

DZS 100 – 200 – 400 VSD⁺

ATLAS COPCO DRY CLAW VACUUM PUMPS WITH VSD⁺ TECHNOLOGY

General Description

The DZS 100 VSD⁺, DZS 200 VSD⁺ and DZS 400 VSD⁺, are a range of dry claw vacuum pumps; single stage, oil free, air cooled and VSD⁺ *inverter drive* technology built-in.

The DZS VSD⁺ series is a simple, long life, durable pump with very low maintenance for rough vacuum applications.

These compact machines with a small footprint deliver high reliability through a rugged and robust design.

In terms of performance, the DZS VSD⁺ is the market leader of achieving an ultimate vacuum and flow. It delivers exactly what it says on the label and due to its VSD⁺ inverter drive built onto the motor, you can be assured that it will meet demand effortlessly as it's run with an inverter and PI-Loop. The vacuum pump is a smooth operator, being able to run at its ultimate vacuum level continuously without overheating.

The DZS VSD⁺ series stands for unrivalled performance. Designed to fit the process' needs.



The DZS VSD⁺ series is one of the smartest claw pumps on the market due to the VSD⁺ technology. The pumps come equipped with an inverter drive on the motor, enabling PI-Loop functionality as well as remote connectivity through Modbus/Profinet and the Atlas Copco VSD⁺ App.

Versatility is key.

The pump is easy to accessorize with a standard or heavy-duty inlet filter as well as other types of filtration solutions, which means it can deal with a wide range of process demands.

The DZS VSD⁺ series dry claw technology has no touching parts and no wear on the main element. The result is a durable and reliable pump. Expect maximal longevity with minimal maintenance. A high performer with low life cycle costs.

General Description

Atlas Copco boiled the design down to four modules:

- a sturdy gearbox which is segregated from the process chamber
- a motor that is equipped with *VSD⁺ inverter drive* and software
- outlet silencer
- anti-corrosive coated pumping chamber with stainless steel claws

This modular design ensures complete flexibility, making it easy to replace components. This is not a throw away pump.

The robust design allows for simple and quick access to all parts. The claws are based on the design principle to those used in our world-renowned oil free compressors. The pump is specially designed with stainless steel claws with anti-corrosive coated interns for process compatibility.

The dry, oil free, pumping chamber eliminates the carry over and contamination to and from the process.

Atlas Copco is the first manufacturer to have its vacuum pumps checked for traces of oil by TÜV Rheinland in accordance with the ISO 8573-1 standard.

The DZS VSD⁺ pumps were certified as being completely harmless to the quality of the ambient air during the process, eradicating the risk of oil-induced damage to sensitive applications and products. This certification also provides an assurance of sustainability by eliminating the potential harm to humans and the environment that can arise from the use of oil emitting vacuum pumps.



How is this Class Zero quality achieved?

The modular and segregated design between the pumping chamber and gearbox means that process is confined to the element only and consequently won't damage the gearbox unlike other designs in the market place.

This patented separation void between the gearbox housing and the pumping chamber providing critical advantages including:

- Prevention of aggressive process gases migrating into the gearbox
- Reduced heat build-up resulting in a longer life for seals, bearings and gearbox oil
- Segregation prevents gearbox oil migrating to pumping chamber

Energy Efficiency

All motors are three phases high efficiency IE3 class.

The motors come factory mounted with *VSD⁺ inverter drive*, which enables complete controllability and reduces power consumption. This power reduction helps to save energy and consequently a lower carbon footprint.

The DZS VSD⁺ series has a market leading 'turn-down ratio' of 20Hz as a minimum and up to 72Hz for a wide operating band to fit the demand coming from the process.



Maintainability

The DZS VSD⁺ is a cleverly designed pump. The design principles where a simple, long life and durable pump with a very low maintenance.

One example is where the design features easily removable and replaceable claws that need no further complex gearbox stripping and retiming. Therefore, it allows fast and easy inspection, but also makes it available for decontamination of the pumping chamber in the event of a process upset.

In this case all the maintenance can be executed effortlessly on site. The result; fast maintenance – less down time.

Process compatibility

Everything within the process will pass through or end up in the vacuum pump. To ensure the same durability and reliability that Atlas Copco is known for. The DZS VSD⁺ is equipped with corrosion resistance materials to be compatible with even the harshest applications

The DZS VSD⁺ series come with a resistive and durable coating applied to the pumping chamber and is based on years of extensive development and endurance testing. It also features a simple but effective labyrinth sealing arrangement for long life and durability.

Humid Option

Often some processes are far harsher than others. Generally, they are wet applications that need a little more protection for the pump. It must be remembered that in a vacuum application all process medium goes through the pump and it is wise to protect your investment.

For this very reason we designed a standard pump with materials of construction to withstand harsh applications but add to this our inlet liquid separator, condensate drain facility and you will be in safe hands.

VSD+ App

Atlas Copco launched their own VSD+ App, a unique application for Android and iOS devices which emphasizes its innovative culture. The VSD+ App allows you to easily commission your DZS VSD+ by only providing 3 parameters. With the App you also have live visualization of the actual performance and settings. We welcome you to the next generation of vacuum pump controlling.

Standard scope of supply

The DZS VSD+ range of oil free vacuum claw pumps come equipped with the following as standard:

- Element, gearbox and drive train all mounted on a common base frame
- Canopy to reduce noise and to offer a sleek, clean exterior
- Vibration reducing feet
- Female threaded inlet and exhaust connection for easy piping-up
- Integrated exhaust silencer
- Inlet non-return valve
- IE3 electric motor with built-on *VSD+ drive*
- Motor coupling with integrated cooling fan
- Pressure sensor fitted to inlet housing and wired to the *VSD+ drive*.
- Vacuum relief valve
- Robust material of construction with stainless steel claws and coated internals
- Commissioning and monitoring by Atlas Copco *VSD+ App* for Android and iOS
- MODBUS RTU protocol and Bluetooth connectivity as standard.
 - PROF versions have PROFINET protocol
- USB-cable to connect to laptop/PC for commissioning and monitoring.

