



## Atlas Copco Aftermarket Lubricants for stationary compressors

In order to be First in Mind—First in Choice™ for all your compressed air needs, Atlas Copco delivers the products and services that help increase your business' efficiency and profitability.

Atlas Copco's pursuit of innovation never ceases, driven by your need for reliability and efficiency. Always working with you, we are committed to providing you the customized quality air solution that is the driving force behind your business.



Never use compressed air as breathing air without prior purification in accordance with local legislation and standards.

**Atlas Copco**

[www.atlascopco.com](http://www.atlascopco.com)

2935 0400 11 - Printed in Belgium - Subject to alteration without prior notice.



**Atlas Copco**

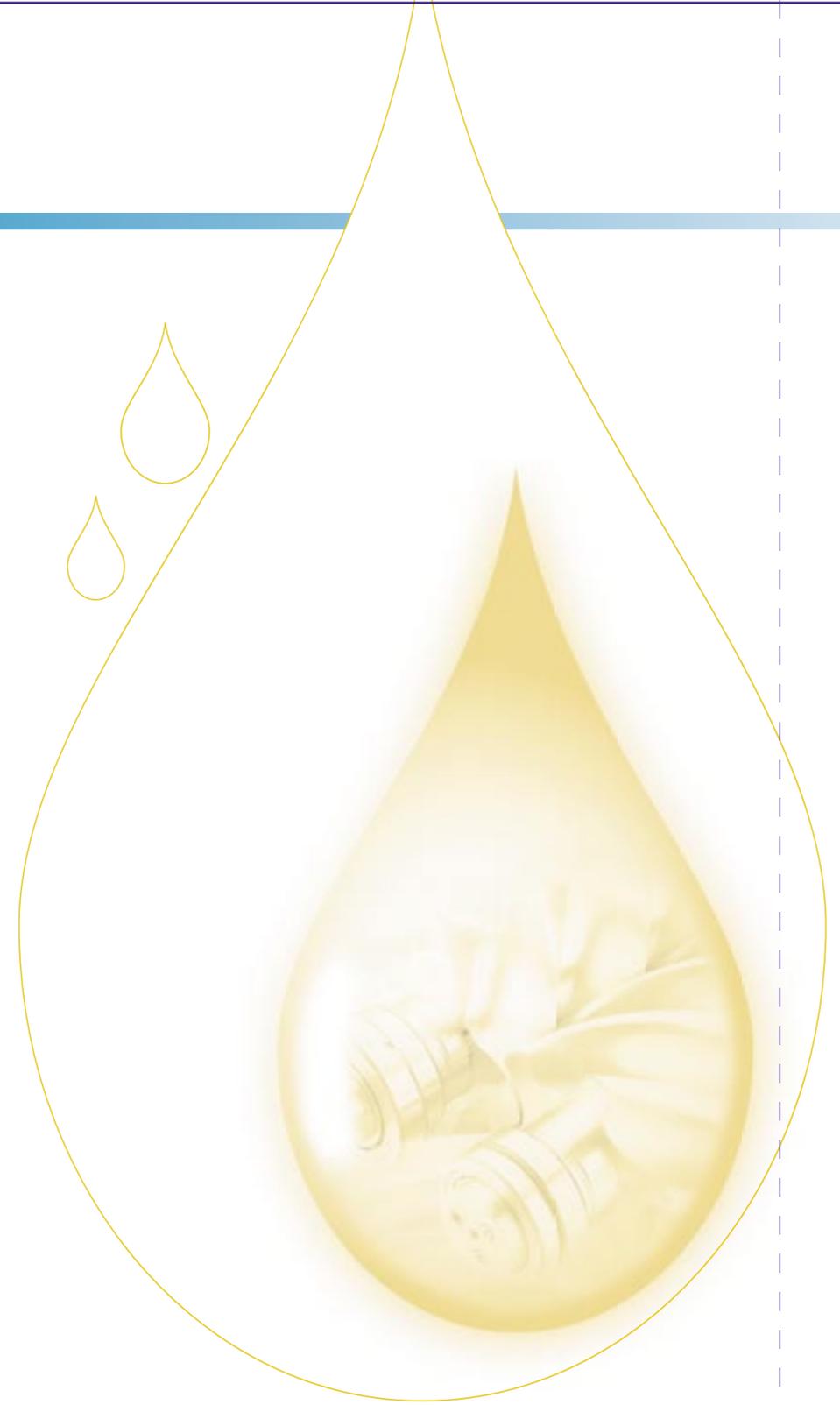
## We have the skills

Effective lubrication is vital to numerous parts of the compression process. Oil is however continuously submitted to extreme conditions that hold a real risk of compromising the smooth running of your compressor. At high operating temperatures, for instance, air humidity may cause the oil to mix with water. Dust is another common contaminant of oil. Both water and dust will cause a quicker oxidation of parts, faster oil aging and increased development of acids that affect the metallic component protection.

To meet these challenges, traditional oils are not an option. Over the last decades, Atlas Copco has gathered extensive know-how on how lubricants behave in a wide range of settings and operating

conditions. This has resulted in a full range of Atlas Copco lubricants engineered from different base oils to meet your compressor's needs for any setup, in any operating conditions.

No other lubricant is a better match for our precision mechanics. No other oil can guarantee top performance of every Atlas Copco component. For your Atlas Copco compressor, Atlas Copco lubricants are the only real choice.





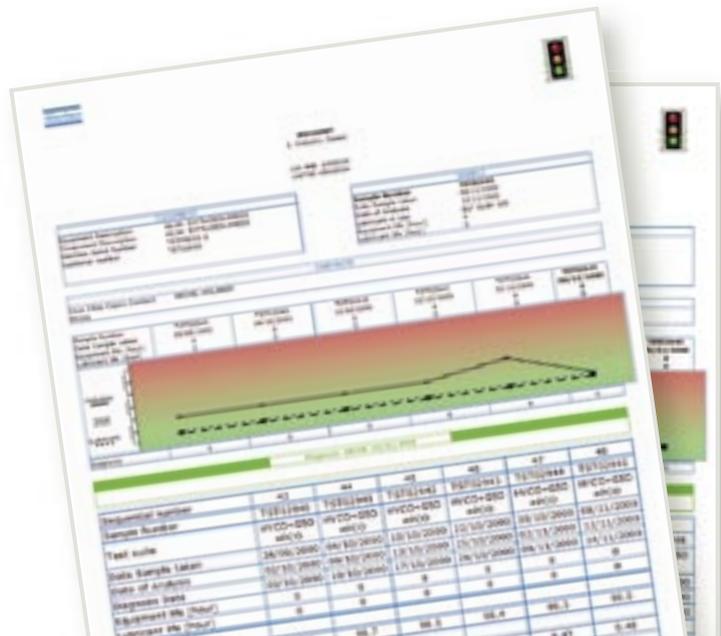
## ▶ Extensive lab and field expertise

No one is better placed than Atlas Copco to formulate the exact oil specifications for its equipment. Atlas Copco compressors operate in varying operating conditions world wide. "Acting Global" challenges us to match the widest and most severe application requirements.

The Atlas Copco Laboratory has an extensive expertise in specifying lubricant properties. Our development efforts are aimed at reducing your service cost with fluids that last longer.

As a part of our elaborate qualification process, endurance tests are conducted both in lab and field conditions. We check if all functions are maintained over long service intervals and measure lubricant aging as well as the behaviour of additives over time.

You can additionally benefit from our expertise as a service with our oil sampling programme ROTOcheck. Oil analysis detects how external pollution (like mist, fumes or excessive humidity) and internal pollution influence the aging of the oils. ROTOcheck predicts abnormal contamination to optimise maintenance and protect your equipment.



## ▶ The longest lifetime for the lowest service cost

A longer lubricant lifetime reduces the total service cost of which oil drains and filter changes represent more than 50%. What's more, less oil drains mean less oil carry-over and less impact on the environment.

These Atlas Copco features effectively contribute to a lower service cost.

- ▶ Compressor design with low oil capacity.
- ▶ Long life lubricants to fit any maintenance schedule requirements.
- ▶ Lower oil carry-over.

Besides more frequent oil drains and filter changes, rapid lubricant aging also causes other related internal components to require servicing very quickly. The servicing of external items as well is influenced by the oil carry-over, impacting the overhaul service cost.

After all, the total lifecycle cost (LCC) for lubricants is not limited to the price of a canister, as maintenance performance of other components can jeopardize the overhaul service cost of the installation.

Atlas Copco lubricants guarantee the optimal performance of every individual Atlas Copco component.



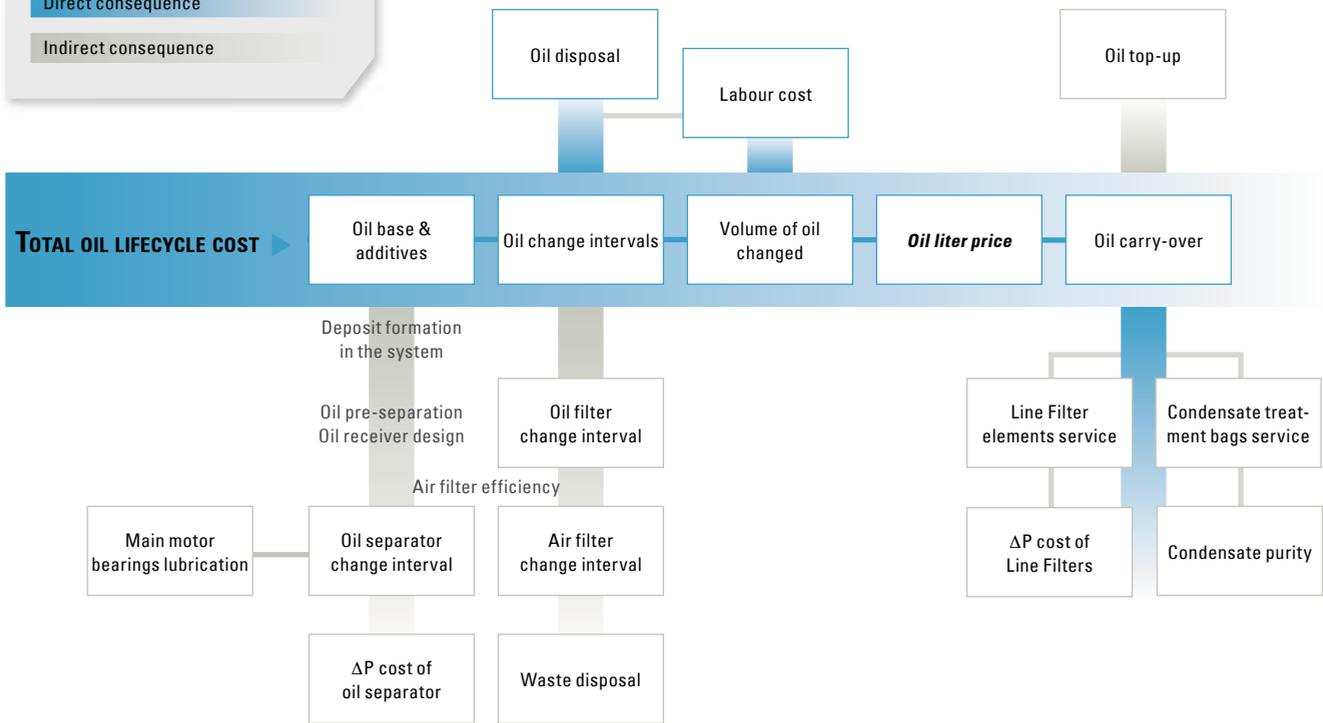
## ▶ Total oil lifecycle cost

### LEGEND

Indirect parameter

Direct consequence

Indirect consequence



# We have the products

## Oil-injected

Only the most appropriate lubricants can ensure that your compressor continues to meet the high operating standards it has been designed for.

The Atlas Copco lubricant portfolio contains a wide range of products to ensure full reliability and long service life in any operating environment.

### Lubricants for all oil-injected screw compressors

	Roto-Inject Fluid
<b>Compressor type</b>	GA - GX
<b>Base oil</b>	Engineered base mineral
<b>Service intervals*</b>	4,000 h / 1 Y
<b>Continuous operation in very high temperature amplitude</b>	+
<b>Oil / Water separation</b>	High demulsification properties guarantee efficient condensate treatment using our integrated (OSD) or external (OSC) condensate treatment devices.
<b>Seals material / Paint compatibility</b>	All our oils are compatible with seal material, silicone rubber and PTFE or polyurethane materials. Compatibility is also verified for paints on an epoxy or phenol resin basis.
<b>Typical application and environment</b>	Mild temperature environment, from low to high duty operation.
<b>Packing colour</b>	



	Roto-Xtend Duty Fluid
<b>Compressor type</b>	GA - GX - GN - GR
<b>Base oil</b>	Engineered synthetic base lubricant
<b>Service intervals*</b>	8,000 h / 2 Y
<b>Continuous operation in very high temperature amplitude</b>	++++
<b>Oil / Water separation</b>	High demulsification properties guarantee efficient condensate treatment using our integrated (OSD) or external (OSC) condensate treatment devices.
<b>Seals material / Paint compatibility</b>	All our oils are compatible with seal material, silicone rubber and PTFE or polyurethane materials. Compatibility is also verified for paints on an epoxy or phenol resin basis.
<b>Typical application and environment</b>	Mild temperature environment, from low to high Complies with high humidity and more severe operating conditions. Complies with applications that enable extended service intervals. Recommended for air treatment using SD membrane dryers.
<b>Packing colour</b>	



	<b>Roto H</b>
<b>Compressor type</b>	GAR
<b>Base oil</b>	PAO base lubricant
<b>Service intervals*</b>	2,000 h / 1 Y
<b>Continuous operation in very high temperature amplitude</b>	+++
<b>Oil / Water separation</b>	High demulsification properties guarantee efficient condensate treatment using our integrated (OSD) or external (OSC) condensate treatment devices.
<b>Seals material / Paint compatibility</b>	All our oils are compatible with seal material, silicone rubber and PTFE or polyurethane materials. Compatibility is also verified for paints on an epoxy or phenol resin basis.
<b>Typical application and environment</b>	Specially developed for GAR compressors.
<b>Packing colour</b>	



#### Lubricants for oil-lubricated Piston compressors

	<b>L Piston Fluid</b>
<b>Compressor type</b>	LE - LT
<b>Base oil</b>	PAO base lubricant
<b>Service intervals*</b>	3,000 h / 2 Y
<b>Continuous operation in very high temperature amplitude</b>	+++
<b>Seals material / Paint compatibility</b>	All our oils are compatible with seal material, silicone rubber, and PTFE and polyurethane materials. Compatibility is also verified for paints on an epoxy or phenol resin basis.
<b>Packing colour</b>	



	<b>Automan Oil</b>
<b>Compressor type</b>	Automan
<b>Base oil</b>	Mineral base lubricant
<b>Service intervals*</b>	Once per year
<b>Continuous operation in very high temperature amplitude</b>	+++
<b>Seals material / Paint compatibility</b>	All our oils are compatible with seal material, silicone rubber, and PTFE and polyurethane materials. Compatibility is also verified for paints on an epoxy or phenol resin basis.
<b>Packing colour</b>	



\* At reference conditions: ambient 20 °C, outlet compressed air temperature 80 °C, no condensation. Performances comply with ISO 6743 /3/ CLASS L DAH.

# We have the products

## ▶ Oil-free

### Tailored to the specific requirements of the oil-free compressor

Oil-free compressors require lubricants for their rotary components beyond the compression process, which is of course totally oil-free.

To accomplish this comprehensive process and assure the longest possible lifetime of the oil, Atlas Copco has put great effort into the development of specific lubricants for the oil-free compressor.

- ▶ Special blend created specifically for Z compressor
- ▶ Unique characteristics
- ▶ Improved lubrication and longer drain intervals

### Role of the lubricant in the oil-free compressor

#### ▶ Enhanced anti-wear properties

Oil-free compressor lubricants contain proven anti-wear additives to remain effective throughout the range of operating conditions. This load carrying capacity is particularly important because oil-free compressors are driven by gears that require oils with anti-wear properties to reduce gear tooth and bearing wear.

#### ▶ Thermal stability and oxidation resistance

Oil-free compressor lubricants must be thermally stable in severe conditions of load and temperature, giving the oil a high resistance to degradation and sludging.

#### ▶ Strong control of oxidation

Excellent oxidation control results in extended oil life, minimizing the formation of aggressive corrosive acids, deposits and sludge, to reduce your operating costs.

#### ▶ High resistance to foaming and rapid air release

The oil couples low foaming tendency with fast air-release properties. This reduces the possibility of problems such as excessive wear and premature oil oxidation, giving you increased system reliability.

#### ▶ Excellent rust and corrosion protection

The lubricant prevents the formation of rust and guards against the onset of corrosion. It ensures the equipment is well protected after exposure to humidity or water during operation and during shut-downs. Maintenance is thus minimized.

### The results:

- ▶ Guaranteed top performance and maximum durability of all moving parts
- ▶ Improved reliability translates into maximum equipment uptime
- ▶ Highly cost-effective because of long drain intervals
- ▶ Maximum component lifetime and product availability
- ▶ Round-the-clock protection of all moving parts

## Lubricants for oil-free compressors

	<b>Roto Z Fluid</b>
<b>Compressor type</b>	ZR & ZT range
<b>Base oil</b>	Semi-synthetic base lubricant
<b>Service intervals*</b>	16,000 h / 2 Y
<b>Continuous operation in very high temperature amplitude</b>	++++
<b>Typical application and environment</b>	Oil dedicated for use on ZR & ZT in all climates and environments.
<b>Packing colour</b>	



	<b>Recip Oil</b>
<b>Compressor type</b>	Oil-free pistons
<b>Base oil</b>	Mineral base lubricant
<b>Service intervals*</b>	8,000 h / 1 Y
<b>Continuous operation in very high temperature amplitude</b>	++++
<b>Typical application and environment</b>	Oil dedicated for use on oil free piston machines in all climates and environments.
<b>Packing colour</b>	



	<b>Roto H Plus</b>
<b>Compressor type</b>	ZH range
<b>Base oil</b>	Mineral base lubricant
<b>Service intervals*</b>	24,000 h / 3 Y
<b>Continuous operation in very high temperature amplitude</b>	++++
<b>Typical application and environment</b>	Oil dedicated for use on ZH in all climates and environments.
<b>Packing colour</b>	



\* At reference conditions: ambient 20 °C, outlet compressed air temperature 80 °C, no condensation. Performances comply with ISO 6743 /3/ CLASS L DAH.

# We are your solution

## ▶ What functions do the Atlas Copco lubricants fulfil?

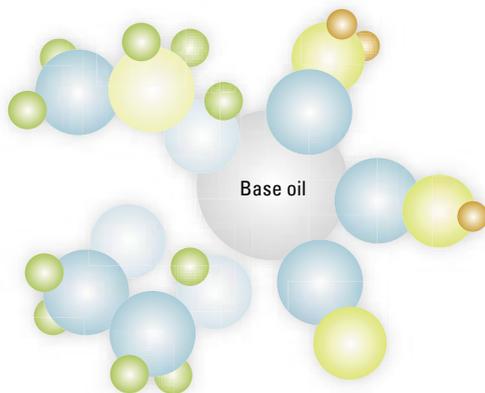
### Lubrication

- ▶ reduces friction and wear between moving parts
- ▶ creates a seal where there is friction between components
- ▶ transfers heat to ensure efficient cooling
- ▶ prevents hot parts from overheating
- ▶ prevents corrosion of compressor parts in the presence of water
- ▶ keeps components free of deposits

Most available lubricants perform well on the first day. Whether they continue to do so in variable operating conditions during several thousands of hours, is another matter. Atlas Copco's robust formula protects your equipment at the best service cost.

## ▶ What are the unique chemical properties of Atlas Copco lubricants?

A quantitative and qualitative selection of additives needs to interact in the right proportion to obtain optimal performance.



The additives not only support the basic lubrication requirements, they also interact in multiple processes in the compressor.



### Demulsification properties

facilitate the water-oil separation in the internal circuit and efficiently remove the condensate to lower pollution.



### Anti-foaming performance

impacts the oil carry-over. The oil pre-separation and the oil/air separation are optimised, the risk of foaming eliminated. Oil contamination in downstream equipment and oil separator is minimised.



### Anti-wear additives

develop a film protect the metallic surface against wear under high loads.



### Surface activity additives

facilitate air separation to reduce oxidation within the lubricant and prevent cavitation in the screw element.



### Anti-oxidant additives

stop the development of acids and avoid deposit formation and viscosity change. They slow down lubricant aging and extend its life time.

## ▶ What are the consequences of poorly performing lubricants?

- ▶ Lower cooling efficiency, leading to overheating of moving parts, e.g.: bearings and rotors
- ▶ Risk of corrosion, particularly at high temperatures
- ▶ Oxidation that generates sludge, increasing the pressure drop through the filtration

Damages consequent to use of low performance lubricants are irreversible, and often lead to high repair costs.

Gear



Oil filter



Bearings



Oil separator