



Atlas Copco



## Oil-free claw blowers

**DZS 150P & 300P (11-22 kW / 15-30 hp)**

0.5-2.3 bar(g) / 7-33 psig

110-340 m<sup>3</sup>/hr / 65-200 cfm



## *Reliability at a low lifecycle cost*

Our low pressure dry claw solution delivers you Class 0 certified, quality air up to 2.3 bar(g) at a low lifecycle cost.

## **High process uptime**

Our DZS is engineered for your peace of mind: we combined the best components with our patented cooling flow to provide you with a reliable blower marked by a low failure rate over a long lifetime.

## **Installation flexibility**

When replacing your old blower solution with a new one or starting from scratch you have to take into account the full cost of your new installation. You can connect our DZS to your process using just two simple pipe connections, thus greatly reducing the complexity and thus cost of installation compared to other central system designs.

# A perfect fit for all your applications up to 2.3 bar(g)

Each production process and application has different specific requirements, but one thing is for sure: when you build a new or improve your current production process your main concerns are keeping the costs low and the uptime high. With the flexibility to place them in both a centralized and decentralized systems, our compact and reliable dry claw blower is the perfect fit for any product process requiring quality compressed air between 0.5 and 2.3 bar(g).

## Fermentation

The fermentation process is a fragile one: it is crucial to follow the exact fermentation recipe in order to succeed. The delicate process requires an accurate flow control and quality air from the minimum to maximum demand.

Our DZS is the perfect building block for the typical parallel setup of multiple small blowers that allows you to (automatically) switch one or multiple units on and off to comply to the air demand your process needs.



## Pneumatic conveying

Quality compressed air is indispensable when transporting bulk material from truck to silo and from silo to process. The exact nature of the bulk material is as diverse as its features, ranging from light material like plastic resin in the dilute phase to heavier materials like cement and flour in the dense phase. Luckily, our DZS can convey all of them: with an air delivery up to 2.3 bar(g) and its reliable design, you are guaranteed of high process up-time no matter the material you are working with.

## Wastewater treatment

Water is an essential resource that ensures life on our planet. With clean water becoming increasingly scarce and as the financial demands to deliver are rising, (energy) efficient recycling and purifying of wastewater is a necessity. Our DZS will support you in achieving an optimized process by ensuring you of clean air delivery at a low operational cost. Moreover, thanks to the compact design and high built-in compression ratio, our DZS is specifically suited to operate in small and deep tanks such as the ones found in commercial buildings (e.g. shopping malls and hotels) or in industrial companies with a low volume of to-be-treated wastewater.



# 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. With our CLASS 0 products, no oil is added during the compression process, and thus provides you with 100% pure, clean air when the atmosphere doesn't contain any oil particles. 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.



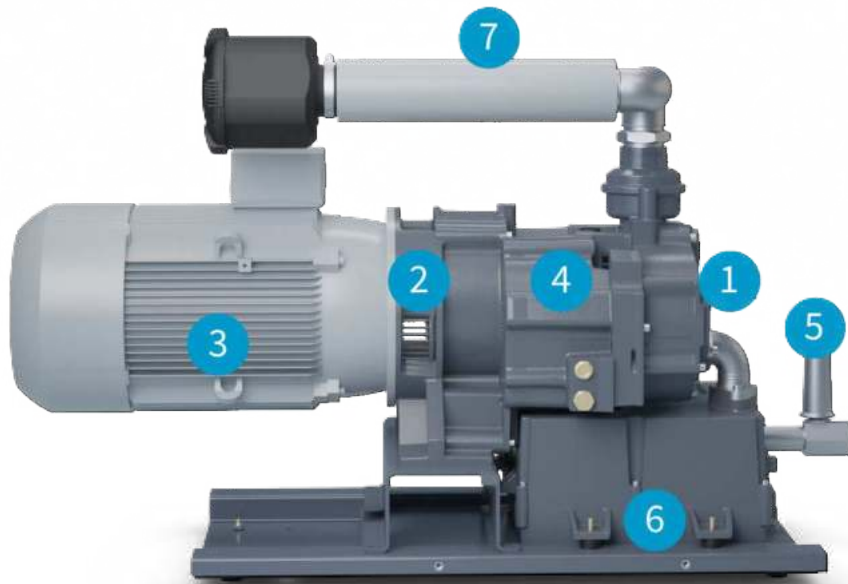
CLASS	Concentration total oil (aerosol, liquid, vapor) mg/m <sup>3</sup>
0	As specified by the equipment user or supplier and more stringent than class 1
1	< 0.01
2	< 0.1
3	< 1
4	< 5

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

## 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.

# Features



## 1. Optimized claw element for operational excellence

- Unique and durable stainless steel claw rotors and special coating on the rotor housing ensure longer lifetime of the element
- The smaller the clearances between the claw rotors and the rotor housing, the more efficient the blower is. Optimal operational clearance is achieved by adding a special coating to the rotor housing, minimizing distance between claw rotors and rotor housing
- Rotation of the claws is perfectly synchronized with the inlet and outlet port to ensure minimal losses and optimal compression, resulting in the lowest specific power consumption
- The element is easily accessible and can be removed to clean, simplifying maintenance

## 2. Process continuity thanks to the patented cooling flow

Patented cooling flow of the oil sump, bearings, seals and rotor housing ensuring reliability:

- The cooling fan is directly mounted on drive shaft, avoiding the need for an extra cooling fan and reducing energy consumption
- Cooling flow pointing exactly to where cooling capacity is required: oil sump, bearings and lipseals, helping you reduce energy consumption
- Heat causes wear on components. Thanks to the optimized cooling flow, a longer lifetime is ensured.

### **3. Highly efficient operation ensured by our premium motor**

- IE3 & Nema premium efficient motor
- Totally Enclosed Fan Cooled (TEFC) motor means the motor is dust tight and has a moderate water seal, making it ideal for operation in the harshest environmental conditions

### **4. Direct drive transmission to directly reduce operational costs**

- The male claw is direct-driven by the motor to ensure low power consumption. On top of that, the flexible coupling between motor and rotor ensures a softer start of the motor and increases the lifetime of the motor, shaft and rotor
- The female claw rotor is gear-driven; gear transmission is stable over time as gears are more precise and avoid misalignment between male and female claw
- Low maintenance costs: no components (e.g. belts and pulleys) that are subjected to wear

### **5. Built-in mechanical integrity and safety**

- Flexible pipe connection that connects compressor outlet to discharge silencer ensures less vibrations of the components and making it a more durable solution
- Structural decoupling between discharge silencer and base frame ensures less vibrations and reduces noise
- Safety valve to protect the blower against over-pressure
- Integrated non-return valve with minimum pressure-drop to prevent process-air leaking back to the environment

### **6. Protecting your process' performance with pulsation-free air delivery**

- Purely reactive silencer tuned for smooth air delivery to the process as it avoid pulsation of the air and ensures stable/linair air delivery
- Drain plug to release eventual condensate and increase the lifetime of components

### **7. Silent air intake + silent canopy = silent blower!**

- Inlet silencer ensuring minimum pressure drop and high sound absorption characteristics
- Canopy-cover to absorb noise before it's transmitted to the surroundings



# Maximizing efficiency, minimizing costs

The power consumption can take up to 80% of the total lifecycle cost of a blower. That's why it is crucial to not only compare solutions in terms of initial investment cost but also in terms of efficiency.

## IE 3 motor offering premium efficiency

All our DZS units are equipped with an IE 3 motor. The IE 3 (International Efficiency 3) refers to a recognized and international standardized classification, with level 3 being the premium efficiency level. The IE 3 motor helps to further reduce the energy consumption of the blower.



## Patented cooling flow

An optimized cooling process not only reduces wear on your components, it also reduces energy consumption. As the cooling fan is directly mounted onto the drive shaft, only one cooling fan is needed to cool the oil carter, bearings and lipseals. Excluding the need for an extra cooling fan means less power consumption is needed to realize an optimal cooling process.

## Direct-driven claw rotor ensures low power consumption

The male claw is direct-driven by the motor, meaning it directly takes power from the motor. There is no power loss like there would be driving the male claw with a gearbox in between claw and motor. Opting for a direct-drive solution thus means less energy is needed to compress the air.



# Easy installation

When purchasing a new compressed air solution, the initial buying cost is only one part of the total expense you will take into account. You'll want to avoid any unexpected installation costs to get your production process started. Thanks to Plug & Play concept, you can minimize the cost of installation.

## Plug & play

Whether you are replacing an existing installation or setting up a new process, you need a solution that is easy to install. Your DZS is ready to use as soon as it arrives thanks to the Plug & Play concept. We greatly reduced the costs and complexity of installation compared to other central systems designs: just two simple pipe connections are needed to get your blower connected to the production process. To further increase installation flexibility, we reduced its footprint to a minimum, helping you save space.



# Maximize your resources with a Service Plan

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

On top of that, we've made sure that maintenance on the DZS is easy for both you and our service experts. Cleaning the element is simple as the it is easily accessible by removing a few bits and bolts. On average, an oil change is only required every 20,000 running hours, further simplifying the maintenance of your DZS unit.

## Reduce your total cost of ownership and benefit from optimal performance

- Save costs - Optimal maintenance will reduce the operational cost of your compressor system.
- Increase operational efficiency - Our maintenance expertise makes your life easier when it comes to resource management.
- High uptime and performance - Specialist service keeps your equipment running and protect your investment.



## Blower parts at your doorstep: our Parts Plan

Genuine Parts, designed and produced to the exact specifications of your blower, delivered right where and when you need them.

- All parts, one package - Always have the needed part for your service intervention at hand.
- Save money - A Service Kit costs less than the sum of its components if ordered separately.

## Fixed Price Services: best blower parts & maintenance

Avoid financial surprises. Our Fixed Price Services combine the expertise of factory-trained technicians with the quality of our genuine blower parts.

- The best blower parts - The unrivalled quality of our genuine parts results in optimal uptime, energy consumption and reliability.
- An expert maintenance plan - Rely on the expertise of factory-trained Atlas Copco technicians.





## Preventive Maintenance Plan for optimal blower uptime

Rely on trained Atlas Copco technicians and the unrivalled quality of our genuine parts.

- Service reports - We help you achieve maximum energy efficiency by keeping you up to date of the status of your system.
- Prevent breakdown - If our technicians spot an additional developing problem, they will propose a solution.

## Complete blower care with our Total Responsibility Plan

We take care of all your blower maintenance, upgrades, repairs and even breakdowns for an all-inclusive price.

- Complete blower care - On-time maintenance by expert service engineers, genuine parts, proactive upgrades and blower overhauls.
- Total risk coverage - This means we take care of all your blower repairs and even breakdowns, without extra charges.
- Ultimate efficiency - Fitting the latest drive line components gives you as-new levels of compressor efficiency and reliability.



# Technical Specifications

## DZS 150P 50 Hz

Type	Min. working pressure		Max. working pressure		Max. capacity FAD at min. working pressure		Max. capacity FAD at max. working pressure		Installed motor power		Noise level	Weight		Dimensions L x W x H	
	bar(g)	psi(g)	bar(g)	psi(g)	m <sup>3</sup> /hr	cfm	m <sup>3</sup> /hr	cfm	kW	hp	dB	kg	lb	mm	in
DZS 150P - 200V	0.5	7	2.3	33	110	65	140	82	11	15	77	196	432	1090 x 416	43 x 16
DZS 150P - 230V														x 673	
DZS 150P - 400V														1091 x 416	
DZS 150P - 500V														x 673	
														1092 x 416	
														x 673	
														1093 x 416	
														x 673	

Blower speed based on air at 20°C. Tolerance +/- 10%  
60Hz version supplied with NPT adapters

## DZS 150P 60 Hz

Type	Min. working pressure		Max. working pressure		Max. capacity FAD at min. working pressure		Max. capacity FAD at max. working pressure		Installed motor power		Noise level	Weight		Dimensions L x W x H	
	bar(g)	psi(g)	bar(g)	psi(g)	m <sup>3</sup> /hr	cfm	m <sup>3</sup> /hr	cfm	kW	hp	dB	kg	lb	mm	in
DZS 150P 200V	0.5	7	2.3	33	145	85	175	103	15	20	79	196	432	1094 x 416	43 x 16
DZS 150P 230V														x 673	
DZS 150P 380V														1095 x 416	
DZS 150P 460V														x 673	
DZS 150P 575V														1096 x 416	
DZS 150P 230/460V														x 673	
														1097 x 416	
														x 673	
														1098 x 416	
														x 673	
														1099 x 416	
														x 673	

# Technical Specifications

## DZS 300P 50 Hz

Type	Min. working pressure		Max. working pressure		Max. capacity FAD at min. working pressure		Max. capacity FAD at max. working pressure		Installed motor power		Noise level	Weight		Dimensions L x W x H	
	bar(g)	psi(g)	bar(g)	psi(g)	m <sup>3</sup> /hr	cfm	m <sup>3</sup> /hr	cfm	kW	hp	dB	kg	lb	mm	in
DZS 300P 200V	0.5	7	2.3	33	240	141	290	170	19	25	80	300	661	1360 x 500	53 x 20
DZS 300P 230V														x 300	
DZS 300P 400V														1361 x 500	
DZS 300P 500V														x 300	
														1362 x 500	
														x 300	
														1363 x 500	
														x 300	

## DZS 300P 60 Hz

Type	Min. working pressure		Max. working pressure		Max. capacity FAD at min. working pressure		Max. capacity FAD at max. working pressure		Installed motor power		Noise level	Weight		Dimensions L x W x H	
	bar(g)	psi(g)	bar(g)	psi(g)	m <sup>3</sup> /hr	cfm	m <sup>3</sup> /hr	cfm	kW	hp	dB	kg	lb	mm	in
DZS 300P 200V	0.5	7	2.3	33	300	177	340	200	22	30	82	300	661	1364 x 500	53 x 20
DZS 300P 230V														x 300	
DZS 300P 380V														1365 x 500	
DZS 300P 460V														x 300	
DZS 300P 575V														1366 x 500	
DZS 300P 230/460V														x 300	
														1367 x 500	
	x 300														
	1368 x 500														
	x 300														
	1369 x 500														
	x 300														



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