cooled down in the intercooler. It then passes through a moisture separation system.

3 SECOND COMPRESSION & COOLING

This is the high pressure stage, where the pressure is brought to the final pressure. At the outlet, it passes via the pulsation damper with integrated check valve. It then continues to the aftercooler, where it is cooled down and moisture is separated and evacuated. The compressed air exits through the outlet connection flange.

4 INTEGRATED DRYER

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

5 OIL FLOW

Oil is sucked from the oil sump and pumped through the oil cooler and the high efficiency filter. This delivers cool, clean oil to the bearings and gears. Oil never comes into contact with the air. This guarantees completely oil-free air for your process.

Technical specifications 8.6 bar

Specifications ZR/ZT 30-55 FLX 8.6 bar (metric)

Type	Working pressure		FAD		Power rating	Noise level
		bar(e)	l/s	m ³ /min	kW	dB(A)
ZR30FLX – 8.6	Min	4	87.54	5.25	30	69
	Effective	7	87.02	5.22		
	Max	8.6	79.89	4.79		
ZT30FLX – 8.6	Min	4	89.69	5.38	30	67
	Effective	7	88.33	5.30		
	Max	8.6	73.41	4.40		
ZR37FLX – 8.6	Min	4	104.48	6.27	37	71
	Effective	7	103.88	6.23		
	Max	8.6	97.41	5.84		
ZT37FLX – 8.6	Min	4	104.56	6.27	37	68
	Effective	7	102.82	6.17		
	Max	8.6	93.76	5.63		
ZR45FLX – 8.6	Min	4	121.49	7.29	45	71
	Effective	7	120.73	7.24		
	Max	8.6	112.11	6.73		
ZT45FLX – 8.6	Min	4	123.58	7.41	45	68
	Effective	7	121.70	7.30		
	Max	8.6	111.80	6.71		
ZR55FLX – 8.6	Min	4	144.85	8.69	55	71
	Effective	7	143.43	8.61		
	Max	8.6	140.57	8.43		
ZT55FLX – 8.6	Min	4	140.13	8.41	55	68
	Effective	7	139.03	8.34		
	Max	8.6	137.53	8.25		

Specifications ZR/ZT 30-55 FLX 8.6 bar (imperial)

Type	Working pressure		FAD		Power rating	Noise level
		psig	l/s	cfm	hp	dB(A)
ZR30FLX – 8.6	Min	58	87.54	185.50	40	69
	Effective	102	87.02	184.38		
	Max	125	79.89	169.29		
ZT30FLX – 8.6	Min	58	89.69	190.04	40	67
	Effective	102	88.33	187.15		
	Max	125	73.41	155.54		
ZR37FLX – 8.6	Min	58	104.48	221.38	50	71
	Effective	102	103.88	220.10		
	Max	125	97.41	206.41		
ZT37FLX – 8.6	Min	58	104.56	221.54	50	68
	Effective	102	102.82	217.86		
	Max	125	93.76	198.66		

Type	Working pressure		FAD		Power rating	Noise level	
		psig	l/s	cfm	hp	dB(A)	
ZR45FLX – 8.6	Min	58	121.49	257.41	60	71	
	Effective	102	120.73	255.80			
	Max	125	112.11	237.54			
ZT45FLX – 8.6	Min	58	123.58	261.84		74	68
	Effective	102	121.70	257.86			
	Max	125	111.80	236.88			
ZR55FLX – 8.6	Min	58	144.85	306.92	74		71
	Effective	102	143.43	303.91			
	Max	125	140.57	297.84			
ZT55FLX – 8.6	Min	58	140.13	296.91		74	68
	Effective	102	139.03	294.58			
	Max	125	137.53	291.40			

Weight ZR/ZT 30-50 FLX 8.6 bar (metric)

Type	Weight (kg)		
	Pack	Full Feature (iMD)	Full Feature (iD)
ZR/ZT 30 FLX	1350	1610	1504
ZR/ZT 37 FLX			
ZR/ZT 45 FLX	1373	1646	1531
ZR/ZT 50 FLX			

Weight ZR/ZT 30-50 FLX 8.6 bar (imperial)

Type	Weight (lbs)		
	Pack	Full Feature (iMD)	Full Feature (iD)
ZR/ZT 30 FLX	2976	3549	3316
ZR/ZT 37 FLX			
ZR/ZT 45 FLX	3027	3629	3375
ZR/ZT 55 FLX			

Dimensions ZR/ZT 30-55 FLX 8.6 bar (metric)

Type	Length	Width	Height
	mm		
ZR/ZT 30-55 FLX	2005	1022	1909
ZR/ZT 30-55 FLX (FF)	2440		

Dimensions ZR/ZT 30-55 FLX 8.6 bar (imperial)

Type	Length	Width	Height
	inch		
ZR/ZT 30-55 FLX	79	40	75
ZR/ZT 30-55 FLX (FF)	88		

Data and specifications are subject to change without prior notice. Data may vary for other operating modes, versions and conditions. Consult Atlas Copco for details.

All values at reference conditions:

- Tamb = 20°C
- Max speed (= FS speed)
- Inlet pressure = 1 bar(a)
- RH = 0%

Technical specifications 10 bar

Specifications ZR/ZT 30-55 FLX 10 bar (metric)

Type	Working pressure		FAD		Power rating	Noise level
		bar (e)	l/s	m ³ /min	kW	dB(A)
ZR30FLX - 10	Min	4	87.54	5.25	30	69
	Effective	9	74.87	4.49	30	69
	Max	10	63.16	3.79	30	69
ZT30FLX - 10	Min	4	89.69	5.38	30	67
	Effective	9	71.12	4.27	30	67
	Max	10	63.53	3.81	30	67
ZR37FLX - 10	Min	4	104.48	6.27	37	71
	Effective	9	92.92	5.57	37	71
	Max	10	81.83	4.91	37	71
ZT37FLX - 10	Min	4	104.56	6.27	37	68
	Effective	9	90.99	5.46	37	68
	Max	10	83.49	5.01	37	68
ZR45FLX - 10	Min	4	121.49	7.29	45	71
	Effective	9	107.51	6.45	45	71
	Max	10	94.59	5.68	45	71
ZT45FLX - 10	Min	4	123.58	7.41	45	68
	Effective	9	107.15	6.43	45	68
	Max	10	95.20	5.71	45	68
ZR55FLX - 10	Min	4	144.85	8.69	55	71
	Effective	9	136.79	8.21	55	71
	Max	10	125.67	7.54	55	71
ZT55FLX - 10	Min	4	140.13	8.41	55	68
	Effective	9	135.08	8.10	55	68
	Max	10	129.69	7.78	55	68

Specifications ZR/ZT 30-55 FLX 10 bar (imperial)

Type	Working pressure		FAD		Power rating	Noise level
		psig	l/s	cfm	hp	dB(A)
ZR30FLX - 10	Min	58	87.54	185.50	40	69
	Effective	130	74.87	158.64		
	Max	150	63.16	133.82		
ZT30FLX - 10	Min	58	89.69	190.04	40	67
	Effective	130	71.12	150.69		
	Max	150	63.53	134.61		
ZR37FLX - 10	Min	58	104.48	221.38	50	71
	Effective	130	92.92	196.88		
	Max	150	81.83	173.39		
ZT37FLX - 10	Min	58	104.56	221.54	50	68
	Effective	130	90.99	192.79		
	Max	150	83.49	176.90		

Type	Working pressure		FAD		Power rating	Noise level
		psig	l/s	cfm	hp	dB(A)
ZR45FLX – 10	Min	58	121.49	257.41	60	71
	Effective	130	107.51	227.79		
	Max	150	94.59	200.42		
ZT45FLX – 10	Min	58	123.58	261.84	60	68
	Effective	130	107.15	227.03		
	Max	150	95.20	201.71		
ZR55FLX – 10	Min	58	144.85	306.92	74	71
	Effective	130	136.79	289.84		
	Max	150	125.67	266.28		
ZT55FLX – 10	Min	58	140.13	296.91	74	68
	Effective	130	135.08	286.21		
	Max	150	129.69	274.79		

Weight ZR/ZT 30-50 FLX 10 bar (metric)

Type	Weight (kg)		
	Pack	Full Feature (iMD)	Full Feature (iD)
ZR/ZT 30 FLX	1350	1610	1504
ZR/ZT 37 FLX			
ZR/ZT 45 FLX	1373	1646	1531
ZR/ZT 50 FLX			

Weight ZR/ZT 30-50 FLX 10 bar (imperial)

Type	Weight (lbs)		
	Pack	Full Feature (iMD)	Full Feature (iD)
ZR/ZT 30 FLX	2976	3549	3316
ZR/ZT 37 FLX			
ZR/ZT 45 FLX	3027	3629	3375
ZR/ZT 55 FLX			

Dimensions ZR/ZT 30-55 FLX 10 bar (metric)

Type	Length	Width	Height
	mm		
ZR/ZT 30-55 FLX	2005	1022	1909
ZR/ZT 30-55 FLX (FF)	2440		

Dimensions ZR/ZT 30-55 FLX 10 bar (imperial)

Type	Length	Width	Height
	inch		
ZR/ZT 30-55 FLX	79	40	75
ZR/ZT 30-55 FLX (FF)	88		

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All values at reference conditions:

- Tamb = 20°C
- Max speed (= FS speed)
- Inlet pressure = 1 bar(a)
- RH = 0%

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Read all safety instructions in the manual before usage.



WWW.ATLASCOPCO.COM

The Atlas Copco logo, featuring the brand name in a stylized, italicized blue font. The text is positioned between two horizontal blue bars of equal length, all contained within a white, rounded rectangular shape that tapers to the right.

Atlas Copco

Atlas Copco
AB (publ) SE-105 23 Stockholm, Sweden
Phone: +46 8 743 80 00 | Reg: 556014-2720
www.atlascopco.com