

Oil-free process gas compressors

CO2 booster



The best response to your flexibility and reliability needs

Atlas Copco is one of the world's leading companies in air/gas compression, with over 140 years of experience. Our complete range of solutions is characterized by outstanding product and component quality. We can handle a wide variety of gases and gas mixtures and can tailor our compressors to the specific requirements of your processes. If you are looking for a passionate manufacturer able to meet all your air/gas compression needs, look no further than Atlas Copco.

Ensuring reliable production

Designed for 24/7 industrial service, our boosters meet your requirements for a smooth and reliable supply of air or gas at all times, without the need for constant supervision. Proof of their reliability is the thousands of machines that have been operating worldwide for decades.

Preserving your process with oil-free technology

Oil-free compression safeguards the quality of the gas compressed. In most applications, even the slightest pollution is unacceptable and could lead to high risks for your production.

Maximizing savings

Reciprocating technology is a proven standard for high-pressure applications where low energy consumption is a must. Adapted capacity control enhances the energy efficiency of these compressors. The integration of the latest innovations in terms of monitoring and control ranks our boosters extremely high for energy savings.



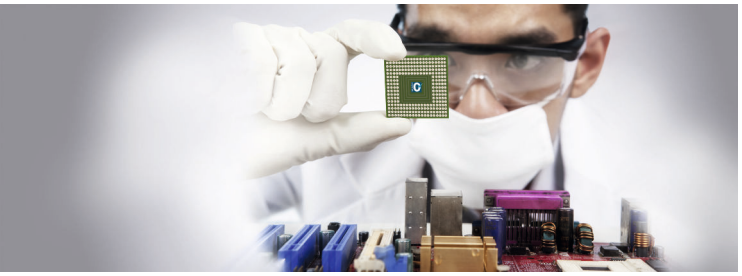
Gas quality

Contamination of a production process can be extremely costly, both in downtime and scrap costs of products. Mitigating risks of contamination therefore directly impacts total cost of ownership. And it has a positive impacts on the environment in the process.

Who needs a quality CO2 solution?

Our products can reduce the amount of scrap and rework in your organization by optimizing the quality of your compressed air. We hereby increase your efficiency as well as your profitability.





Why Oil-free CO2?

Our oil-free CO2 technologies reduce total cost of ownership, limit risks and safeguard the environment.

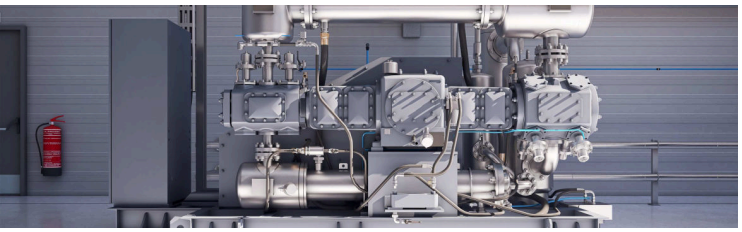
Maintenance costs are cut by avoiding expensive filter replacements. There is no need to treat oil condensate and you avoid extra energy costs to combat pressure drop in filters.

You avoid the risk of unsafe products or production downtime that could harm your reputation. On top of that you also reduce the risk of contamination due to oil filter failure.

Class 0: The Industry Standard

For over 60 years Atlas Copco has pioneered the development of oil-free air technology. Resulting in the largest range of air compressors and blowers within our industry. Through continuous research and development, we achieved a new milestone, setting the standard for air purity as the first manufacturer to be awarded ISO 8573-1 CLASS 0 certification. CLASS 0 certification means zero risk of oil contamination from our products.





Class 0 by design

The CO2 boosters are completely oil-free. Components, such as the long distance piece between the crankcase & the cylinder and the oil wiper at the piston rod, have been carefully designed to ensure oil-free air.



CO2 90-1110



Horizontal design for reduced maintenance

• Less vibrations for longer component life.
• Reduced forces and torques to minimize foundation requirement.
• Reduced specific load on piston wear bands for longer life.
• Easy access to all parts and easily removable crosshead guide.
• Skid mounted, plug & play compressor.

Safe cylinders

• Cooled by forced water circulation to minimize temperatures, increasing efficiency and reliability.
• For water saturated gases:
- Discharge valves at the bottom, in accordance with API 618.
- Non-accumulation of condensate for increased life time of piston rings.

Reliable pistons and piston rods

• Pistons are made of composite aluminum, stainless steel or other materials according to the process.
• Piston rods in stainless steel or 42CD4 (hardened & tempered steel) with API 618 compliant hardness coating (induction or plasma) ensuring long life of packing rings.
• Piston is positively locked by Superbolt® on the piston rod: a highly secure tightening technology.
• Piston rings are made of composite PTFE for long life.

Superior valve quality

• Superior stainless steel valves, precise sizing and selection or each application for high efficiency and long lasting performance.
• Wide port area, ensuring minimal pressure loss.
• Customized discs (PEEK or stainless steel) for each application.
• Fail-safe type suction valves (unloading on air or nitrogen), when required by the process.

Long lasting performance due to low temperatures

• Low piston speeds and low revolution speeds for low temperatures.
• Lower gas temperatures ensure longer component life.
• Excellent cylinder cooling due to forced cool water circulation.

Drive

• Extremely reliable drive system with sleeve bearings and double bearings on the flywheel side for reduced wear.
• Excellent lubrication of the components for reduced wear.

Premium quality motor

• IP55 rated motor for maximum reliability
• Superior motor protection for increased reliability, reduced maintenance cost and less downtime.

Control panel

• IP54 rated cubicle design for better protection against water and dust.
• Ease of monitoring for increased reliability and checking machine status remotely.

Advanced monitoring system

• Elektronikon Mk5 compressor controller with optimized user experience.
• Ease of use and monitoring for improved reliability.

High quality stainless steel components

• Stainless steel connecting pipes for increased lifetime of components.
• Flexible connections for cooler and cylinder for reduced stress on mechanical components.
• Components (valves, piston rod packaging, cylinders) are specifically selected according to gas composition and humidity content.

Energy efficiency

Electrical cost accounts for approximately 80% of the total cost of ownership of a compressor over a 10 year period.

Smartlink: Fully connected

Monitor with SMARTLINK

Knowing the status of your compressed air equipment at all times is the surest way to achieve optimal efficiency and availability.

Go for energy efficiency

Customized reports on the energy efficiency of your compressor room.

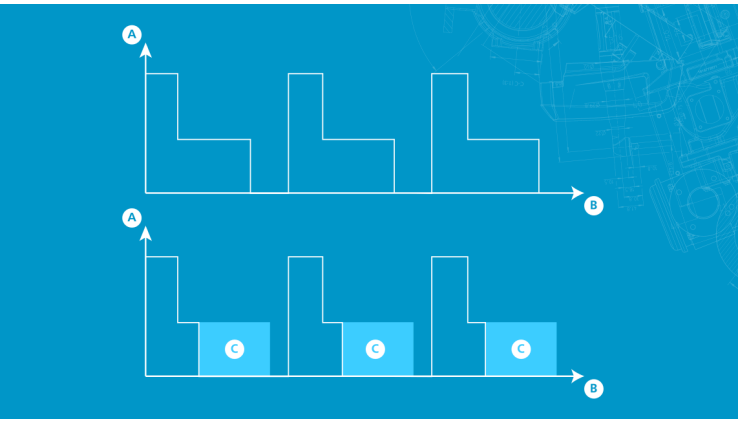
Increase uptime

All components are replaced on time, ensuring maximum uptime.

Save money

Early warnings avoid breakdowns and production loss.





Delayed Second Stop

Delayed Second Stop

Most production processes create fluctuating levels of demand which can create energy waste in low use periods. By using the Elektronikon controller, you can manually or automatically switch between two different setpoints to optimize energy use to reduce costs at low use times. The sophisticated algorithm runs the motor only when needed. As the desired setpoint is maintained while the drive motor's run time is minimized, energy usage is kept to a minimum.

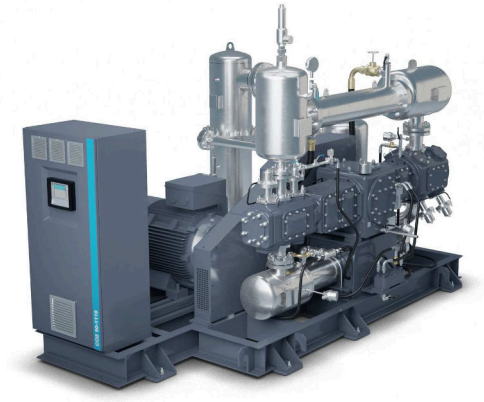
Legend

A = Power consumption
B = Time
C = Energy Saving

Elektronikon Mk5

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.





Components designed for efficiency

The piston runs at low speed with long strokes, reducing the operating temperatures as well as the friction for more efficient compression and increased reliability.

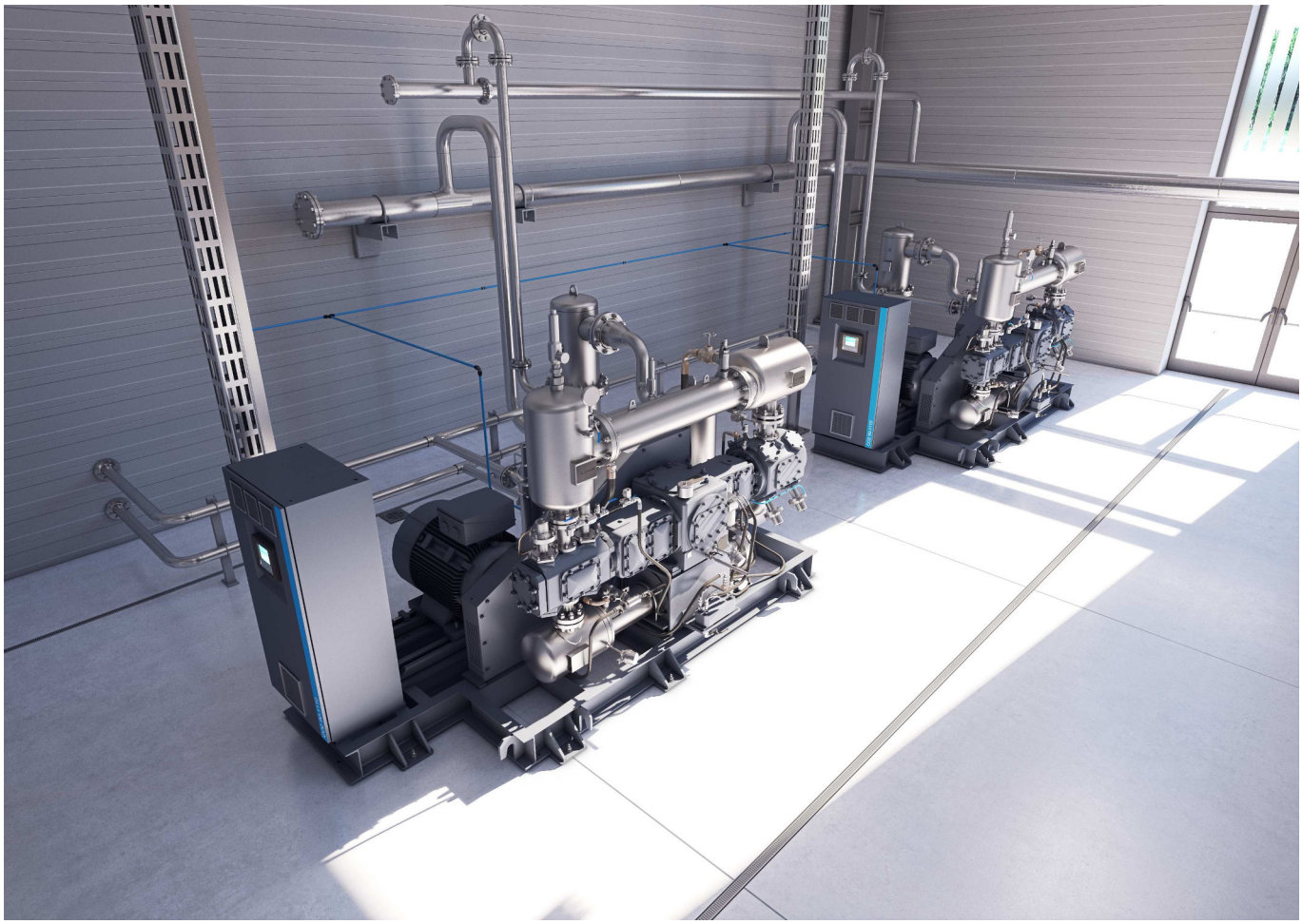
The cylinder is designed for flow and size optimization to reduce energy consumption.

The high efficiency coolers reduce the temperature on the valves, rings and packings which results in less wear of the components and increased reliability.

A high efficiency motor is used as standard for reduced power consumption.

smart AIR solutions

By combining our efficiency products we truly create energy saving solutions for your business.

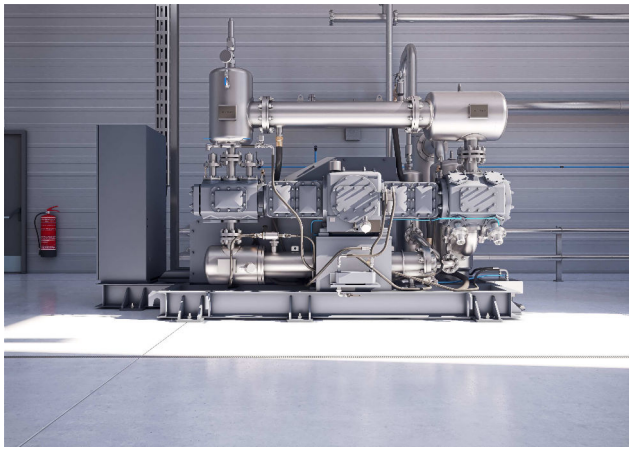


CO2 booster



1. Integrated cubicle

All connections and instrumentation is installed and factory tested. This leads to reduced commissioning and installation time.



2. Horizontal design for reduced vibrations

The horizontal design and opposed arrangements in the CO2 booster lowers the vibration level of the machine. This reduces the wear of the unit and extends the lifetime of the wearing components. The reduced vibration level requires less foundation, increases the ease of installation and reduces the stress on piping and ancillaries.

3. Easy access to wearing parts for ease of maintenance

No special lifting devices are needed to conduct maintenance on wearing parts. Because of the horizontal design everything is easily accessible.



4. Water connections

Water connections are placed on the same side for ease of connections.

Options

There are different options available for the CO2 booster.

Options

CO2 booster	
Inlet separator: for wet CO2 applications	•
Test & materials certificate	•
Ancillaries	•
Customized & engineered solutions	•

Technical specifications

CO2 booster

CO2 booster (50 Hz)

50 Hz	Frequency (Hz)	Flow (kg/h)	Motor power (kW)	Inlet (bar g)	Outlet (bar g)
CO2 22-195 - 50	50	127	22	0.01	20
CO2 22-195 - 50		192	22	0.4	
CO2 26-240 - 50		158	22	0.01	
CO2 26-240 - 50		240	30	0.4	
CO2 30-325 - 50		212	30	0.01	
CO2 30-325 - 50		322	30	0.4	
CO2 37-410 - 50		269	30	0.01	
CO2 37-410 - 50		410	37	0.4	
CO2 45-435 - 50		320	37	0.01	
CO2 45-435 - 50		488	45	0.4	
CO2 65-750 - 50	50	527	55	0.01	20
CO2 65-750 - 50		792	65	0.4	
CO2 90-1110 - 50		757	75	0.01	
CO2 90-1110 - 50		1136	90	0.4	
CO2 132-1570 - 50	50	1064	90	0.01	20
CO2 132-1570 - 50		1588	132	0.4	
CO2 200-2280 - 50	50	1582	132	0.01	20
CO2 200-2280 - 50		2372	200	0.4	
CO2 250-3150 - 50	50	2128	200	0.01	20
CO2 250-3150 - 50		3176	250	0.4	

Technical specifications

CO2 booster

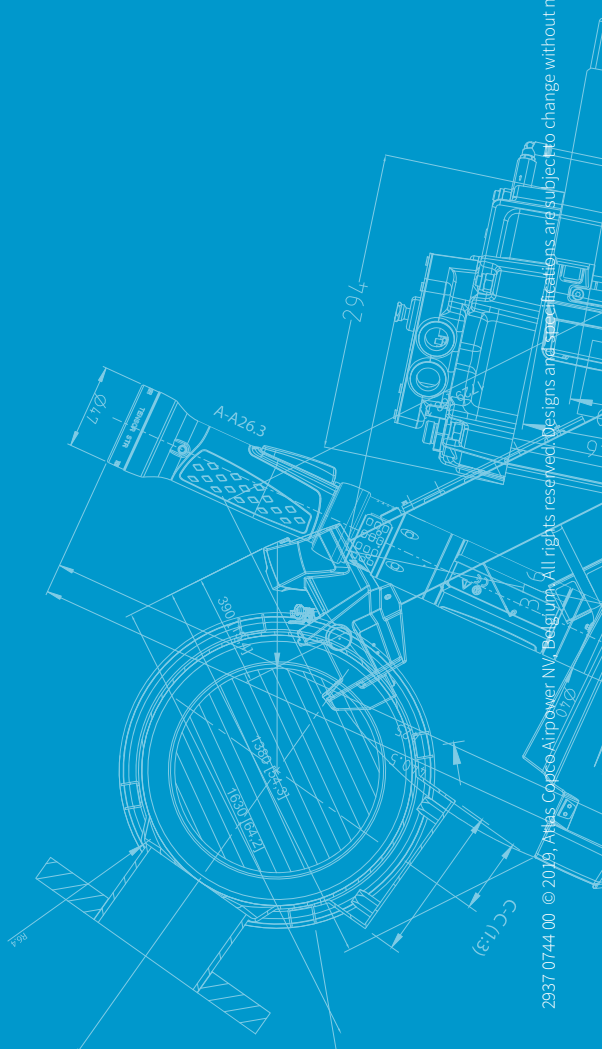
CO2 booster (60 Hz)

60 Hz	Frequency (Hz)	Flow (kg/h)	Motor power (kW)	Inlet (bar g)	Outlet (bar g)
CO2 22-195 - 60	60	135	22	0.01	20
CO2 22-195 - 60		200	22	0.4	
CO2 26-240 - 60		164	22	0.01	
CO2 26-240 - 60		245	30	0.4	
CO2 30-325 - 60		221	30	0.01	
CO2 30-325 - 60		328	30	0.4	
CO2 37-410 - 60		276	30	0.01	
CO2 37-410 - 60		410	37	0.4	
CO2 45-435 - 60		333	37	0.01	
CO2 45-435 - 60		495	45	0.4	
CO2 65-750 - 60	60	540	55	0.01	20
CO2 65-750 - 60		805	65	0.4	
CO2 90-1110 - 60		775	75	0.01	
CO2 90-1110 - 60		1150	90	0.4	
CO2 132-1570 - 60	60	1090	90	0.01	20
CO2 132-1570 - 60		1610	132	0.4	
CO2 200-2280 - 60	60	1630	132	0.01	20
CO2 200-2280 - 60		2430	200	0.4	
CO2 250-3150 - 60	60	2180	200	0.01	20
CO2 250-3150 - 60		3230	250	0.4	

Notes

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