Oil-injected rotary screw compressors

GA 5-37 VDSS (5-37 kW/7-50hp)
GA 22-45 VSD (22-45 kW/30-60 hp)
GA 11-30 FLX (11-30 kW/15-40 hp)

Innovating for a sustainable future

At Atlas Copco, we have always looked ahead. Which products and services will make our customers more successful? Your future drives the Atlas Copco team every day. It is the reason why we devote so much time and so many resources to innovation. If there are technologies that will advance your productivity, we will find them. That is what we have been doing for almost 150 years now, setting new standards in compressed air reliability, efficiency, connectivity, and sustainability.

It's that last principle that now comes first. Sustainability is no longer something we should strive for, but something we must achieve. Productivity and growth will have to be built on sustainability. Atlas Copco – our products, our services, and our people – will help you get there, as we always have.

The technology that drives energy efficiency

Drive train

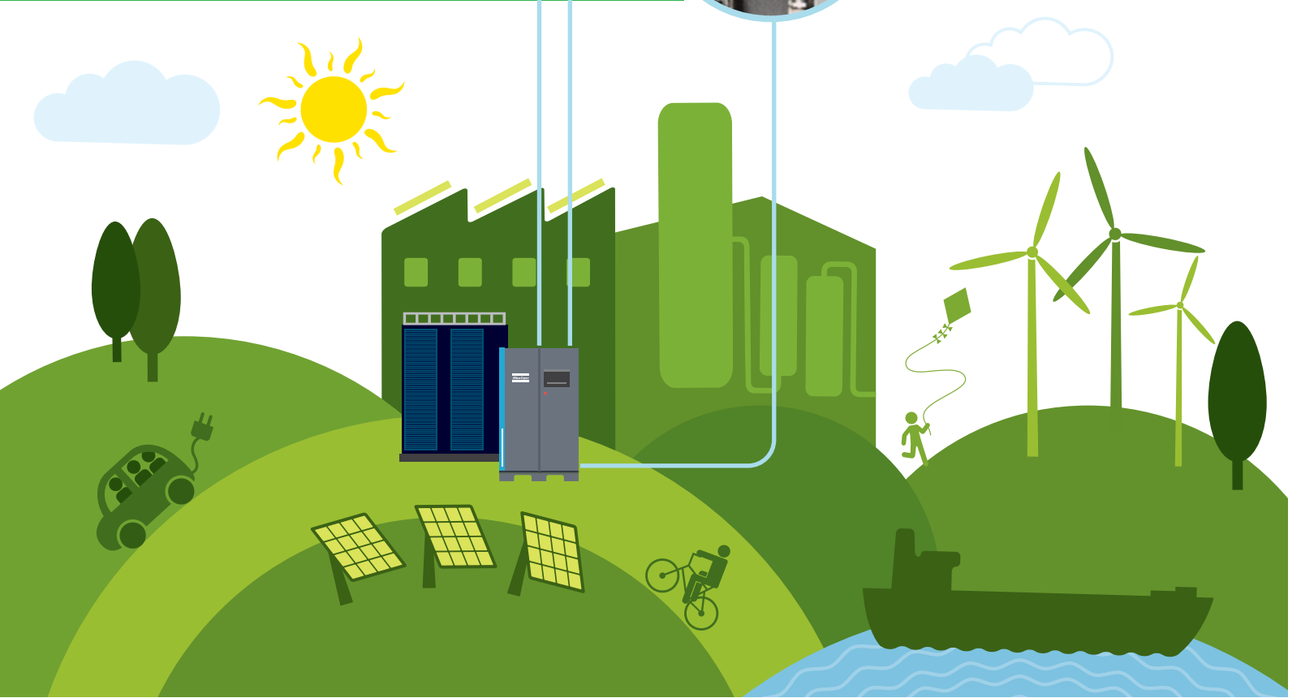
All GAmodels come with an in-house developed element and a motor that equals IE5 efficiency standards to deliver big energy savings.

Neos Next

The inverter that allows all three GA models to modulate their motor speed to achieve a double-digit reduction in energy use.

Energy recovery

Ourproprietaryenergy recovery system gives you additional energy savings by recovering and re-using up to 80% of the heat the compressor produces.



A GA for a new generation

For decades, you have counted on Atlas Copco and our GA oil-injected screw compressors to power your production. Our latest generation of GA models give you that reliability and performance with unparallelled energy savings. And with a choice between our record-breaking GA VSD^S, the new GA VSD, and the revolutionary GA FLX, you will be sure to find a GA that meets your individual needs.

A complete GA offer

Energy savings up to*

20%	50%	60%
		
GA FLX	**GA VSD**	**GA VSDS**
• Dual-speed • iPM motor • Neos Next • Elektronikon® Touch • No loss drain • Upgrade to VSD (1000 hrs)	• iPM motor • Neos Next • Elektronikon® Touch • No loss drain	• iPM motor • Neos Next • Elektronikon® Touch • VSD fan • Intelligent drains • Smart Temperature Control System • Boost Flow Mode

* Compared to fixed-speed GA

GA 5-37 VSD^{S}

The compressor re-invented

AtlasCopco'sthird-generation VSD rangedoesmorethan setnewperformance standards. The GA 5-37 VSD^{S} is the first smart compressor, adapting its operation in real-time to your working conditions. It comes with a host of innovative, intelligent features that maximize reliability, increase efficiency, and reduce your operating costs.

6

Elektronikon Touch controller

- High-techcontrollerwithwarningindications,compressor shutdown and maintenance scheduling.
- Easy to use and designed to perform in the toughest conditions.
- Standard **SMART**LINK remote monitoring to maximize air system performance and energy savings.

➡ Up to 60% energy savings*
➡ No unload losses
(*compared to fixed-speed GA models)

1

New drive train

- Designedaccording toIP66.
- New high-efficiency element.
- iPM motor equals IE5 standards.
- Oil-cooled for maximum efficiency.
- No gears or belts means no transmission losses.

7

EQ2i

Multiplecompressor control integrated as standard.

8

Inlet filter

- Developed especially for VSD^{S}.
- Enhanced filtration efficiency.
- Ensures lower pressure drop.

2

Neos Next inverter

- Combines thefunctionalityof an entire electrical cubicle in one compact unit.
- IP54-protected from dust and dirt.
- Inverter and iPM motor exceed IES2 (EN 50598) requirements for power drive efficiency.

3

VSD fan

- Variablespeed.
- Low vibrations and noise.
- Reduced cooling needs.
- Meets ERP2020.

4

Smart Thermostatic Control Valve

- Maintenance-free.
- Routes the oil via the coolers to achieve the ideal injection temperature.

5

Intelligent no-loss drain

- Ensuresthe automaticremoval of condensate to minimize loss of compressed air.
- Tracks drain cycles and maintenance schedule.
- Detects potential issues.

Exclusive features that make a difference

Smart Temperature Control System

Thanks to its Smart TemperatureControl System, the GAVSD^{S} is the first compressor to offer full injection control to eliminate the risk of condensation and maximize compression efficiency. An advanced algorithm in the Elektronikon controller combines multiple operational parameters to calculate the optimal oil temperature, which the Neos Next implements by regulating the VSD fan and the STC valve.

Boost Flow Mode

With other compressors,exceeding the maximum capacity means loss of pressure and equipment operation, and possibly a production shutdown. The GA VSD^{S} comes with Boost Flow Mode, allowing you to temporarily stretch the limit of your compressor without negative operational or reliability consequences.

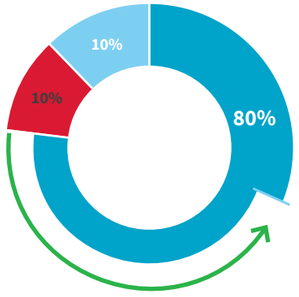
A new generation of savings and sustainability

VSDisthethirdgeneration ofAtlas Copco's VSDtechnology.Itcontinuesaproud tradition
s

of ground-breaking energy savings with up to 60% lower energy use compared to GA fixed-speed models. But the VSD^S is more than the most energy-efficient compressor on the market today. It is a comprehensive re-invention of VSD technology that allows for true production sustainability.

Energy matters

The true costof owning a compressor – both financially and in terms of sustainability – lies in its energy use. After all, energy takes up 80% of the lifetime cost of a compressor. That makes efficiency the number one requirement to reduce your operational costs and environmental footprint in a meaningful way.



up to

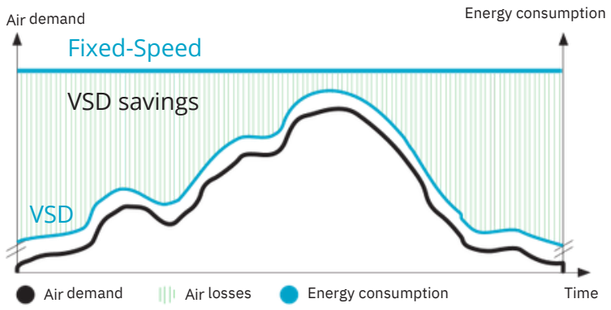
60%energy savings

Total compressor lifecycle cost

- Energy
- Energy savings with VSD^S
- Investment
- Maintenance

Fixed-speed: unadaptable energy use

Traditional fixed-speedcompressors only have one speed, 100% on. The result is a lot of wasted energy when your demand is lower.



VSD: energy use follows fluctuating demand

AtlasCopco Variable Speed Drive compressors have an inverter that allows them to adjust their motor speed to match the air demand to give you unprecedented energy savings:

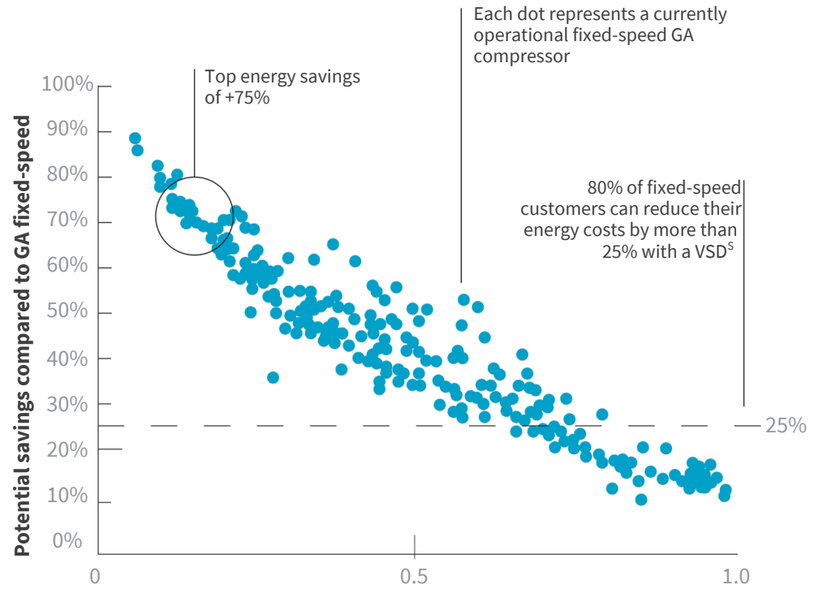
- Elektronikon Touch controls the high-efficiency Neos Next inverter and the motor speed to lower energy use.
- No wasted idling time or blow-off losses during operation.
- Compressor can start/stop under system pressure without the need to unload.
- Eliminates peak current penalty during start-up.
- Minimizes system leakage due to a lower system pressure.
- EMC compliance to directives (2004/108/EG).

VSD^S

Real-life savings

How muchcan you save with VSD^S? We took real-life customer data and compared the energy use of their gear-driven fixed-speed models with the performance a GA VSD^S could give them.

The vertical axis shows how much each fixed-speed GA customer could save by switching to a GA VSD^S



Potentialsavingscomparedto GAfixed-speed

22 kW, 7 bar example based on real customer data

loaded hours / total run time

What is your load ratio?

Theloadratio used in this graph reflects how much, out of its total time running, the compressor is actually producing air at full speed. If you have a fixed-speed compressor, a low load ratio indicates significant energy waste: the machine spends a lot of time using energy without producing air at maximum capacity. As a result, customers operating a fixed-speed unit with a lower load ratio can save even more on energy costs with a VSD^S.

The power of numbers

So the GA VSD^S offers double-digit energy savings. What does that mean, really? Take the GA 22 VSD^S versus a fixed-speed GA 22 with the same fluctuating load profile, running 16 hours a day/5 days per week/48 weeks a year:

4161 €*

Yearly energy savings

13.9 tonnes CO2

Yearly emissions savings

* With cost of energy 0.15 cent/kWh. CO2 factor of 0.5kg CO2/kWh.

AIRchitect

Calculate your own savings

Want to find out how much you can save? Your Atlas Copco representative can calculate your savings for you with AIRchitect. Or simply use our online simulation tool on the Atlas Copco web site.

GA 22-45 VSD

The standard in Variable Speed Drive design

TrustthepioneerinVariableSpeed Drivecompressorsto alwaysdeliver powerful VSD savings and sustainability. The Atlas Copco GA 22-45 VSD gives you energy savings of up to 50% and a reliable performance in the harshest conditions. Advanced features such as the Neos Next inverter and an iPM motor are built into a vertical, compact canopy to allow installation in the smallest room or at the point of use.

➡ Up to **50%** energy savings*
➡ **No unload losses**
(*compared to fixed-speed GA models)

1

IP66-protected drive train

- iPM motor equals IE5 standards.
- Oil-cooled for maximum efficiency.
- No gears or belts means no transmission losses.

2

Neos Next inverter

- Combines the functionality of an entire electrical cubicle in one compact unit.
- IP54-protected from dust and dirt.
- Inverter and iPM motor exceed IES2 (EN 50598) requirements for power drive efficiency.

3

Elektronikon Touch controller

- High-tech controller with warning indications, compressor shutdown and maintenance scheduling.
- Standard **SMART**LINK remote monitoring to maximize air system performance and energy savings.

4

Inlet filter

- Enhanced filtration efficiency.
- Ensures low pressure drop.

5

No-loss electronic drain

- Automatically removes condensate to minimize loss of compressed air.
- Alarm function.

6

Oil filter & separator

- High-efficiency air-oil separator system reduces oil consumption, lowers maintenance costs, and ensures a good oil separation result.
- Oil filter removes particles > 25 microns with 99% efficiency to protect lubrication quality and the health of rotating components.

7

Easy installation & service

- Compact, vertical footprint saves on floorspace.
- Forklift slots ensure easy maneuvering.
- Easy access panels for quick service and longer uptime.

Quality air

To giveyou the dry,quality air you need, a Full Feature version is available with integrated dryer:

…fully built-in.

…pment from the harmful

…tion compared to

…to meet ISO 8573-1 Quality

GA 11-30 FLX

True innovation in engineering

TheGAFLX introduces a completelynew typeofcompressor: thedual-speed rotary screw compressor. This kind of groundbreaking innovation requires state-of-the-art engineering. The GA FLX's super-efficient drive train is controlled by our best-in-class Neos Next electronic gearbox and advanced Elektronikon controller to give you improved energy efficiency and performance.

➔ Up to 20-50% energy savings*
➔ No unload losses
(*compared to fixed-speed GA models)

1

New drive train

- Designed according to IP66.
- In-house developed high-efficiency element sized for optimal flow and lowest energy requirement.
- iPM motor equals IE5 standards.
- Oil-cooled for maximum efficiency.
- Oil-lubricated bearings.
- No gears or belts means no transmission losses.

2

Neos Next inverter

- Combines the functionalityof an entire electrical cubicle in one compact unit.
- IP54-protected from dust and dirt.
- Inverter and iPM motor exceed IES2 (EN 50598) requirements for power drive efficiency.
- Free pressure selection between 4 and 13 bar with optimal flow.

3

Elektronikon Touch controller

- High-tech operating systemwithahostof control and monitoring features, warning indications, compressor shutdown, and maintenance scheduling.
- Easy to use and designed to perform in the toughest conditions.
- Smart algorithms optimize compressor performance.

4

Antenna

- Enables **SMART**LINK remote monitoring to maximize air system performance and energy savings.
- Allows for future over-the-air software updates.

5

Start-stop fan

- Poweredbyour proprietary FLX software.
- Meets ERP2020.

No-loss electronic drain

- Ensurestheautomaticremovalofcondensate to minimize loss of compressed air.
- Alarm function.

Oil filter & separator

- High-efficiencytwo-step air-oilseparator system reduces oil consumption, lowers maintenance costs, and ensures a good oil separation result.
- Oil filter removes particles > 25 microns with 99% efficiency to protect lubrication quality and the health of rotating components.

Inlet filter

- Enhancedfiltration efficiency.
- Ensures lower pressure drop.

Integrated air dryer

- High-efficiencyrefrigerant dryer can be fully built-in.
- Protection of downstream air equipment from the harmful effect of moisture.
- 50% reduction in energy consumption compared to traditional dryers.
- Zero ozone depletion.
- Incorporates optional UD+ filter to meet ISO 8573-1 Quality Class 1.4.2.

Easy installation & service

- Compact footprint saves onfloorspaceand allows for flexible placement.
- Forklift slots ensure easy maneuvering.
- Easy access panels for quick service and longer uptime

Introducing the dual-speed compressor

Thefundamentals of compressing air rarely change. Thatmakestheintroduction of the dual-speed compressor by Atlas Copco a really big deal. Unlike traditional fixed-speed compressors, a dual-speed unit can modulate down to a minimum motor speed during unload and can start under pressure to give you double-digit energy savings. In addition, it delivers optimal flow at any pressure setting for a truly versatile performance.

What is a dual-speed compressor?

Traditional fixed-speedcompressors only haveonemotor speed, 100% on. This is what you need to receive maximum air flow. But whenever your air demand is a little or a lot lower than your compressor's maximum capacity, this fixed motor speed requires a lot of energy that is essentially wasted. A dual-speed compressor operates at two speeds, one for maximum capacity and a minimum speed to reduce energy consumption during unload. As a result, it
is much more efficient than a fixed-speed, as it experiences lower transient and blow-off losses.

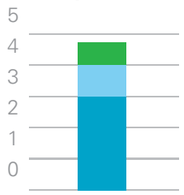
Minimizing transient losses

Transientlossesisa key termto understand why and how dual-speed compressors reduce energy consumption compared to fixed-speed models. It describes the energy that a compressor consumes without producing usable air as it cycles between operational phases. For a fixed-speed compressor, these losses can add up to 20% of its total energy use. Because of the inherent limitations of its technology, a fixed-speed model will never be able to meaningfully reduce transient losses, no matter how efficient it is. A dual-speed can minimize these transient losses, thanks to its minimum unload motor speed and the fact that it can start up (faster) against a system under pressure.

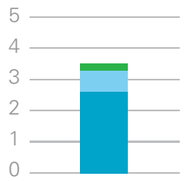
Energy consumption

load
unload
transient

Fixed-speed GA energy use

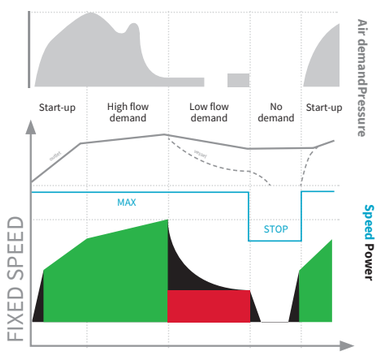


Dual-speed GA FLX energy use

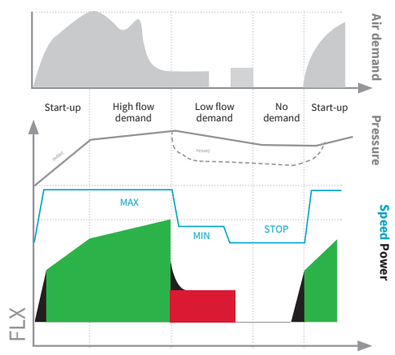


Fixed-speed energy consumption & loss

loaded power
unloaded power
transient losses



Dual-speed energy consumption & loss



3 reasons why you will love the GA FLX

1. Unique dual-speed benefits

Atlas Copco invented and developed the dual-speed compressor and the GA FLX is the first and only of its kind. So if you want to enjoy the benefits no fixed-speed compressor can ever offer, the GA FLX is your ticket.

2. Lower your energy and operational costs

Energy constitutes about 80% of the cost of owning and operating a compressor. That means that the 20% energy savings the GA FLX can deliver can really add up towards lowering your operational costs and meeting your sustainability goals.

3. Flexible pressure setting

The GA FLX gives you the freedom to select any pressure without compromising on air flow or FAD.
It works optimally at any pressure setting. And it possibly allows you to size down compared to fixed-speed, which can reduce your investment and operational costs.

Upgrade to VSD

Want to superchargeyour energy savings? Simply turn your GA FLX into a VSD machine and save up to 50% in energy costs compared to a fixed-speed GA. This over-the-air upgrade is as easy as 1-2-3:

1. Energy consumption analysis

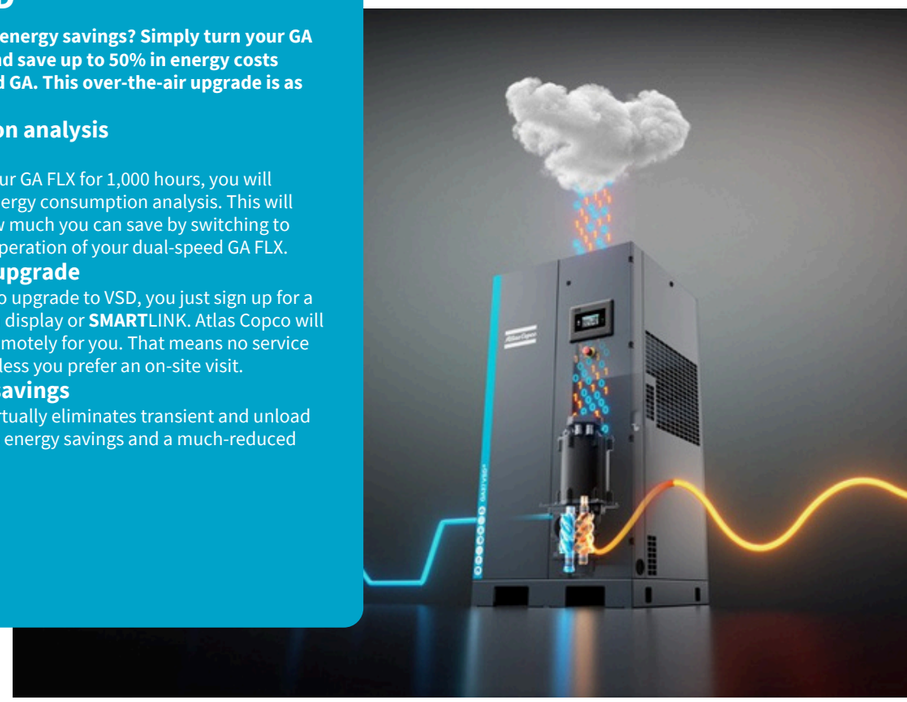
Once you have operated your GA FLX for 1,000 hours, you will automatically receive an energy consumption analysis. This will include a calculation of how much you can save by switching to VSD based on your actual operation of your dual-speed GA FLX.

2. The one-click VSD upgrade

If and when you are ready to upgrade to VSD, you just sign up for a license via the Elektronikon display or **SMART**LINK. Atlas Copco will execute the VSD upgrade remotely for you. That means no service intervention is required, unless you prefer an on-site visit.

3. Up to 50% energy savings

Because VSD technology virtually eliminates transient and unload losses, you enjoy up to 50% energy savings and a much-reduced total cost of ownership.



As connected as you will be

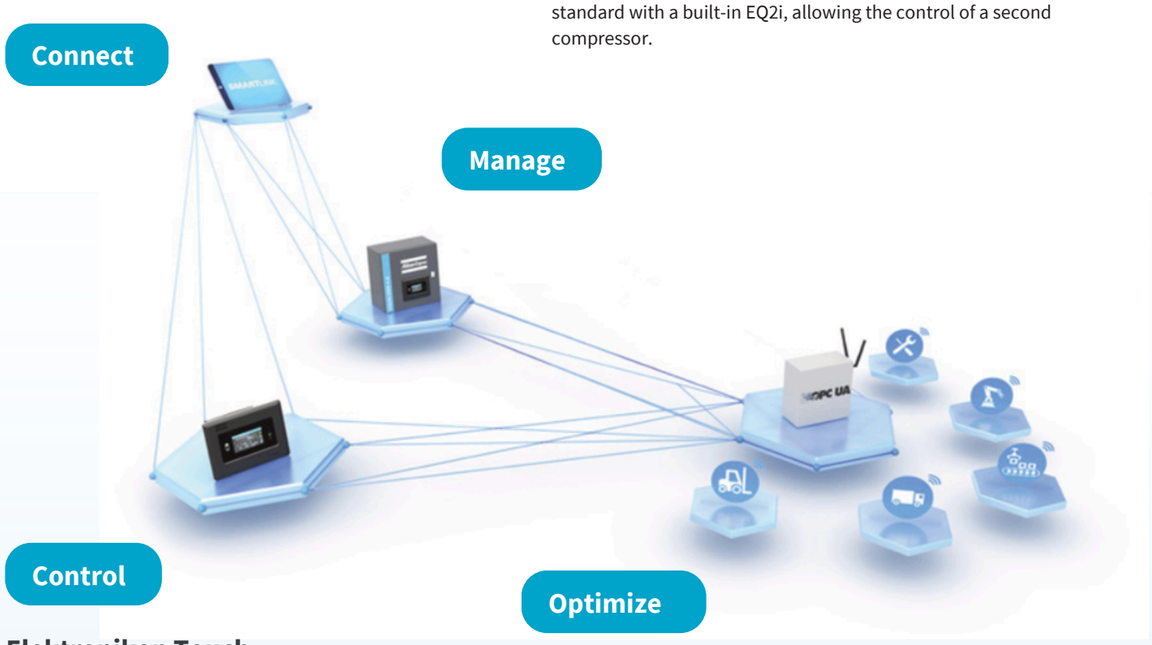
Whenitcomes toconnectivity, manufacturing equipment has longlagged behind. Not Atlas Copco. Our compressed air systems helped pave the way for Industry 4.0. We never stopped developing innovative features and introducing new options to help our customers meet their operational goals.

SMARTLINK

- Real-timemonitoring of your compressor's operational parameters on your computer or mobile device.
- Performance data and insights identify opportunities for optimization.
- Service timeline.
- Maintenance and service alerts.
- Online resource center with manuals, documentation and technical information.

Equalizer 4.0

- Manageupto 6compressors in one air network with the Equalizer 4.0 (integrated in your compressor or as a standalone unit):
- Reduced pressure band: Create a narrow, predefined pressure band to save energy.
- Optimal system performance: Program all compressors to have equal running hours to reduce service intervals.
- Improve reliability and efficiency: With actionable performance reports, service warnings, and energy efficiency data.
- Standard multiple compressor control: VSD^{S} units come as standard with a built-in EQ2i, allowing the control of a second compressor.



Elektronikon Touch

TheElektronikon Touchfeatures a 4.3-inch user-friendly, multilingual display with clear pictograms and a service indicator. The operating system offers a host of control and monitoring options and smart algorithms to optimize your compressor performance. Customized timers and efficiency controls are just a few examples.

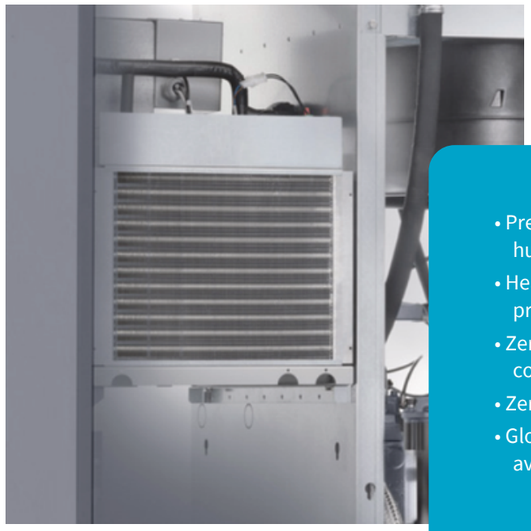
OPC UA enabled

AtlasCopco wasthe first compressor manufacturer to offer OPC UA, the machine-to-machine communication protocol that was developed especially for industrial automation. That means you can integrate your Atlas Copco compressor seamlessly in your production network:

- Standardization of production equipment communication.
- Insight into production system performance and optimization options on your production floor.
- Network security thanks to various encryption levels, authentication, auditing, and user control to ensure security.

Built-in quality air

Untreatedcompressedaircontainsmoistureand aerosols that increase the risk of corrosion and compressed air system leaks. This can result in a damaged air system and contaminated end products. All GA models come in a Full Feature version with a built-in refrigerant dryer. It provides the clean, dry air that improves your system's reliability, avoids costly downtime, and safeguards the quality of your products.



- Pressure dewpoint of 3°C/37.4°F (100% relative humidity at 20°C/68°F).
- Heat exchanger cross-flow technology with low pressure drop.
- Zero waste of compressed air thanks to no-loss condensate drain.
- Zero ozone depletion.
- Global warming potential has been lowered by an average of 50% by reducing the amount of refrigerant.

A GA with built-in dryer and UD+ filter meets ISO 8573-1 Quality Class 1.4.2.

Purity class	Solid particles			Water		Total oil*
	Number of particles per m^3			Pressure dewpoint		Concentration
	0.1 < d ≤ 0.5 µm**	0.5 < d ≤ 1.0 µm**	1.0 < d ≤ 5.0 µm**	°C	°F	mg /m^3
0	As specified by the equipment user or supplier and more stringent than Class 1.					
1	≤ 20000	≤ 400	≤ 10	≤ -70	≤ -94	≤ 0.01
2	≤ 400000	≤ 6000	≤ 100	≤ -40	≤ -40	≤ 0.1
3	-	≤ 90000	≤ 1000	≤ -20	≤ -4	≤ 1
4	-	-	≤ 10000	≤ 3	≤ 37.4	≤ 5
5	-	-	≤ 100000	≤ 7	≤ 44.6	-
6	≤ 5 mg/m^3			≤ 10	≤ 50	-

* Liquid, aerosol and vapor.
** d= diameter of the particle.