GHS 402–1002 VSD+

Double down on performance.
Double down on efficiency.



At Atlas Copco Vacuum every breakthrough begins with a question.

What if?

With the introduction of the first GHS VSD⁺, Atlas Copco changed the way the world thinks about vacuum. We answered the big ‘What If’. For decades, vacuum systems ran constantly, consuming power regardless of demand. The GHS VSD⁺ introduced intelligent pressure-set-point control and variable-speed technology, transforming fixed, energy-hungry pumps into responsive, efficient systems that deliver vacuum on demand.

Now, the GHS 402–1002 VSD⁺ takes that legacy further.



Engineered with our latest generation oil-injected screw element, a high-efficiency IE5 motor, and advanced HEX@™ connectivity, it redefines what vacuum pumps can deliver. Smarter performance, lower costs, and a smaller environmental footprint.

Latest oil-injected screw element with compression-optimization valves

- High pumping speed to atmospheric
- Less power consumption – 100-300 mbar

Built for harsh conditions

Equipped with an IP66-rated drivetrain and combined with a rugged, durable pump design this pump ensures reliable operation in challenging industrial conditions

Recovers up to 80% of heat as reusable hot water

Energy recovery system option now available

Smaller footprint

22% smaller footprint, enabled by a vertical drivetrain and a highly compact motor design

Improved working environment

Less noise, low oil carryover, better oil retention, less maintenance

HEX@™ controller

For remote monitoring, control, and diagnostics

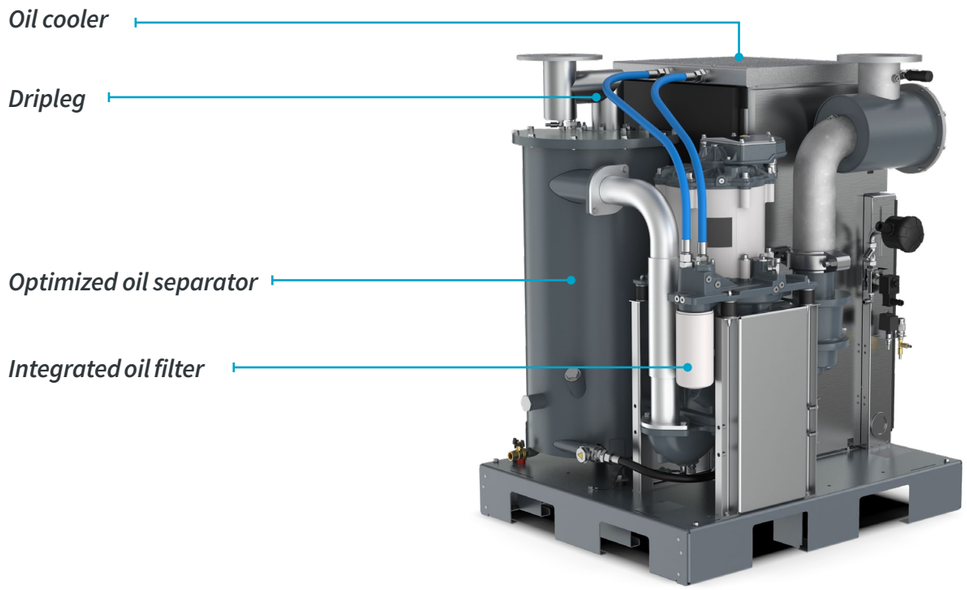
Inside the GHS 402-1002 VSD⁺

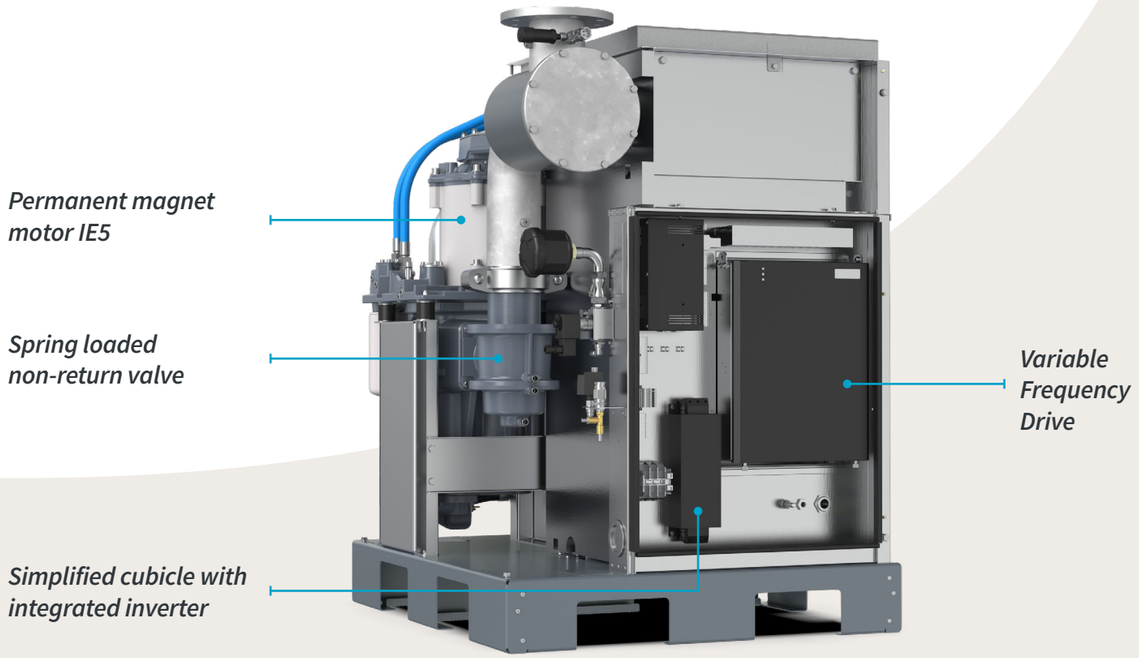
The heart of the pump is Atlas Copco’s latest-generation oil-injected screw element, designed for smooth compression and consistent performance across the entire pressure range.

A high-efficiency IE5 motor with oil-cooled bearings ensures minimal energy loss and long service life.

Integrated cooling and filtration systems protect critical components, while robust sealing and sound-dampening features enhance durability and comfort.

Coordinated by the intelligent HEX@™ controller, each internal component works in perfect harmony.





Technology highlights

High efficiency permanent magnet motor IE5

The GHS 402-1002 VSD⁺ is powered by a high-efficiency Permanent Magnet Synchronous Motor that meets the IE5 efficiency class. An optimized oil-cooling flow ensures effective thermal management while eliminating motor cooling fan losses. Oil-lubricated bearings enhance reliability and service life, and the direct-drive design removes transmission losses, delivering maximum efficiency, reduced energy consumption, and smooth, dependable operation.

Newly designed screw element

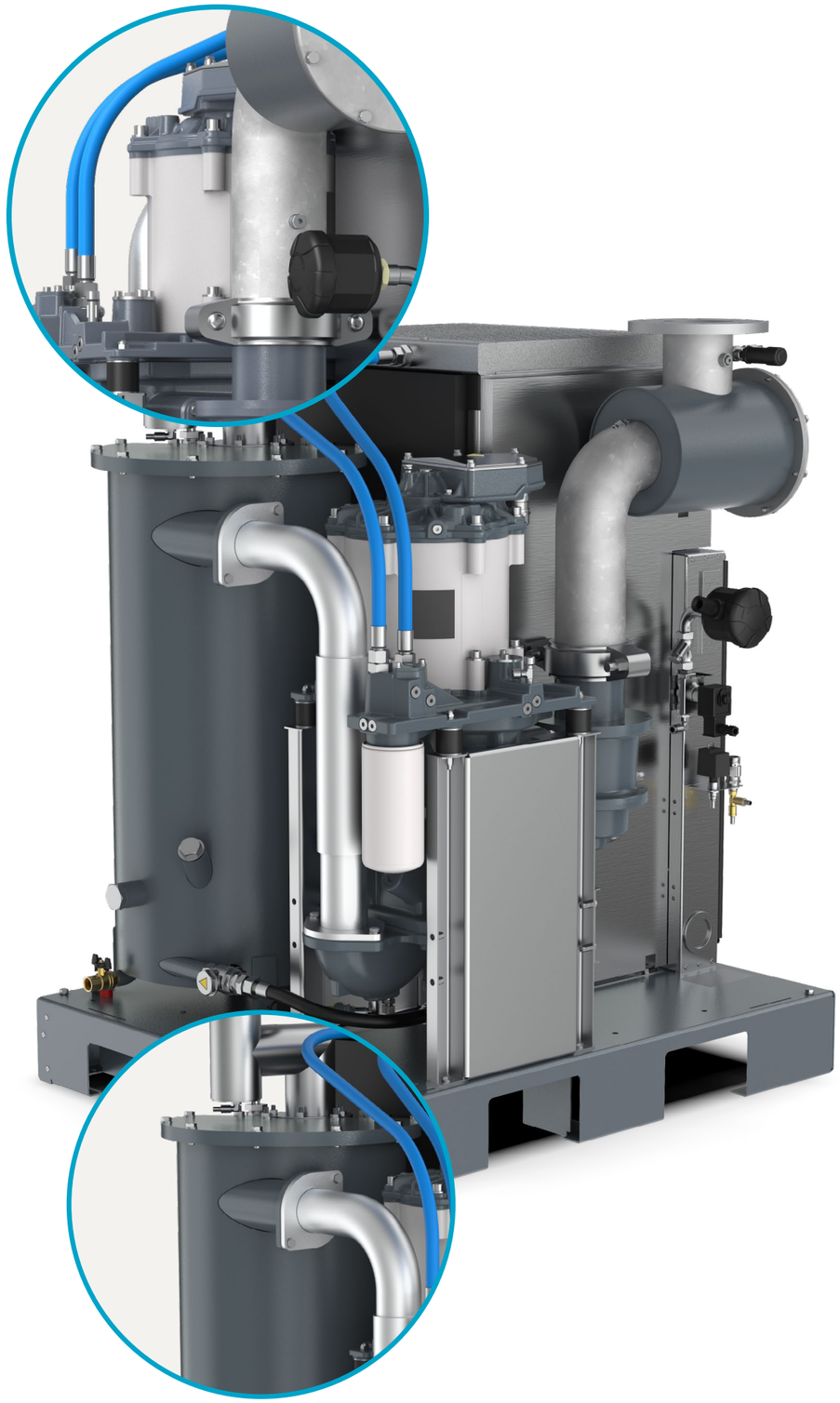
The newly designed element profile is engineered specifically for superior vacuum performance, drawing on more than 50 years of element development expertise and 10 years of proven vacuum experience. Despite its compact size, the design delivers higher pumping speed through increased swept volume enabled by optimized lobe number differences. Advanced rotor and outlet port optimization further enhance efficiency, while the robust construction ensures up to 100,000 hours of service-free operation under normal applications.

Compression optimization valves

Innovative compression optimization valve design maximizes performance right from atmospheric pressure, delivering faster and more efficient evacuation. With a spring-free concept, reliability is enhanced while service requirements are minimized. The result is quicker pump-down times, making the system ideally suited for demanding cyclic applications.

Optimized oil-separator vessel

A streamlined design ensures optimal oil flow for maximum efficiency and a compact footprint. Superior oil carry-over performance helps maintain process cleanliness, while an integrated drip leg prevents condensation from returning to the system, supporting reliable and consistent operation.



Features / Benefits

Energy savings

As energy efficiency becomes an increasing priority, the GHS VSD⁺ range now offers an Energy Recovery (ER) option, introduced for the first time on our smallest range. This solution enables customers with running water to reuse up to 80% of the heat generated by the pump to warm water, improving overall energy utilization.

22% smaller footprint

The GHS 402-1002 VSD⁺ delivers a 22% smaller footprint, enabled by a vertical drivetrain and a highly compact motor design. This results in a highly compact performance, delivering more than 930 cubic meters per square meter and setting a new benchmark for space-efficient vacuum system design.

Low noise canopy

Noise level is an important aspect of the working environment, and the pump's specially designed canopy, frame, and baffles significantly reduce noise, creating a quieter, more comfortable, and safer workspace while supporting continuous operation close to the GHS VSD⁺.

Plug and Play design

The machine is designed for true plug-and-play installation, enabling quick and effortless setup. Universal inlet and outlet flanges eliminate the need for adapters and ensure compatibility with global standards, while a standard inlet filter is precisely sized to match the performance curves and minimize pressure drop across the entire operating range. The simplified inlet valve design further enhances reliability, ease of use, and smooth, efficient operation.

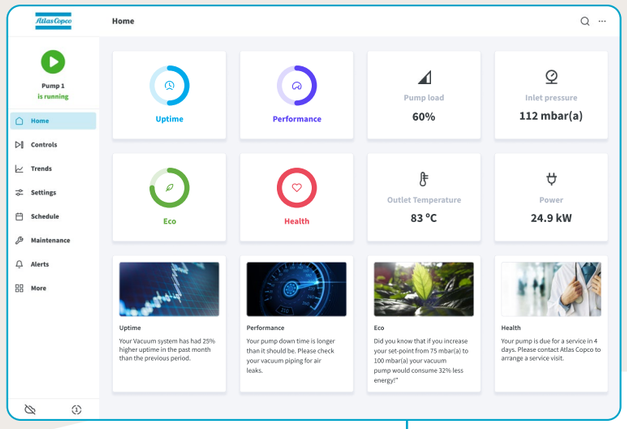
Reduced maintenance

A key advantage of the GHS 402-1002 VSD⁺ is its extended service interval and lower total cost of ownership. Thanks to the new motor technology and oil-lubricated bearings, major service intervals are significantly extended, reducing service requirements over the lifetime of the pump. This leads to higher availability and uptime, fewer service interventions, and lower operating costs, delivering lasting value and peace of mind for customers.

HEX@™: Sixth sense intelligence

through connectivity and control

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



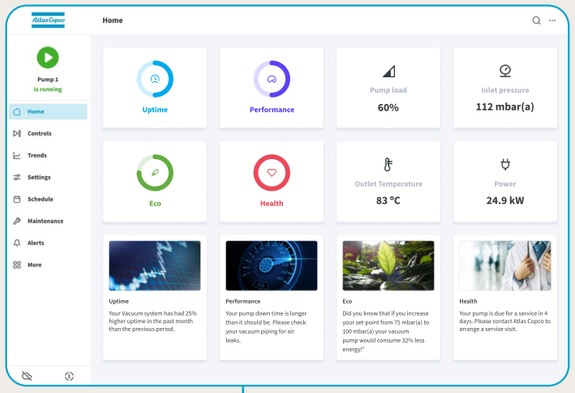
Screens showing KPIs for process optimization.



Access and visualize pump trends, such as pressure and temperature.

User-friendly interface as standard by which to access Hex@™'s functionalities.



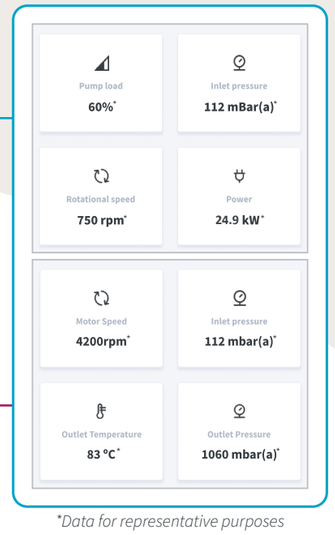


Automated insights and updates

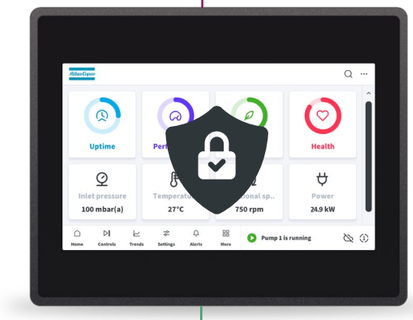
HEX@™ offers the benefits of having a connected device such as automatic software updates, access to future released functionality and increased understanding into vacuum performance. HEX@™ will also provide insights, recommendations and feedback based on pump performance both current and historically. HEX@™ will empower you to take proactive steps to optimize your vacuum system and maximize your production.

Configurable interface

With clear presentation and intuitive layout, the HEX@™ user friendly interface is quick and straightforward to navigate. 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.



*Data for representative purposes

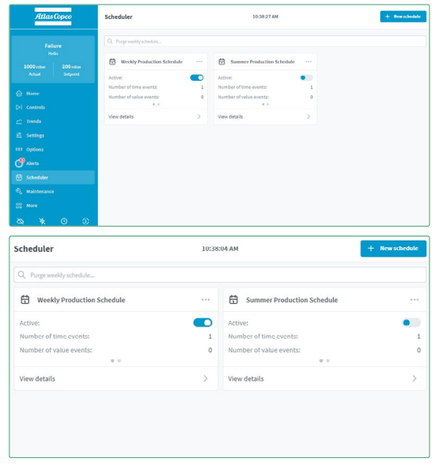


Secure web-based interface

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 can control and monitor your pump like you were standing right next to it.

Smart functionalities

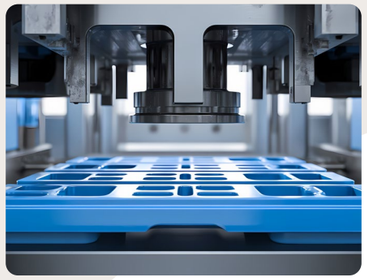
HEX@™ also has smart functionalities which let you, for example, plan specific functions outside the production time – this can be set either on calendar day or running hours. You can also switch between operating modes which means you can save your operation settings for future convenience, moving between setting profiles according to the needs of production.



Applications

Woodworking | Food packaging (Rotary, In-line large tray sealers, Central vacuum systems)
Sewage | Cooling | Clay | Plastics forming | Pasta | Semiconductor | Beer bottling








Variants available

- Humid
- Stainless steel
- Energy recovery
- High Ambient Version (HAV)
- Pump-down optimization
- Predictive maintenance
- Vapour Control Algorithm
- ΔP control

Introducing - Humid pump variant designed for humid applications

Humid processes require a tailored vacuum solution. The GHS 402-1002 VSD+ humid variant is engineered to work as a complete, optimized setup, with an external filtration as an extension of the vacuum pump. This approach ensures stable performance, accurate control, and reliable operation across a wide range of humid applications and installation requirements.

- Variety of external filtrations systems available to suit all demanding processes
- Equipped for advanced algorithms and dedicated control functions to handle high vapor content processes
- Compatible with external filtration systems for plug and play installation
- Options available for filter condition monitoring and maintenance alerts

Technical specifications*

	Units	GHS 402 VSD+	GHS 402 VSD+ Turbo	GHS 602 VSD+	GHS 602 VSD+ Turbo	GHS 752 VSD+	GHS 752 VSD+ Turbo	GHS 902 VSD+	GHS 902 VSD+ Turbo	GHS 1002 VSD+
Nominal displacement	m³/h	467	467	640	640	805	805	917	917	1039
	cfm	275	275	377	377	474	474	540	540	612
Ultimate pressure	mbar(a)	0.35								
	torr	0.26								
Frequency range	Hz	50-60								
Average absorbed power at min. speed	kW	3								
	hp	4								
Nominal motor	kW	5.5	7.5	7.5	11	11	15	15	18.5	18.5
	hp	7.4	10	10	15	15	20	20	25	25
Noise level (ISO 2551)	dB(A)	68±3	68±3	69±3	69±3	70±3	70±3	72±3	73±3	73±3
Oil capacity	l	16								
	gal	4								

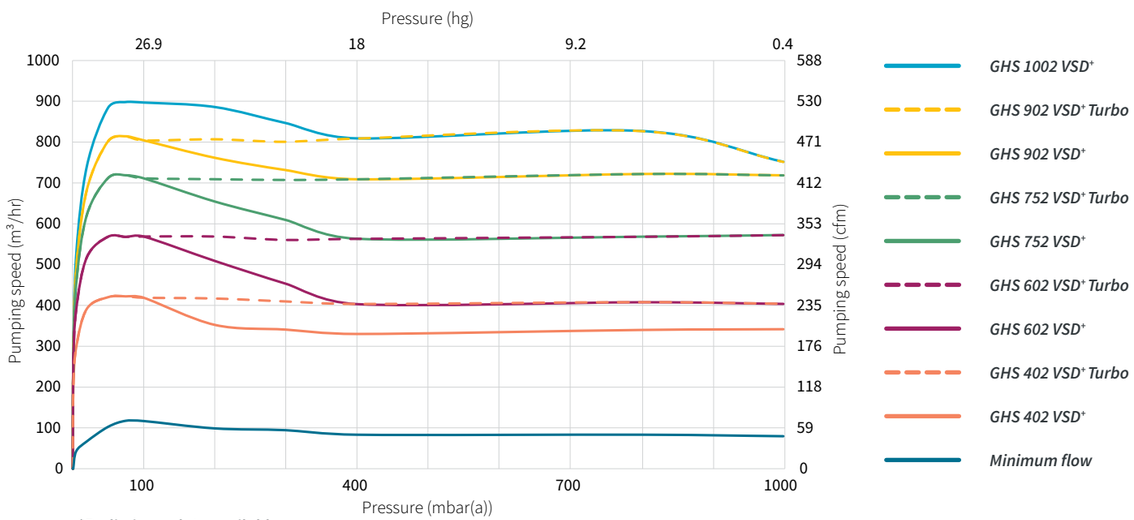
Preliminary data available

Dimensions and weight



Model	Inlet flange	Outlet flange	Length		Width		Height		Weight	
			mm	in	mm	in	mm	in	kg	lb
GHS 402 VSD+	DIN100 PN10 / ANSI 4" class 150	DIN100 PN10 / ANSI 4" class 150	890	35	1040	41	1269	50	592	1305
GHS 402 VSD+ Turbo	DIN100 PN10 / ANSI 4" class 150	DIN100 PN10 / ANSI 4" class 150	890	35	1040	41	1269	50	592	1305
GHS 602 VSD+	DIN100 PN10 / ANSI 4" class 150	DIN100 PN10 / ANSI 4" class 150	890	35	1040	41	1269	50	592	1305
GHS 602 VSD+ Turbo	DIN100 PN10 / ANSI 4" class 150	DIN100 PN10 / ANSI 4" class 150	890	35	1040	41	1269	50	592	1305
GHS 752 VSD+	DIN100 PN10 / ANSI 4" class 150	DIN100 PN10 / ANSI 4" class 150	890	35	1040	41	1269	50	592	1305
GHS 752 VSD+ Turbo	DIN100 PN10 / ANSI 4" class 150	DIN100 PN10 / ANSI 4" class 150	890	35	1040	41	1269	50	600	1323
GHS 902 VSD+	DIN100 PN10 / ANSI 4" class 150	DIN100 PN10 / ANSI 4" class 150	890	35	1040	41	1269	50	600	1323
GHS 902 VSD+ Turbo	DIN100 PN10 / ANSI 4" class 150	DIN100 PN10 / ANSI 4" class 150	890	35	1040	41	1269	50	600	1323
GHS 1002 VSD+	DIN100 PN10 / ANSI 4" class 150	DIN100 PN10 / ANSI 4" class 150	890	35	1040	41	1269	50	600	1323

Performance curves*



Preliminary data available

Service solutions

Preventive Care



Complete service with our Preventive Care plan

We take over the maintenance planning and responsibility for servicing your vacuum pump on a regular basis. Our Preventive Care plan is tailored to your pump's needs. As your pump is serviced with the latest technology, high levels of energy efficiency are achieved. We will also optimize service events to reduce your total cost of ownership and increase your productivity. This allows you to focus fully on your production.

Maximize the lifetime of your vacuum pumps

Our vacuum specialists are well trained and experts in the field. They will help you to improve uptime and protect your processes. Regular maintenance conducted by one of our vacuum specialists reduces the risk of deterioration. Damaged or worn parts will be replaced with genuine Atlas Copco spare parts to protect your investment and increase the lifespan of your vacuum pumps.

Cost-effective approach

Regular scheduled maintenance can identify potential problems before they occur and plans can be structured around your individual production situation. Preventive Care enables cost management as you can plan your maintenance costs in advance. In this way, expenses associated with unplanned downtime are minimized.

Reliability meets non-stop productivity

We use genuine Atlas Copco spare parts and oil and our services are conducted by vacuum specialists according to manufacturer's recommendations. This enhances your vacuum pump performance, reducing the risk of downtime and enabling your production to run more smoothly.



Atlas Copco AB

atlascopco.com/vacuum

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