Oil-free scroll compressors

SF 1-6 (1.5-5.5 kW/2-7.5 hp)

SF+ 8-22 (7.4-22 kW/10-30 hp)

Innovating for a sustainable future

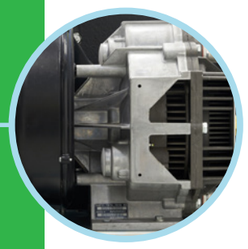
At Atlas Copco, we have always looked ahead. Which products and services will make our customers more successful? Your future drives the Atlas Copco team every day. It is the reason why we devote so much time and so many resources to innovation. If there are technologies that will advance your productivity, 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 sustainability

Class 0 clean air

Atlas Copco's oil-free scroll compression technology eliminates the risks of working with oil lubrication, including disposal.

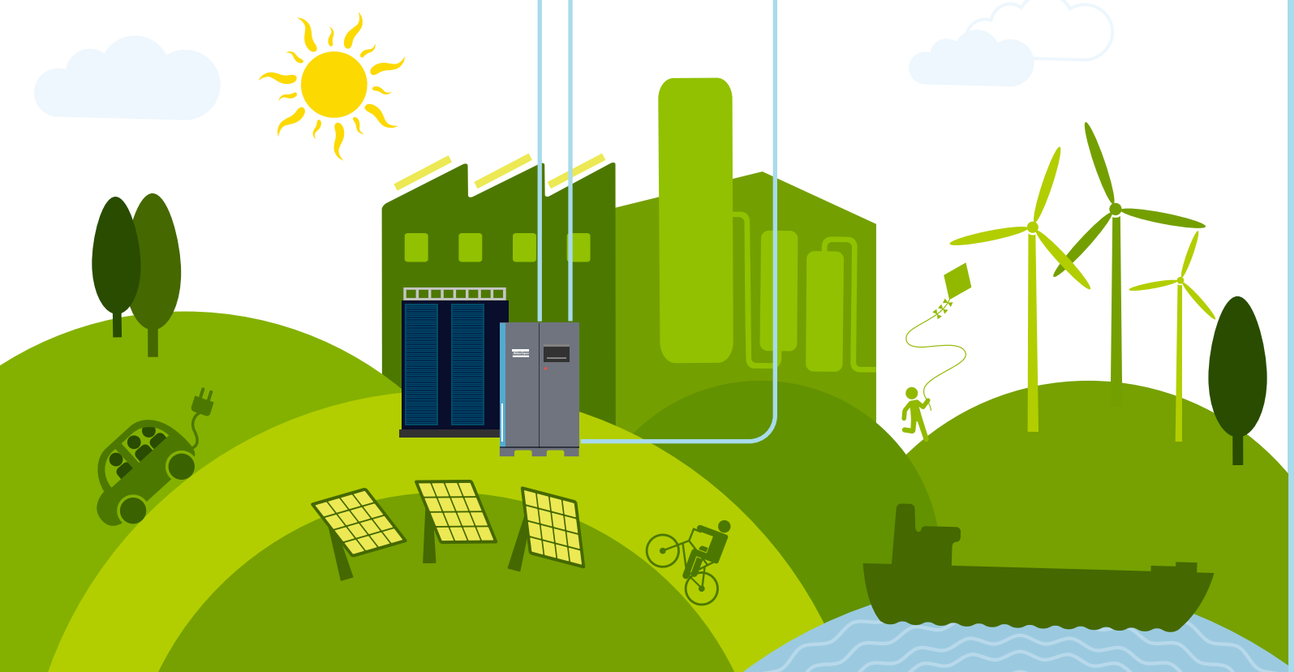


Low-noise scroll compressor

The SF's scroll element and IE3 motors give you premium efficiency and energy savings.

Elektronikon® controller

The next-generation Elektronikon offers control and monitoring features, including VFT technology, that allow you to increase your compressor's efficiency.



Cost-efficient, high-quality air

Clean, oil-free compressed air is a prerequisite for many manufacturing processes. Atlas Copco oil-free compressors prevent oil from entering your compressed air system. The SF and SF+ combine Atlas Copco's vast experience and knowledge in an industry-leading package. Whereas the SF range includes a standard pneumatic controller, the SF+ boasts a high-end Elektronikon controller. Reliable, quiet and compact, they both meet your demands with innovative technologies and supreme energy efficiency without compromising on quality.

SF 1-6 Efficient, silent & compact

- High-quality, oil-free air.
- IE3 Premium Efficiency motors.
- Extremely quiet: sound levels of 53 dB(a).

SF+ 8-22 Modular & flexible

- High-quality, oil-free air.
- IE3 Premium Efficiency motors.
- Modular with 2 to 4 compressor modules.
- Extremely quiet: sound levels of 63-65 dB(a).
- Optional **SMART**LINK real-time, remote monitoring and optimization.

SF 1-6:
Efficient, silent & compact

The SF 1-6 is a complete package that includes an element, drive motor, aftercooler and starter in a super-silent acoustic enclosure that can be installed directly onto your work floor. It is also available as a Full Feature unit with integrated refrigerant air dryer. Three receiver mounting options are available: with an extended canopy that includes three integrated 10-liter galvanized air receivers or mounted on an internally coated 270-liter (72-gallon) or 500-liter (132-gallon) horizontal receiver.

1

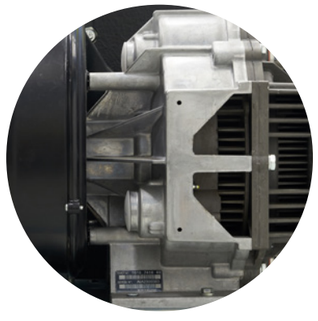
Air inlet filter

High-efficiency paper cartridge air inlet filter eliminates dust and particles down to 1 µm.

2

Automatic regulation

Automatic stop when the required working pressure is reached to avoid unnecessary energy costs.



3

High-efficiency scroll element

Air-cooled scroll compressor element offers proven durability and reliability in operation, in addition to solid efficiency.

4

IP55 Class F/IE3 motor

Totally enclosed air-cooled IP55 Class F motors comply with IE3 Premium Efficiency standards.

5

Refrigerant dryer

Compact and optimized integrated refrigerant dryer ensures air quality and prevents rust and corrosion in your compressed air network.

6

Silent canopy

A sound-insulated canopy makes noise levels as low as 53 dB(A) possible, allowing you to install the unit closer to the point of use.

7

Integrated receiver

Plug-and-play solution, lower installation costs with 30l, 270l and 500l tank-mounted options.

8

Innovative design

The new compact vertical setup enables easy access for maintenance, improves cooling to allow for lower working temperatures, and provides vibration damping.

9

Cooler & piping

- An oversized cooler improves the performance of the unit.
- The use of stainless steel pipes and the vertically oversized check valve improve reliability and assure the quality of your compressed air.

SF+ 8-22: Modular & flexible

SF+ 8-22 multi-scroll units bring the benefits and flexibility of a modular system, utilizing two to four compressor modules integrated into one canopy. The Elektronikon controller continuously monitors the status of each element and starts and stops the compression elements, ensuring that the output matches the air demand. Moreover, the perfect air quality and user-friendliness of these units guarantee a superior production process.

1

Air inlet filter

High-efficiency paper cartridge air inlet filter eliminates dust and particles down to 1 µm.

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IP55 Class F IE3 motor

Totally enclosed and air-cooled IP55 Class F motors comply with IE3 Premium Efficiency standards.

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High-efficiency scroll element

Air-cooled scroll compressor element offers proven durability and reliability in operation, in addition to solid efficiency.

4

Refrigerant dryer

Compact and optimized integrated refrigerant dryer ensures air quality and prevents rust and corrosion in your compressed air network.

5

Silent canopy

Thanks to the low-noise scroll element, optimized super-silent fan and sound-insulated canopy, best-in-class noise levels can be achieved.

6

Elektronikon Graphic

While running the VFT algorithm, the Elektronikon Graphic controller matches the required air demand, eliminating unload power consumption.

8

Smart design

Outstanding user-friendly design with safe operation and easy service.

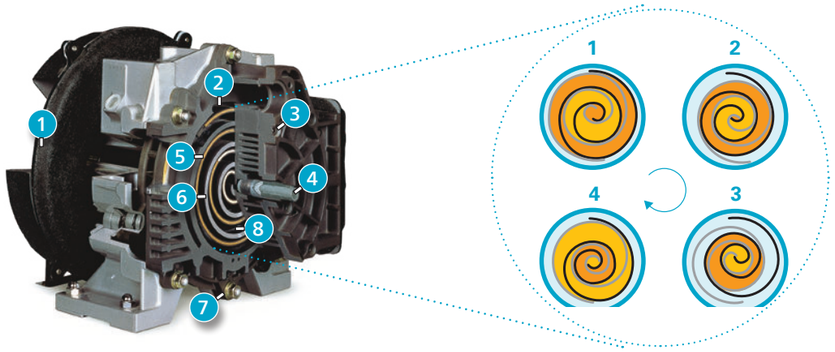
7

Optimized cooler & piping

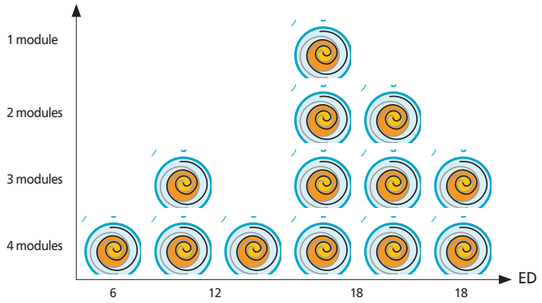
The air cooler is finetuned for improved performance, while the aluminum and stainless steel pipes improve reliability and assure the quality of compressed air.

Advanced scroll technology

Air compression is achieved by the interaction of a fixed and orbiting scroll. Air at inlet pressure enters the compression chamber at the exterior side of the scroll element. Once air is drawn in, the orbiting scroll seals off the inlet port. As the scroll continues to orbit, the air is progressively compressed into an increasingly smaller 'pocket'. A continuous flow of compressed air leaves the scroll element through a discharge port in the center of the fixed scroll. This process is continuously repeated, resulting in the delivery of pulse-free compressed air.



1. Cooling fan
2. Suction chamber
3. Suction opening
4. Delivery opening
5. Fixed scroll
6. Orbiting scroll
7. Fail-safe temperature sensor for unit protection
8. Compression chamber



Variable flow technology (VFT)

All SF+ 8-22 multi-scroll compressors are equipped with the unique VFT control system. The VFT system, included in the Elektronikon controller, automatically starts and stops the scroll elements to exactly match the demands of your compressed air system. The Elektronikon control algorithm ensures that the system pressure is kept within a very narrow pressure band.

Elektronikon Graphic: Improved user-friendliness

- 3.5-inch high-definition color display with clear pictograms and extra 4th LED indicator for service.
- Graphical display of key parameters (day, week, month) and 32 language settings.
- Internet-based compressor visualization using a simple Ethernet connection.
- Graphical indication of service schedule, remote control and connectivity functions.
- Software upgrade available to control up to 6 compressors.

Controls and online monitoring

The Elektronikon operating system offers a wide variety of control and monitoring features that allow you to optimize your compressor's performance. To maximize energy efficiency, the Elektronikon controls the main drive motor and regulates system pressure within a predefined and narrow pressure band. The advanced Elektronikon Graphic is included as standard with the SF+ 8-22; it is optional for the SF 1-6.

Class 0: the industry standard in pure, oil-free air

Oil-free air is used in industries that require premium air quality. These applications include food and beverage processing, pharmaceutical manufacturing, petrochemical processing, wastewater treatment, and many more. In these critical environments, contamination by even the smallest quantities of oil can result in costly production downtime and product spoilage.

CLASS	Concentration total oil (aerosol, liquid, vapor) mg/m³
0	**As specified by the equipment user or supplier and more stringent than class 1**
1	< 0.01
2	< 0.1
3	< 1
4	< 5

Current ISO 8573-1 (2010) classes (the five main classes and the associated maximum concentration in total oil content).

First in oil-free air technology

Over the past 60 years, Atlas Copco has pioneered the development of oil-free air technology, resulting in a range of air compressors that provide 100% pure, oil-free air. Through continuous research and development, Atlas Copco achieved a new milestone, setting the standard for air purity as the first manufacturer to be awarded ISO 8573-1 Class 0 certification.

Eliminating any risk

As the industry leader committed to meeting the needs of the most demanding customers, Atlas Copco requested the renowned TÜV institute to type-test its range of oil-free compressors. Using the most rigorous testing methodologies available, all possible oil forms were measured across a range of temperatures and pressures. TÜV found no traces of oil at all in the output air stream. This made Atlas Copco the first compressor manufacturer to receive Class 0 certification, according to ISO 8573-1 Class 0 Ed. 3 2010 specifications.

Low noise

The slow speed of the scroll compression elements ensures that SF scroll compressors are extremely quiet. Sound levels are as low as 53 dB(a), making the SF the perfect choice for your sensitive working environment. Thanks to its low noise level, the SF can be installed close to the compressed air application, minimizing the size of the air distribution system and reducing pressure loss and the potential for leakage.

Optimize your system

Some applications may need or may benefit from additional options and more refined control/air treatment systems. To meet these needs, Atlas Copco has developed options and easily integrated compatible equipment.

SF 1-6

- CD adsorption dryer (only for FF TM variants)
- Phase Sequence Relay
- Prefiltration kit
- Integrated 30l air receiver + timer drain
- 500l air receiver
- Timer drain on air receiver (only for tank-mounted variants)
- WSD water separator drain (only for Pack FM variants)
- Upgrade to Elektronikon Graphic controller
- ES4i & ES6i (only with Elektronikon Graphic upgrade)
- Wooden package
- Wheels on 270l receiver
- Test certificate

SF+ 8-22

	SF 8+-11+	SF 15+-22+	SF 17+-22+
Extra module upgrade SF 8+-15+	•	-	-
Extra module upgrade SF 11+-17+ & 22+	•	-	-
Extra module upgrade SF 17+-22+	-	-	•
Phase Sequence Relay	•	•	•
ES4i	•	•	•
ES6i	•	•	•
Wooden package	•	•	•
400V+N	•	•	•
Smartbox	•	•	•
500l tank for LC canopy	•	-	-
Witness certificate	•	•	•
Test report	•	•	•
AIB & ASL book	•	•	•

• Optional
- Not available

Technical specifications SF 1-6

Compressor type	Pressure variant	Max. working pressure Pack		Capacity FAD*			Installed motor power		Noise level**	Weight Pack	
		bar(e)	psig	l/s	m³/min	cfm	kW	hp	dB(A)	kg	lbs
SF 1	8	8	116	2.9	0.17	6.1	1.5	2	53	110	242
	10	10	145	1.9	0.11	4.0	1.5	2	53	110	242
SF 2	8	8	116	4.2	0.25	8.9	2.2	3	55	110	242
	10	10	145	3.4	0.20	7.2	2.2	3	55	110	242
SF 4	8	8	116	6.7	0.40	14.2	3.7	5	57	124	273
	10	10	145	5.9	0.35	12.5	3.7	5	57	124	273
SF 6	8	8	116	9.8	0.59	20.8	5.5	7.5	59	144	317
	10	10	145	7.6	0.46	16.1	5.5	7.5	59	144	317

*Unit performance measured according to ISO 1217, Annex C, Latest Edition.
**Mean noise level measured at a distance of 1 m according to ISO 2151, tolerance 3 dB(a). Weights of the pack & floor-mounted units are shown in the chart.

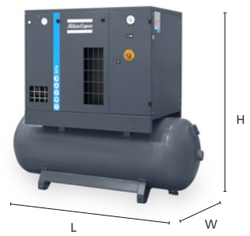
Technical specifications SF+ 8-22

Compressor type	Pressure variant	Max. working pressure Pack		Capacity FAD*			Installed motor power		Noise level**	Weight Pack		Weight Full Feature	
		bar(e)	psig	l/s	m³/min	cfm	kW	hp	dB(A)	kg	lbs	kg	lbs
SF 8+	8	8	116	13.4	0.80	28.4	8	10	63	387	853	402	886
	10	10	145	11.3	0.68	23.9	8	10	63	387	853	402	886
SF 11+	8	8	116	21.1	1.27	44.7	11	15	63	442	974	457	1007
	10	10	145	15.0	0.90	31.8	11	15	63	442	974	457	1007
SF 15+	8	8	116	27.2	1.63	57.6	15	20	63	583	1285	603	1329
	10	10	145	22.6	1.36	47.8	15	20	63	583	1285	603	1329
SF 17+	8	8	116	31.5	1.89	66.7	17	22	64	645	1422	665	1466
	10	10	145	23.5	1.41	49.7	17	22	64	645	1422	665	1466
SF 22+	8	8	116	41.1	2.47	87.0	22	30	65	745	1642	765	1686
	10	10	145	29.7	1.78	62.9	22	30	65	745	1642	765	1686

*Unit performance measured according to ISO 1217, Annex C, Latest Edition.
**Mean noise level measured at a distance of 1 m according to ISO 2151, tolerance 3 dB(a). Weights of the pack & floor-mounted units are shown in the chart.

Dimensions SF 1-6

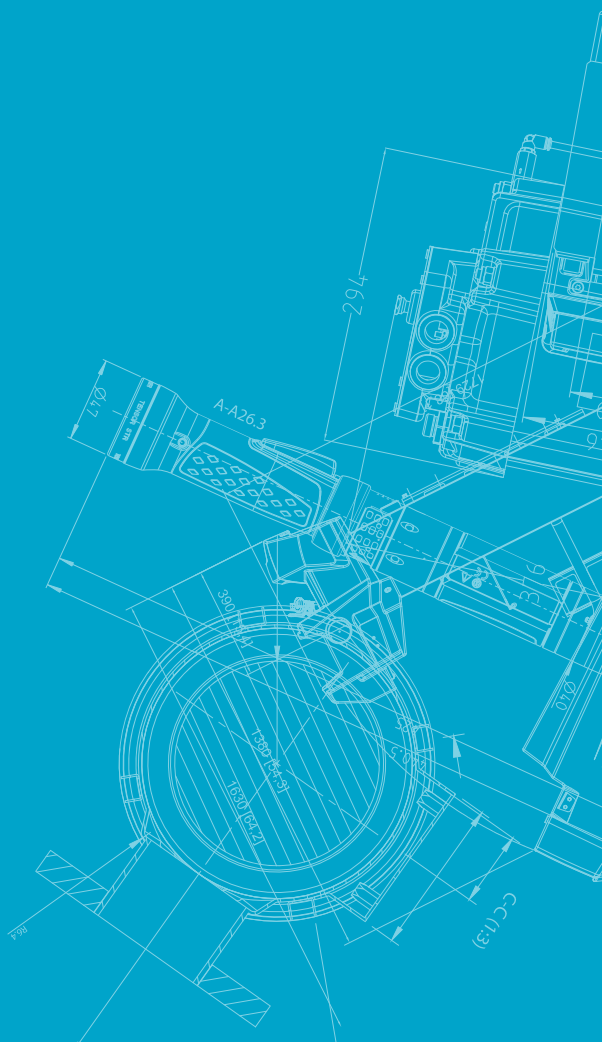
	Pack/Full Feature					
	L (mm)	W (mm)	H (mm)	L (in)	W (in)	H (in)
Pack & floor-mounted	750	640	835	29.5	25.2	32.9
Full Feature & floor-mounted	990	640	835	39.0	25.2	32.9
Pack & 270l receiver	1,520	640	1,337	59.8	25.2	52.6
Full Feature & 270l receiver	1,520	640	1,337	59.8	25.2	52.6



Dimensions SF+ 8-22

	Pack/Full Feature					
	L (mm)	W (mm)	H (mm)	L (in)	W (in)	H (in)
SF 8+-11+ LC* Pack & Full Feature	1,628	750	1,230	64.1	29.5	48.4
SF 8+-11+ HC* Pack & Full Feature	1,628	750	1,844	64.1	29.5	72.6
SF 15+-22+ Pack & Full Feature	1,628	750	1,844	64.1	29.5	72.6

*LC= low canopy; HC= high canopy.



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