# Oil-injected rotary screw compressors



G 110-250 (110-250 kW / 150-340 hp)
G 160 VSD (160 kW / 200 hp)

Atlas Copco





# *Reliable technology in a robust design*

Atlas Copco has a long, and successful history of designing and building rugged and reliable air compressors. The G 110-250 and G 160 VSD air compressors have been designed according to this proud tradition. They incorporate many unique features that help them operate in the harshest conditions. The integrated oil and water separation systems produce high quality air to reduce costly downtime and production delays. G range air compressors are highly efficient, easy to install and maintain, which helps keep your operating costs to an absolute minimum.



## Cement industry

RELIABILITY IN A DUSTY ENVIRONMENT

Compressed air is used for many applications in the cement industry which include dust collectors, air knives, pneumatic clutches, pneumatic actuators and dust bag filtration systems. Thanks to the high reliability of G 110-250 and G 160 VSD air compressors, the cement production lines will stay up and running, day in, day out.

## Mining industry

ROBUSTNESS AND RELIABILITY

Compressed air is used for many applications in the cement industry which include dust collectors, air knives, pneumatic clutches, pneumatic actuators and dust bag filtration systems. Thanks to the high reliability of G 110-250 and G 160 VSD air compressors, the cement production lines will stay up and running, day in, day out.

## Power plants

SMOOTH AND COST-EFFECTIVE OPERATION

Power plants run round-the-clock to supply vital energy to industry and consumers. A continuous supply of compressed air is absolutely critical for trouble-free operation. G 110-250 and G 160 VSD compressors provide a reliable source of compressed air for applications such as silt blowing and fly ash handling.

## General industry

A SAFE AND RELIABLE POWER SOURCE

Many industrial companies use compressed air in their daily operations. Applications include pneumatic tools for cutting, drilling, hammering and grinding; pneumatic actuators and valves; ventilation systems; packing and palleting machinery and conveyor systems. G 110-250 and G 160 VSD compressors are designed for ultimate performance and reliability.







## High reliability

A reliable supply of compressed air is essential to make sure that production runs smoothly and efficiently. High-end features and generous safety margins stand for high reliability and continuous production. Air filters remove dust, maximize the lifetime of parts and ensure reliable operation.

## High efficiency

G 110-250 and G 160 VSD air compressors are designed to be highly energy efficient. The superior screw element provides the optimum combination of maximum free air delivery and low energy consumption. The state-of-the-art compressor element is powered by high efficiency electric motors, contributing to maximum package efficiency.

## Easy installation, use and maintenance

G 110-250 and G 160 VSD air compressors are truly plug-and-run machines. Installation, operation and maintenance are simple. Complex connections or in-depth technical knowledge are unnecessary. Just put the compressor on a flat floor, connect the power supply and the pipe connections and press the start button to run the compressor.

## Assuring your peace of mind

Through continuous investment in our competent, committed and efficient service organization, Atlas Copco ensures superior customer value by maximizing productivity. With a presence in over 180 countries, we offer professional and timely service through interaction and involvement. Uptime is ensured by dedicated technicians and 24/7 availability.

# G 110-250: Reliability, efficiency and simplicity

1

## Heavy-duty oil filter

- Outstanding oil purification capability ensures a clean compressor oil system.
- Long service intervals and easy access for reduced maintenance costs.

2

## State-of-the-art screw element

- Atlas Copco designed an asymmetric element profile with high quality bearings offering low wear and increased reliability.
- The unique profile design provides industry leading energy efficiency to lower your operating cost.

3

## Reliable patented air inlet valve

- High efficiency Load / No Load control.
- Simple design reduces maintenance costs and increases reliability.




4

## Superior air filtration

- Dust removal and filtering system with efficiency of up to 99.9% even in heavy-duty environments (particles ≥ 3 micron).
- Protects compressor parts and components, ensures air quality and extends the service life of the overall air system.

5

## High-efficiency motor

- TEFC IP55 motor (Class F insulation B rise) protects against dust and chemicals.
- Long-term stable operation even in harsh environments.

## Air-water separator (standard)

- Integrated air-water separator efficiently separates condensate.
- Large-sized water outlet avoids risk of clogging and ensures worry-free operation.

## Easy to install, use and service

- No foundations needed: easy installation.
- Completely integrated, silenced package.
- Easy to transport and simple maintenance.

# *Monitoring and control: how to get the most from the least*

The Elektronikon® unit controller is specially designed to maximize the performance of your compressors and air treatment equipment under a variety of conditions. Our solutions provide you with key benefits such as increased energy efficiency, lower energy consumption, reduced maintenance times and less stress... less stress for both you and your entire air system.



## Intelligence is part of the package

- High resolution color display gives you an easy to understand readout of the equipment's running conditions.
- Clear icons and intuitive navigation provides you fast access to all of the important settings and data.
- Monitoring of the equipment running conditions and maintenance status; bringing this information to your attention when needed.
- Operation of the equipment to deliver specifically and reliably to your compressed air needs.
- Built in remote control and notifications functions provided as standard, including simple to use Ethernet based communication.
- Support for 31 different languages, including character based languages.



## Increase production reliability and safeguard air quality

Our air treatment solutions produce clean, dry compressed air to enhance your production system's reliability, avoiding costly downtime and production delays. Our air treatment equipment has been designed and manufactured to the same exacting standards as our compressors to ensure maximum reliability and energy efficiency.

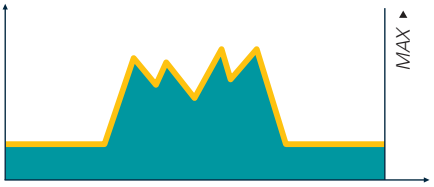
# VSD: Driving down your energy costs

Over 70% of a compressor's life cycle cost is taken up by the energy it consumes. Moreover, the generation of compressed air can account for more than 40% of a plant's total electricity bill. Atlas Copco was the first compressor manufacturer to introduce compressors with integrated Variable Speed Drive (VSD). With over 20 years of design and manufacturing experience our VSD technology has reached new heights of energy savings and reliability. VSD technology reduces energy consumption in systems that have varying air demand patterns. This reduction in energy consumption not only reduces your energy consumption but also your carbon footprint to help protect the environment for generations to come.

## Why VSD technology?

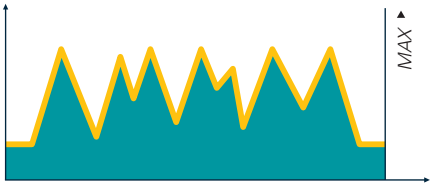
In almost every production environment, air demand fluctuates depending on different factors (time of the day, week or even month). Extensive measurements and studies of compressed air demand profiles show that many compressors have substantial variations in air demand. Only 8% of all installations have a more stable air demand. Tests prove that, even in this case, VSD compressors save energy.

### Profile 1




- 64% of all installations.
- Factory working 24 hrs/day: low demand at night & high demand during the day.

### Profile 2

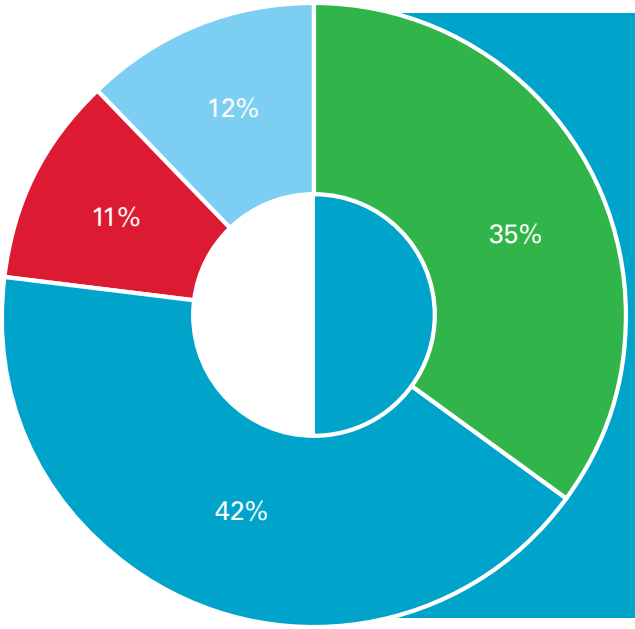



- 28% of all installations.
- Factory working 2 shifts/day, no weekend work: erratically varying air demand.

### Profile 3




- 8% of all installations.
- Factory working 2 shifts/day, no weekend work: typical 'fixed' speed application.




## On average 35% energy savings

Our G VSD technology closely follows the air demand by automatically adjusting the motor speed. This results in on average 35% energy savings. The lifecycle cost of a compressor can be cut by an average of 22%. In addition, lowered system pressure with G VSD dramatically minimizes energy use across your production.

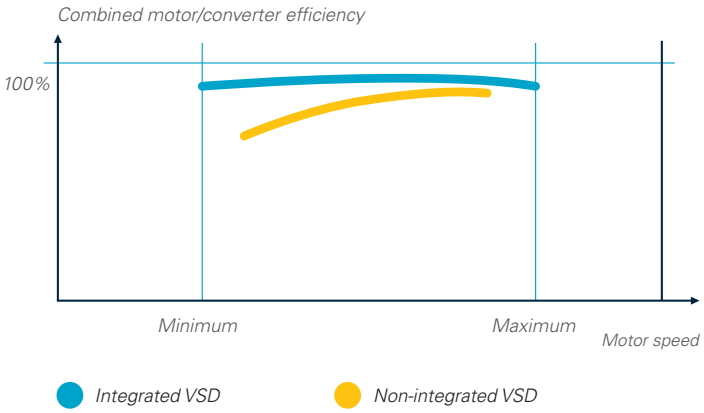
## Total compressor lifecycle cost

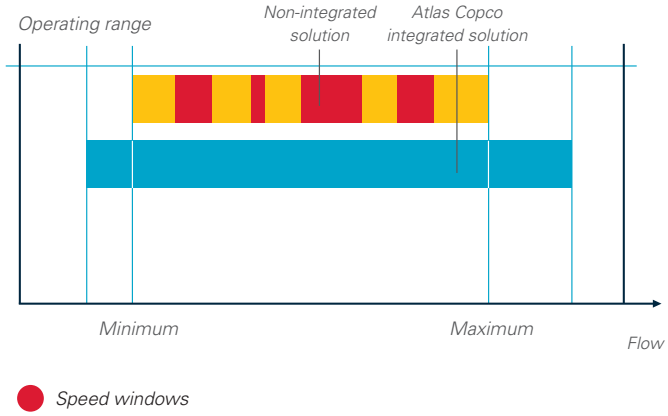
- *Energy*
- *Investment*
- *Energy savings with VSD*
- *Maintenance*

## Find out how much you can save

We can help you map the air demand profile of your current compressor installation and indicate potential energy savings with VSD compressors. For more information, please contact your local Atlas Copco representative.

# What is unique about the integrated Atlas Copco G VSD?




1 The Elektronikon® controls both the compressor and the integrated converter, ensuring maximum machine safety within parameters.

2 Flexible pressure selection from 4 to 10 bar with electronic gearing reduces electricity costs.

3 Specific converter and motor design (with protected bearings) for the highest efficiency across the speed range.

4 Electric motor specifically designed for low operating speeds with clear attention to motor cooling and compressor cooling requirements.

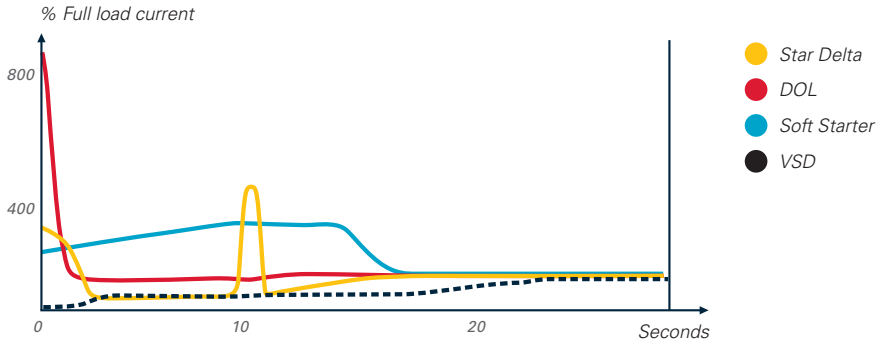
5 All G VSD compressors are EMC tested and certified. Compressor operation does not influence external sources and vice versa.

6 Mechanical enhancements ensure that all components operate below critical vibration levels throughout the entire compressor speed range.

7 No 'speed windows' that can jeopardize energy savings or the stability of the net pressure. Turndown capability of the compressor is maximized to 80-85%.

8 Net pressure band is maintained within 0.10 bar, 1.5 psi.

## No current peaks



# Optimize your system

## Scope of supply

| | |
|---|---|
| Air circuit | Air inlet filter and flexibles |
| | Air intake valve |
| | Full load/no load regulator |
| | Long lifetime filtration and separation elements |
| | Integrated water separator |
| Oil circuit | Heavy-duty oil filters |
| | Complete oil circuit system |
| | Air-oil separator |
| Cooling circuit | Compressed air aftercooler and oil cooler |
| | Low noise cooling fan for air-cooled units |
| | Corrosion resistant coolers for water-cooled units |
| Electrical components | TEFC IP55 Class F electric motor |
| | Starters (Star-Delta) |
| | Pre-mounted electrical cubicles |
| | Elektronikon® unit controller |
| Framework | Structural skid with no need for foundations |
| | Silenced canopy |
| | Flexible vibration dampers |
| Mechanical approval | ASME approval |
| | CE approval |
| | Other country specific approvals |

# Additional features & options

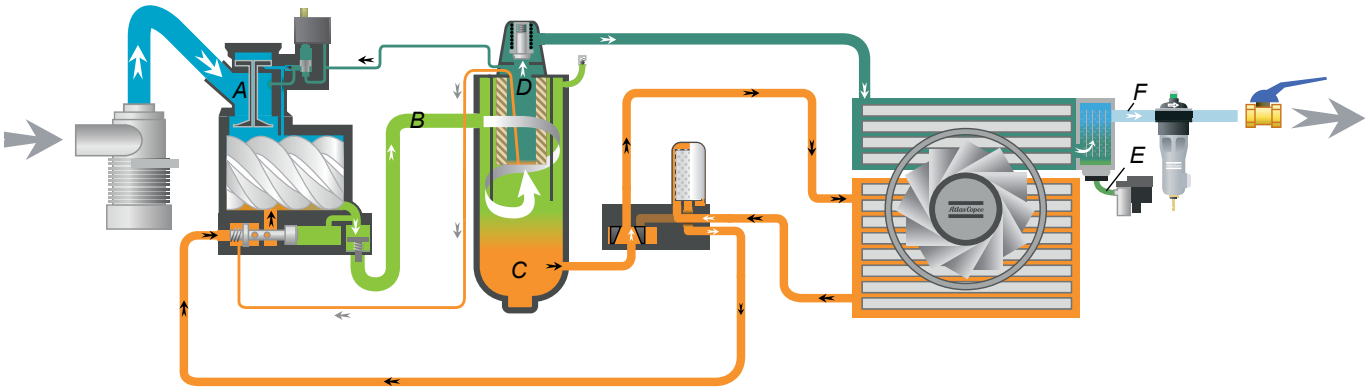
| | G 110-160 | G 200-250 |
|---|---|---|
| Phase sequence relay | - | ● |
| PT1000 the main motor windings and bearings | - | ● |
| Anti-condensation heater in the main motor | - | ● |
| Roto X-tend fluid 8000 h oil | √ | √ |
| NPT/ANSI connections | ● | ● |
| Anchor pads | - | ● |
| Performance test certificate | ● | ● |
| Witness performance test | ● | ● |
| Seaworthy packaging | ● | ● |
| SPM monitoring | - | ● |
| Electronic condensate drain | - | ● |

** Please consult us for performances and applications of options.*

*√: Standard ●: Optional - : Not available*

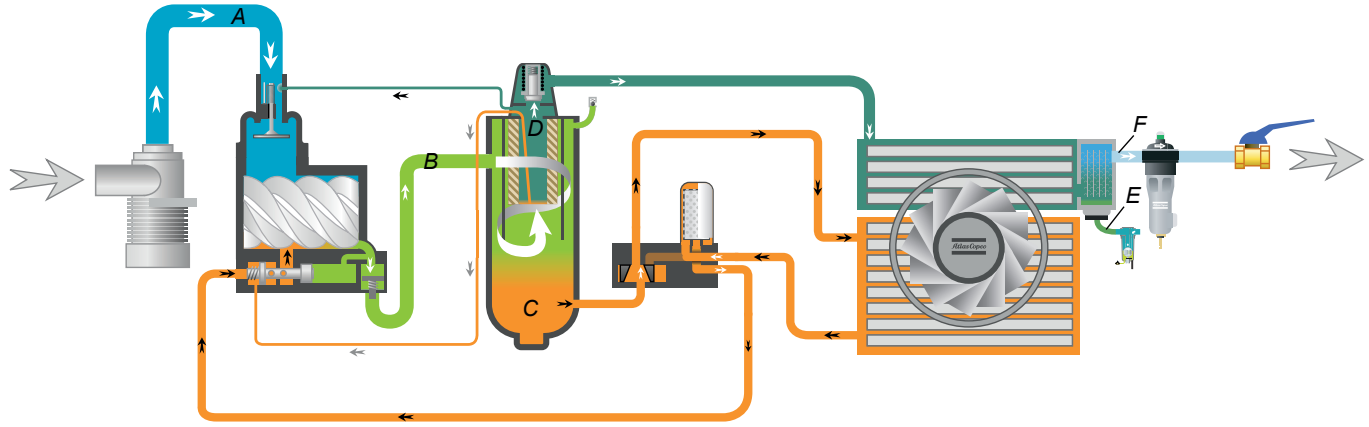
# Flow chart

## Fixed speed




A Intake air
B Air/oil mixture
C Oil
D Wet compressed air
E Condensate
F Dried compressed air

## Variable Speed Drive: G VSD




A Intake air
B Air/oil mixture
C Oil
D Wet compressed air
E Condensate
F Dried compressed air

# Technical specifications G 110-250 / G 160 VSD

| TYPE | Working pressure | | Capacity FAD (1) | | | | | | Installed motor power | Noise level (2) | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar(e) | psig | l/s | | m³/min | | cfm | | kW | dB(A) | kg | lbs |
| **50 Hz** | | | | | | | | | | | | |
| G 110 | 7.5 | 109 | 319 | | 19.1 | | 676 | | 110 | 78 | 3000 | 6614 |
| | 8.5 | 123 | 302 | | 18.1 | | 640 | | 110 | 78 | 3000 | 6614 |
| | 10 | 145 | 278 | | 16.7 | | 589 | | 110 | 78 | 3000 | 6614 |
| G 132 | 7.5 | 109 | 379 | | 22.7 | | 803 | | 132 | 78 | 3100 | 6834 |
| | 8.5 | 123 | 356 | | 21.4 | | 754 | | 132 | 78 | 3100 | 6834 |
| | 10 | 145 | 330 | | 19.8 | | 699 | | 132 | 78 | 3100 | 6834 |
| G 160 | 7.5 | 109 | 453 | | 27.2 | | 960 | | 160 | 78 | 3375 | 7441 |
| | 8.5 | 123 | 430 | | 25.8 | | 911 | | 160 | 78 | 3375 | 7441 |
| | 10 | 145 | 400 | | 24.0 | | 848 | | 160 | 78 | 3375 | 7441 |
| G 200 | 7.5 | 109 | 592 | | 35.5 | | 1254 | | 200 | 78 | 5405 | 11916 |
| | 8.5 | 123 | 545 | | 32.7 | | 1155 | | 200 | 78 | 5405 | 11916 |
| | 10 | 145 | 513 | | 30.8 | | 1087 | | 200 | 78 | 5405 | 11916 |
| G 250 | 7.5 | 109 | 681 | | 40.9 | | 1443 | | 250 | 78 | 5695 | 12555 |
| | 8.5 | 123 | 667 | | 40.0 | | 1413 | | 250 | 78 | 5695 | 12555 |
| | 10 | 145 | 626 | | 37.6 | | 1326 | | 250 | 78 | 5695 | 12555 |
| G 160 VSD | 8.5 | 123 | 127 | 468 | 7.6 | 28.1 | 269 | 992 | 160 | 78 | 3415 | 7529 |
| | 10 | 145 | 177 | 418 | 10.6 | 25.1 | 375 | 886 | 160 | 78 | 3415 | 7529 |

***Reference conditions:***

- *Absolute inlet pressure 1 bar (14.5 psi)*
- *Intake air temperature 20°C (68°F)*
- *Cooling medium temperature 20°C (68°F)*

*(1) **Unit performance** measured according to ISO 1217, Annex C, Edition 4 (2009). FAD is measured at the following working pressures:*

- *7.5 bar variants at 7 bar*
- *8.5 bar variants at 8 bar*
- *10 bar variants at 9.5 bar*

*(2) **Noise level***

*A-weighted emission sound pressure level at the work station, Lp WSA (re 20 µPa) dB (with uncertainty 3 dB). Values determined according to noise level test code ISO 2151 and noise measurement standard ISO 9614.*

| TYPE | Working pressure | | Capacity FAD (1) | | | | | | Installed motor power | Noise level (2) | Weight | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | psig | bar(e) | l/s | | m³/min | | cfm | | HP | dB(A) | kg | lbs |
| **60 Hz** | | | | | | | | | | | | |
| G 110 | 100 | 6.9 | 312 | | 18.7 | | 661 | | 150 | 78 | 3000 | 6614 |
| | 125 | 8.6 | 307 | | 18.4 | | 650 | | 150 | 78 | 3000 | 6614 |
| | 150 | 10.3 | 272 | | 16.3 | | 576 | | 150 | 78 | 3000 | 6614 |
| G 132 | 100 | 6.9 | 383 | | 23.0 | | 812 | | 175 | 78 | 3100 | 6834 |
| | 125 | 8.6 | 338 | | 20.3 | | 716 | | 175 | 78 | 3100 | 6834 |
| | 150 | 10.3 | 306 | | 18.4 | | 648 | | 175 | 78 | 3100 | 6834 |
| G160 | 100 | 6.9 | 427 | | 25.6 | | 905 | | 215 | 78 | 3375 | 7441 |
| | 125 | 8.6 | 393 | | 23.6 | | 833 | | 215 | 78 | 3375 | 7441 |
| | 150 | 10.3 | 362 | | 21.7 | | 767 | | 215 | 78 | 3375 | 7441 |
| G 200 | 100 | 6.9 | 592 | | 35.5 | | 1254 | | 250 | 78 | 5405 | 11916 |
| | 125 | 8.6 | 545 | | 32.7 | | 1155 | | 250 | 78 | 5405 | 11916 |
| | 150 | 10.3 | 513 | | 30.8 | | 1087 | | 250 | 78 | 5405 | 11916 |
| G 250 | 100 | 6.9 | 681 | | 40.9 | | 1443 | | 300 | 78 | 5695 | 12555 |
| | 125 | 8.6 | 667 | | 40.0 | | 1413 | | 300 | 78 | 5695 | 12555 |
| | 150 | 10.3 | 626 | | 37.6 | | 1326 | | 300 | 78 | 5695 | 12555 |
| G 160 VSD | 125 | 8.6 | 127 | 468 | 7.6 | 28.1 | 269 | 992 | 214 | 78 | 3415 | 7529 |
| | 150 | 10.3 | 177 | 418 | 10.6 | 25.1 | 375 | 886 | 214 | 78 | 3415 | 7529 |

***Reference conditions:***

- *Absolute inlet pressure 1 bar (14.5 psi)*
- *Intake air temperature 20°C (68°F)*
- *Cooling medium temperature 20°C (68°F)*

*(1) **Unit performance** measured according to ISO 1217, Annex C, Edition 4 (2009). FAD is measured at the following working pressures:*

- *100 psi variants at 100 psi*
- *125 psi variants at 125 psi*
- *150 psi variants at 150 psi*

*(2) **Noise level***

*A-weighted emission sound pressure level at the work station, Lp WSA (re 20 µPa) dB (with uncertainty 3 dB). Values determined according to noise level test code ISO 2151 and noise measurement standard ISO 9614.*

| TYPE | Dimensions | | | | | |
|---|---|---|---|---|---|---|
| | L | | W | | H | |
| | mm | inch | mm | inch | mm | inch |
| G 110-160 | 2800 | 111 | 2000 | 79 | 2000 | 79 |
| G 200-250 | 3386 | 133 | 2120 | 84 | 2400 | 95 |
| G 160 VSD | 2800 | 111 | 2000 | 79 | 2342 | 92 |



## *COMMITTED TO SUSTAINABLE PRODUCTIVITY*

We stand by our responsibilities towards our customers, towards the environment and the people around us. We make performance stand the test of time. This is what we call – Sustainable Productivity.

LLOYD'S REGISTER • LRQA
ISO 9001 • ISO 14001
OHSAS 18001

www.atlascopco.com

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