NEOS

Inverter for Variable Speed Drive compressors

In 1994, Atlas Copco invented the first compressor with Variable Speed Drive (VSD). In 2014, we re-invented the VSD drive for the compressor. The Neos is Atlas Copco's *in-house designed* inverter specifically for GA oil-injected screw compressors. Today we are expanding this technology to our Z range of oil-free air compressors.

DESIGNED FOR ROBUSTNESS

Neos has an IP5X protection degree. All components in the drive are protected from dust and moisture, thanks to a robust, aluminum enclosure. The Neos will operate trouble-free in the harshest conditions.

SIMPLICITY IS KEY

Neos has been designed in-house by Atlas Copco. The focus is on compactness, simplicity and user-friendliness.

ECO-FRIENDLY DESIGN

Less components, also means the Neos has less impact on the environment at the end of its lifecycle. For Atlas Copco, long-term sustainability is a crucial part of innovation.

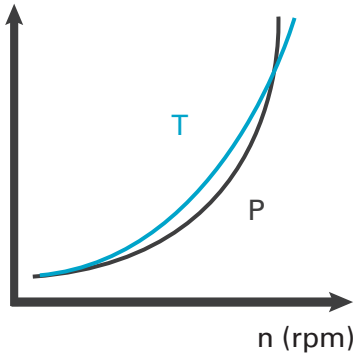
Dedicated compressor drive

Compressor manufacturing is not the main target market for the classic inverter brands. Their products have to fit a broad spectrum. In fact, the most common usage for VSD drives are fans and pumps.

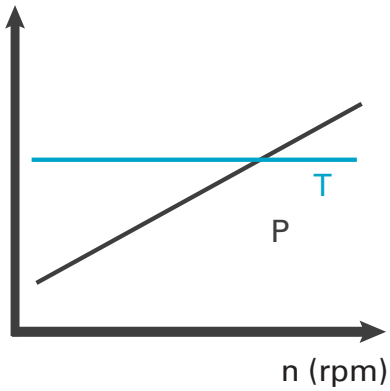
For almost 20 years, Atlas Copco qualifies VSD drives for compressor applications, building a vast experience. We learned from field experience that traditional drives suffer in compressor applications from dust, humidity, over currents, etc. It was time to put all this expertise together and develop a drive tailor-made to Atlas Copco's compressors.

CONSTANT TORQUE

Fans and pumps have a **quadratic torque** load type. The power usage is cubically proportional to the speed. These applications are typically referred to as 'light duty' or 'normal duty'.



A compressor is a **constant torque** application. Here the input power/input current varies directly with the speed. The average current of drives used in constant torque applications is higher than for quadratic loads. Those applications are referred to as heavy duty.



For our compressor applications, also the output current is constantly over 70% of the nominal output current. When working on 13 bar we are almost constantly between 80-90% of the nominal current.

So compressors are much more demanding on drives since they force the drive to run almost continuously in the upper ranges of the nominal current, thus at full load.

Robust and simple

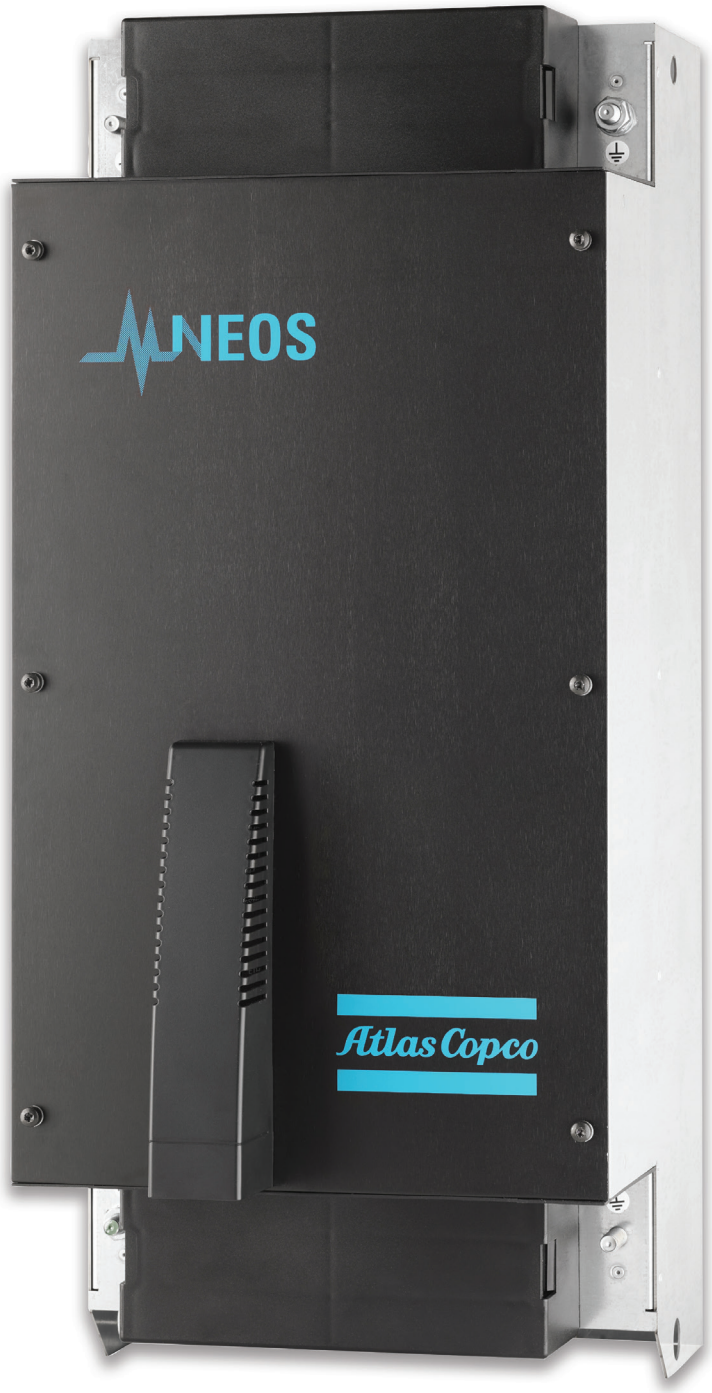
The Neos has an **IP5X** protection degree. A compact, robust aluminum enclosure protects it from dust and moisture, making it suitable to operate in the harshest conditions. Atlas Copco made sure high protection and optimized cooling go together. Where other brands are rated for 40°C (and de-rated up to 50°C), the Neos is designed to operate continuously at 50°C ambient conditions and up to 60°C by de-rating. Maximum uptime and productivity are guaranteed.

The Neos is qualified in lab conditions, but has also passed endurance tests in the field, at sites specifically selected for their harsh, challenging ambient conditions.

Less is more. The Neos has everything on board to function optimally, nothing less, nothing more. As the Neos only has to work for Atlas Copco's compressors, there are no excess components. There are no unnecessary digital in- and outputs, no options like communications modules, resulting in a compact design. The same goes for the software, with less parameters than traditional systems, the Neos is user-friendly and easy to configure.

All communication is done via the Elektronikon® controller, so no extra control panel is needed.

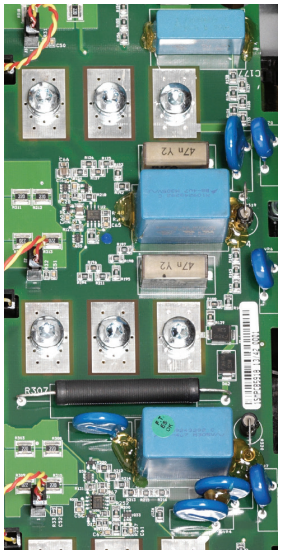
This in-house design allows for an improved control over the lifecycle of the application and guarantees the availability of spare parts and replacements.



Sustainability

Less is also for sustainability more. Less components, also means the Neos has less impact on the environment at the end of its lifecycle. With all new developments, long-term sustainability is one of our focus points.

Sustainability also means responsability, for example making sure that none of the materials used in our drive are minerals from conflict areas. As a result from all these efforts, Atlas Copco is ranked as one of the world's most ethical companies by Ethisphere Institute.



TECHNICAL SPECIFICATIONS

Mains Connection	Supply voltage 3-phase 380 to 460 V AC +10 /-10%
	Frequency 50 to 60 Hz ± 5%
	Other voltages are possible by usage of a transformer.
Start-up	Possible against 13 bar back pressure
Protection rating	IP5x (Power electronics)
Ambient conditions	Operation at full power between -20°C and 50°C
	Operation up to 60°C possible with a de-rating of the output power
Humidity	Relative humidity below 95% (non-condensing)
Approvals	**Compressors with Neos comply to:** Machine directory 2006/42/EC EMC compatibility 2004/108/EC Low Voltage Directive 2006/95/EC
	Electrical approvals for the cubicles and motors: IEC or UL/cUL EMC compatibility according to European directive 2004/108/EC
Motor control	Motor types – asynchronous motors
Communication	Elektronikon® controller over CAN
Applicable software	Speci5 - dedicated commissioning tool (Neos browser)

Made in the EU

Atlas Copco

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ISO 9001 · ISO 14001
OHSAS 18001

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