

## GHS 1402-2002 VSD<sup>+</sup> HEX@

### VARIABLE SPEED DRIVE OIL SEALED ROTARY SCREW VACUUM PUMP



The new revolutionary GHS 1402-2002VSD<sup>+</sup> is packed with innovative features that increase its performance, cut its energy consumption, improve its oil retention, reduce its operating costs and open the door of the connectivity.

With its innovative core element, vertical design and not forgetting the unparalleled and unique in the market HEX@ controller, Atlas Copco GHS 1402-2002VSD<sup>+</sup> brings a game-changing revolution in the vacuum industry.

#### Keys benefits GHS 1402-2002VSD<sup>+</sup>

##### ➤ Efficient:

The GHS 1402-2002VSD<sup>+</sup> has high pumping speeds throughout the entire pressure range and a very low Specific Energy Requirement (SER).

This is achieved thanks to the major components mentioned below:

- A new design Atlas Copco element with **blow-off valves**
- A permanent magnet, high efficiency **IE5** motor.

Thanks to its **variable speed drive** and setpoint control, this consumes on average 50% less energy than traditional fixed speed vacuum pumps.

##### ➤ Connected

The GHS 1402 – 2002VSD+ range comes equipped with the latest innovation in vacuum control, the **industry 4.0** ready HEX@ controller. A true leap forward in:

- Connectivity – by connecting your controller to the cloud, you can have access to the user interface of the machine and control it from any device with web browser in any location.

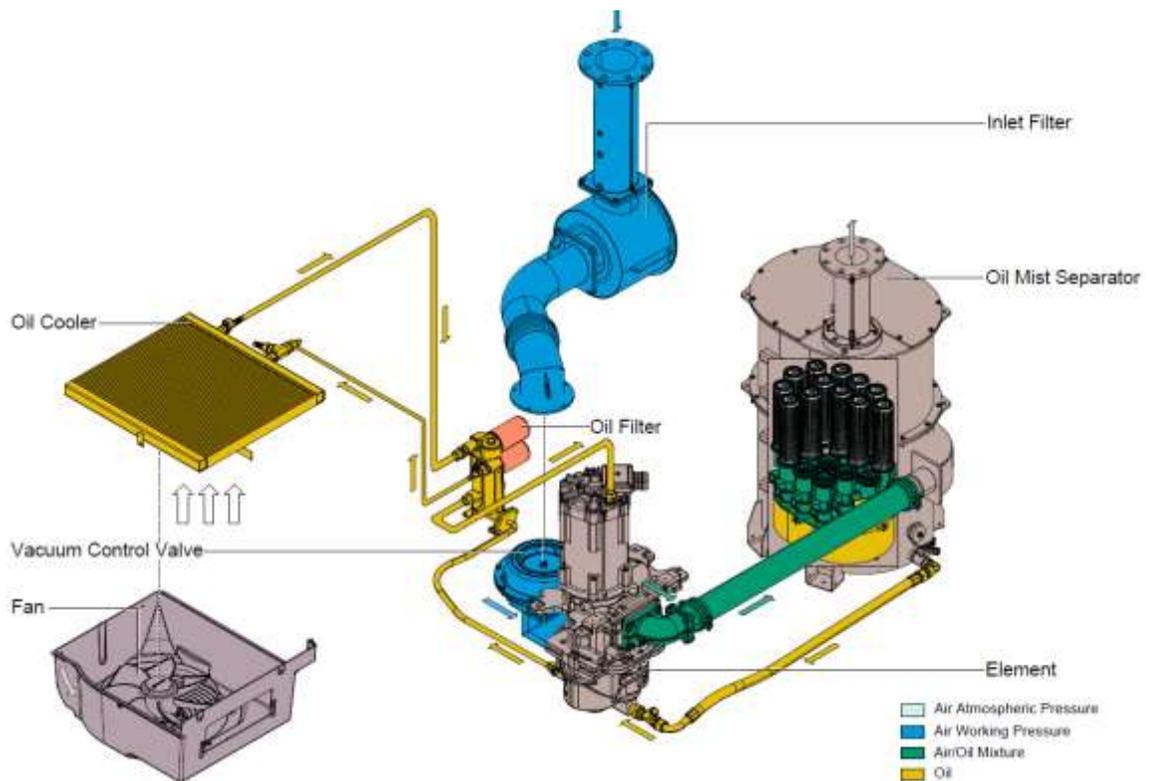
- Configurable and ergonomic interface.
- Smart and advanced functionalities.

➤ **Environment friendly**

Atlas Copco has completely redesigned the conventional layout of a typical vacuum pump. Instead of a normal space-hugging horizontal design, the GHS 1402-2002VSD+ has an upright, vertical layout that achieves an extremely **small footprint**. This saves valuable floor and work space, reducing the total cost of ownership for all customers.

With its additional cyclones, the GHS 1402-2002VSD+ boasts an excellent **oil retention of 1.5mg/m<sup>3</sup>**, which ensures a clean working environment.

### Inside the innovative GHS 1402-2002VSD+





### Innovative core element design

The core of the GHS VSD+ is our high-performance element. By using innovative, integrated blow off valves, our second-generation GHS VSD+ element delivers **outstanding performances at high inlet pressures**.

The element overhaul interval is significantly longer than for other lubricated technologies; 100,000 running hours for normal applications!

### Permanent magnet motor IE5

Permanent Magnet Assisted Synchronous Reluctance Motor technology is the most efficient technology for variable speed machines. Indeed, these motors are reputed to have the highest motor efficiency in all of their speed range: they exceed the **IE5 efficiency** threshold.

This motor is oil cooled, removing the need and extra energy consumption of a motor cooling fan.

The oil is also used to lubricate the bearings so no re-greasing is needed !



### Direct drive

The motor drives the male rotor of the screw element directly without any gear. The vertical setup drive train **reduces the footprint by 11%**, making this a very compact machine.

### Neos Inverter

The Neos inverter, commanded by the HEX@ controller allows **variable speed and setpoint control**: it maintains your maximum authorized process vacuum level and precisely matches to your demand without energy wastage. Oil injected screw technology is also capable of some of highest possible turn-down ratio. This results in around **50% less energy** consumption than alternative technologies.



## Cyclonic oil separation

The oil separator is equipped with several cyclones (number depending on machine size) which separate, ultra-efficiently, the oil from the air by centrifugal force. The oil separator elements then carry out the last separation step.

This design results in a significantly **cleaner working environment**, with an oil discharge level lower than 1.5 mg/m<sup>3</sup>.



## Check valve, inlet filter and universal flange

The machines are equipped with an inlet check valve which protects the machine from the process when not running, in case of central vacuum system installation with others pumps.

GHS VSD+ is also equipped with an inlet filter with polyester element in standard and universal flanges making installation really **plug & play**.

## Cooling

The oil is **air-cooled** via an oil/air exchanger and also a fan. This combination is highly energy efficient and quiet.



## Energy recovery option

There is also the possibility to recover the heat from the oil with an extra oil/water heat exchanger. Up to **80 % of the heating energy** can be **recovered** by using this option.



## Truly connected with enhanced control - HEX@

The GHS 1402 – 2002VSD+ range comes equipped with the latest innovation leap in vacuum control, the **HEX@ controller**.

With HEX@ you can both monitor and **control** your pump from **anywhere** and at **any time**. Receive feedback and review pump operating status, vacuum levels and upcoming scheduled events for your vacuum system.



This is possible by accessing your secure, web based user interface to connect directly to your pump (or fleet of pumps). From your web enabled device, PCs, laptops, tablets or smartphones you have all of the control and monitoring you would have when stood next to your vacuum pump.

HEX@ also offers you the benefits of having a connected device such as automatic software updates, access to future released functionality and increased insights into vacuum performance.



### **Ergonomic and configurable interface – HEX@**

With clear presentation and intuitive layout, the HEX@ ergonomic interface really allows for straightforward and fast navigation.

Unlike traditional control interfaces, HEX@ allows you to **configure** parts of the home screen to display the information that is most important and relevant to you.

HEX@ will also offer **insights**, recommendations and feedback based on pump performance both now and historically. Perhaps the energy efficiency of the vacuum pump can be improved, or your maintenance interval can be extended? HEX@ will empower you to take proactive steps to optimize your vacuum system!

### **Smart and advanced functionalities – HEX@**

HEX@ has also smart functionalities such as **intelligent scheduling** allowing, for example, to plan specific functions outside the production time – not only settable on calendar day but also on running hours.

With HEX@ you can also **operating modes**; this allows you to save your operation settings for future convenience bringing more flexibility to switch between different setting profiles for different production needs.