

# ***DENTAL AIR***

LFx – LF – SF

Class 0 clean air compressors

*Atlas Copco*



## ZERO COMPROMISE DENTAL AIR

At Atlas Copco, we know compressed air. For more than 140 years, we have been delivering and improving the better compressors in the business. This includes a wide range of piston and scroll compressors, the types that are used by dental professionals. Over the years, we have pioneered many innovations. One of the most significant was the introduction of Class 0 air for industries that require absolutely unquestionable clean air.

Surprisingly, Class 0 is not yet the norm in dental compressors. When patient contact is involved, shouldn't there be zero compromise on air quality? That is why we set out to tailor our Class 0 compressors to the specific needs of dental professionals. This means you get the reliability and performance your everyday work requires, in addition to the peace of mind of 100% clean air.

With the Atlas Copco LFX, LF and SF, we have developed an extended range of compressors for different types of dental professionals and practices. So you are sure to find an Atlas Copco compressor that delivers the Class 0 air that matches your needs.

## IMPROVING DENTAL AIR: QUALITY, RELIABILITY & PERFORMANCE

When developing our dental compressors, our research and development team set out to know the exact needs of dental professionals. We found many, often specific, requirements. We are confident our dental products and services meet them all. Further on in this brochure, you will find all the details about the features and benefits of our dental range. In the end, however, the compressor you get from Atlas Copco is as easy to summarize as it is to operate:

- *Air quality you can be sure of*
- *Reliability you can count on*
- *Performance you will be pleased with*



### 100% CLEAN CLASS ZERO AIR

With an Atlas Copco dental compressor, you can tend to your patients in a fully hygienic and aseptic environment. While others may claim oil-free air through filtration, Atlas Copco compressors are certified to generate absolutely no traces of oil vapor. Because condensation can result in bacterial growth, our compressor filters and dryers provide a supplemental layer of air quality assurance. As a final precaution, all compressor parts are coated so that contamination because of wear is virtually impossible.



### MAXIMUM RELIABILITY

You can't afford the downtime and hassle that come with a faulty compressor. Atlas Copco dental compressors have a lifetime of up to 16,000 hours. The clean, dry air they produce ensures increased reliability. Atlas Copco also only works with carefully selected, high-quality components. That is why our LFX series comes with a 3-year pump warranty.

### OPTIMAL PERFORMANCE

Atlas Copco dental compressors are designed and built to work for you. Their straightforward control panel ensures you don't require an engineering degree to operate the machine. Compact in size, they fit in smaller spaces. And with a 100% load cycle and noise levels between 53 and 65 dB(A), their continuous, uninterrupted operation is non-intrusive.





- **Coated parts** prevent any kind of component contamination
- **All components and service points are easily accessible**
- **Sealed-for-life, no leakage bearings** to keep the air clean
- **100% duty cycle compression**
- **Internal epoxy-coated vessels** to ensure air quality and to avoid any corrosion

## CLOSE-UP: A BETTER DENTAL COMPRESSOR

### YOU NEED QUALITY AIR NO EXCUSES, NO COMPROMISES

National and international organizations have issued health and safety norms that also apply to the air used in dental practices. Our LFX, LF and SF series easily meet and exceed mandatory and self-imposed quality criteria, giving you peace of mind at all times.

### IT ALL STARTS WITH COMPRESSION TECHNOLOGY

With oil-injected compression, even filtered, there is always a chance oil vapors, aerosols or other contaminants remain. Atlas Copco's oil-free technology delivers 100% oil-free air. Aside from clean air for your patients and instruments, this also means a longer lifetime of your compressor with only minimal service and absolutely no oil changes required.

### DRY AIR REQUIRED

Compressed air contains moisture that can cause corrosion and rust. Depending on your needs, Atlas Copco compressors offer dew points as low as -40°C/°F to maximize the reliability and lifetime of both your compressor and the equipment it powers.

### A NEW STANDARD: CLASS 0 CERTIFIED AIR

Only Atlas Copco can offer Class 0 certified air. To find out more about Class 0 and why it is crucial for every dental professional, check out page 12.

### ONE SIZE DOESN'T FIT ALL

Only the equipment that is tailored to your needs will give you optimal performance and efficiency. From the LFX for the solo professional to the LF and SF for larger practices, Atlas Copco has a complete range of dental compressors to meet your requirements.



### SUPERIOR R&D

Atlas Copco dental compressors are custom-built solutions that were researched, designed and manufactured in-house. We have selected the best materials from suppliers that are closely monitored. Because each component can affect air quality, we test them all individually as well as how they interact.

# LFx

## Compact air for small practices

The Atlas Copco LFx is the quiet, reliable air solution for the solo professional and small dental practices. With a capacity range from 1.02 to 2.53 l/s (2.16 up to 5.36 cfm) and a maximum working pressure of 10 bar (145 psi), the LFx offers a dew point performance as low as -35°C/-31°F.

### Atlas Copco LFx:

**FAD** 1.02-2.53 l/s (2.16-5.36 cfm)

**DPP** down to -35°C/-31°F

**kW hp** 0.5-1.5 kW (0.7-2 hp)

**1 chair**

### A full range:



- ① **Heavy-duty Picolino air inlet filter** for reduced noise and improved air quality with one-micron filtration.
- ② **“Super-flow” air inlet system** for maximum energy cost savings, extended lifetime and low maintenance.
- ③ **High-performance aftercooler** with two-phase drying:
  - First cooling directly after compression, second drying through extra cooling on the bigger compressor models
  - Extended lifetime of the membrane dryer and guaranteed dew point for the CD dryer
- ④ **A robust canopy** reduces noise and offers higher cooling performance.
- ⑤ **DD filters** and a **PD filter** ensure extended lifetime of the dryers:
  - **DD:** water separation and first 1-micron filtration
  - **PD:** ultra-clean air through 0.01-micron filtration
- ⑥ **State of the art dryer technology** with **SD membrane** or **CD desiccant** dryers:
  - Different dryness (pressure dew point) for application-specific quality air requirements
  - No-maintenance, no-waste membrane dryer with lowest noise level and limited air purge thanks to optimized nozzle sizes
  - High performance absorption dryer with intelligent software for reduced energy costs and dew point certainty
- ⑦ **Direct drive** eliminates transmission losses for maximum efficiency.
- ⑧ **Highest quality components:**
  - Anodized and teflon-coated piston
  - Nickel-plated cylinder liner in full aluminum cylinder
  - Sealed-for-life bearings to avoid grease leaks at high temperatures
  - Specifically selected vibration dampers to eliminate vibrations
  - Solenoid valve for smooth stopping



# LF

## High performance dental air

Atlas Copco's LF oil-free compressors offer larger dental practices, hospitals and laboratories the cost-effective, reliable and low-maintenance air they need. Capacities range from 3.1 to 15.5 l/s (6.6 up to 32.8 cfm) and a maximum working pressure of 10 bar (145 psi) with a dew point performance of -20°C/-4°F.

### Atlas Copco LF:

**FAD** 3.1-15.5 l/s (6.6-32.8 cfm)

**DPP** down to -20°C/-4°F

**kW  
hp** 1.5-7.5 kW (2-10 hp)

**up to 4 chairs, laboratories**

### A full range:



① Automotive style **cylinders** made of high silicium aluminum alloy with low tolerance finishing for extremely low clearance and minimized friction.

② **Direct drive** eliminates transmission losses.

③ **Air intake filter** reduces contaminants and prolongs compressor life. An **outdoor breather** option (NFPA design approved), which uses outside air to feed the compressor, is also available for equipment rooms with multiple machines running.



④ **Industrial check valve or unloader valve:**

- Designed to withstand extreme conditions and high working pressures
- Check valve is used in combination with DOL starter to assure smooth stopping. The unloader valve works with a Y/D starter and special motor to reduce starting torque. This results in longer compressor and motor lifetime as well as limited strain on the electricity net

⑤ **Single electrical connection** for easy, plug-and-play installation.

⑥ High-performance, reliable **dryer technology** with FX refrigerant or CD desiccant dryers:

- Different dryness (pressure dew point) for application-specific quality air requirements
- Steady pressure dew point
- Long service intervals and fast access to key components
- Intelligent software for reduced energy costs and dew point certainty

⑦ **DD filters** and a PD filter ensure extended lifetime of the membrane and desiccant dryer:

- DD: water separation and first 1-micron filtration
- PD: ultra-clean air through 0.01-micron filtration

⑧ **Highest quality components:**

- Heavy-duty sealed-for-life ball bearings selected for continuous duty and long lifetime
- Die-cast aluminum crankcase and finned cylinder heads with high cooling characteristics, for long lifetime and efficient operation

# SF

## Silent air for large practices

Dental practices, hospitals and labs that need low noise without compromising on compressed air performance, will find the perfect solution with the Atlas Copco SF series scroll compressors. Easy to operate and maintain, the SF comes with a small footprint to save space. Two models, the SF and SF+ series, are available depending on your flow and dew point requirements. Operational features include a 1.9 to 7.6 l/s (4.03 up to 16.10 cfm) capacity range, a maximum working pressure of 10 bar (145 psi), and a dew point performance as low as 2°C/36°F.

### Atlas Copco SF:

**FAD** 1.9-7.6 l/s (4.03-16.10 cfm)

**DPP** down to 2°C/36°F

**kW  
hp** 1.5-5.5 kW (2-7.5 hp)

**up to 2 chairs, laboratories**

### A full range:



- ① Highly efficient **air inlet filter** eliminates dust and particles down to one micron.
- ② **Air-cooled scroll element** offers proven operational efficiency, reliability and durability.
- ③ Premium efficiency **IE3 class motor** ensures lower energy consumption.
- ④ A **sound-insulated canopy** for noise levels as low as 53 dB(A) and installation close to the point of use.
- ⑤ A compact and optimized **integrated refrigerant dryer** for application-specific quality air requirements.
- ⑥ High-performance **aftercooler** with two-phase drying. First cooling directly after compression, second drying through extra cooling on the bigger compressor models.
- ⑦ **Automatic regulation** stops the machine when the required working pressure is reached to avoid unnecessary energy costs.
- ⑧ The SF+ series comes with the high-end **Elektronik® controller** with monitoring features such as warning indications, maintenance scheduling and online visualization of running conditions.
- ⑨ Corrosion prevention thanks to an internally-coated 30-liter integrated **receiver** or a 270-liter external receiver.





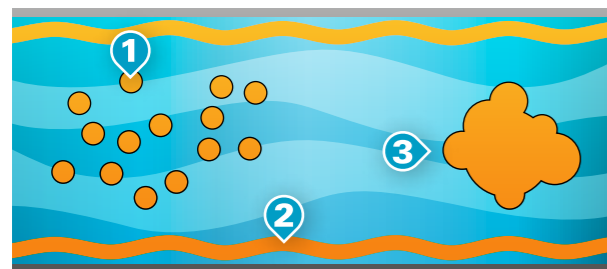
## ARE YOU CLASS 0 YET?

Your patients come into contact with the compressed air your tools require. That is why dental air should be unquestionably clean. Only Class 0 air will give you absolute compressed air purity.

Atlas Copco pioneered the oil-free air technology that removes any risk of contamination by oil. What is more, we also set a new standard in air quality as the first manufacturer to be certified ISO 8573-1 Class 0.

### LESS THAN ZERO

In 2001, the renowned TÜV institute tested Atlas Copco's oil-free piston and scroll compressors. Using the most rigorous testing methodologies available, it found no traces of oil in the output air stream. Thus, Atlas Copco became the first manufacturer to receive ISO 8573-1 Class 0 certification, even exceeding certification requirements.



- 1 **Aerosols**  
Minute droplets of oil suspended in the air stream
- 2 **Wall flow**  
Oil in liquid form, which creeps along the pipe wall
- 3 **Vapors or oil mist**  
Vaporized oil in a cloud form

### THE MOST STRINGENT AIR PURITY TESTING

Most manufacturers prefer 'partial flow' testing, which targets only the center of the airflow. The more stringent 'full flow' method is used to test Atlas Copco oil-free compressors. In this process, aerosols, vapors and wall flow are measured in the entire airflow. The results show no traces of oil in the output air stream of the Atlas Copco compressors.

CLASS	Concentration total oil (aerosol, liquid, vapor) mg/m <sup>3</sup>
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).

## ALWAYS AT YOUR SERVICE

Atlas Copco is a truly global organization with support available in more than 150 countries. As a result, our service and maintenance teams are never far away. We pride ourselves on the swift service that will keep your Atlas Copco compressor running smoothly and efficiently.

### SCHEDULED MAINTENANCE

All components and service points are easily accessible. Of course, your Atlas Copco compressor requires no oil changes.

### SERVICE PLAN

Atlas Copco has a service plan for each type of compressor to keep your equipment in excellent shape. Check with your local distributor for details.

### STAND-BY SOLUTIONS

Atlas Copco help is available 24/7. We keep spare parts and replacement compressors in stock so you are up and running again as quickly as possible.

# TECHNICAL SPECIFICATIONS

## PERFORMANCE

Compressor type	Maximum working pressure		FAD @ 50 Hz			FAD @ 60 Hz			Installed recommended power		Noise level	Purge	Pressure drop	Dew point	
	bar	psig	l/s	m³/min	cfm	l/s	m³/min	cfm	kW	hp	db(A)	%	bar	°C	°F
<b>LFx D</b>															
LFx D 0.7	10	145	1.02	0.06	2.16	1.35	0.08	2.86	0.55	0.7	61	0	0	45	113
LFx D 1.0	10	145	1.38	0.08	2.92	1.46	0.09	3.09	0.75	1	62	0	0	50	122
LFx D 1.5	10	145	2.07	0.12	4.39	2.39	0.14	5.06	1.1	1.5	63	0	0	76	169
LFx D 2.0	10	145	2.53	0.15	5.36	3.08	0.18	6.53	1.5	2	64	0	0	120	248
LFx D FF-SDP 0.7	10	145	1.02	0.06	2.16	1.35	0.08	2.86	0.55	0.7	61	14	0.1	13	55
LFx D FF-SDP 1.0	10	145	1.38	0.08	2.92	1.46	0.09	3.09	0.75	1	62	14	0.1	18	64
LFx D FF-SDP 1.5	10	145	2.07	0.12	4.39	2.39	0.14	5.06	1.1	1.5	63	14	0.1	44	111
LFx D FF-SDP 2.0	10	145	2.53	0.15	5.36	3.08	0.18	6.53	1.5	2	64	14	0.1	88	190
LFx D FF-SDN 0.7	10	145	1.02	0.06	2.16	1.35	0.08	2.86	0.55	0.7	61	19	0.08	-10	14
LFx D FF-SDN 1.0	10	145	1.38	0.08	2.92	1.46	0.09	3.09	0.75	1	62	19	0.08	-5	23
LFx D FF-SDN 1.5	10	145	2.07	0.12	4.39	2.39	0.14	5.06	1.1	1.5	63	19	0.08	21	70
LFx D FF-SDN 2.0	10	145	2.53	0.15	5.36	3.08	0.18	6.53	1.5	2	64	19	0.08	65	149
LFx D FF-CD+ 0.7	10	145	1.02	0.06	2.16	1.35	0.08	2.86	0.55	0.7	61	24	0.1	< -35	< -31
LFx D FF-CD+ 1.0	10	145	1.38	0.08	2.92	1.46	0.09	3.09	0.75	1	62	21	0.1	< -35	< -31
LFx D FF-CD+ 1.5	10	145	2.07	0.12	4.39	2.39	0.14	5.06	1.1	1.5	63	23	0.2	< -35	< -31
LFx D FF-CD+ 2.0	10	145	2.53	0.15	5.36	3.08	0.18	6.53	1.5	2	64	22	0.2	< -35	< -31
<b>LF</b>															
LF 2	10	145	3.1	0.19	6.57	3.50	0.21	7.42	1.5	2	82	0	0	44	111
LF 3	10	145	4	0.24	8.48	5.50	0.33	11.65	2.2	3	83	0	0	44	111
LF 5	10	145	8.2	0.49	17.37	11.10	0.67	23.52	4	5	83	0	0	55	131
LF 7	10	145	11	0.66	23.31	18.40	1.10	38.99	5.5	7	84	0	0	50	122
LF 10	10	145	15.5	0.93	32.84	24.20	1.45	51.28	7.5	10	86	0	0	80	176
LF FF-Fx 2	10	145	3.1	0.19	6.57	3.50	0.21	7.42	1.5	2	82	0	0.35	7	45
LF FF-Fx 3	10	145	4	0.24	8.48	5.50	0.33	11.65	2.2	3	83	0	0.35	7	45
LF FF-Fx 5	10	145	8.2	0.49	17.37	11.10	0.67	23.52	4	5	83	0	0.35	7	45
LF FF-Fx 7	10	145	11	0.66	23.31	18.40	1.10	38.99	5.5	7	84	0	0.35	7	45
LF FF-Fx 10	10	145	15.5	0.93	32.84	24.20	1.45	51.28	7.5	10	86	0	0.35	7	45
LF FF-CD+ 2	10	145	3.1	0.19	6.57	3.50	0.21	7.42	1.5	2	82	17	0.1	-20	-4
LF FF-CD+ 3	10	145	4	0.24	8.48	5.50	0.33	11.65	2.2	3	83	15	0.1	-20	-4
LF FF-CD+ 5	10	145	8.2	0.49	17.37	11.10	0.67	23.52	4	5	83	12	0.2	-20	-4
LF FF-CD+ 7	10	145	11	0.66	23.31	18.40	1.10	38.99	5.5	7	84	16	0.2	-20	-4
LF FF-CD+ 10	10	145	15.5	0.93	32.84	24.20	1.45	51.28	7.5	10	86	14	0.2	-20	-4
<b>SF</b>															
SF 1 FF	10	145	1.9	0.11	4.03	2.47	0.15	5.23	1.5	2	53	0	0.25	2	36
SF 2 FF	10	145	3.4	0.20	7.20	4.42	0.27	9.37	2.2	3	55	0	0.25	2	36
SF 4 FF	10	145	5.9	0.35	12.50	7.67	0.46	16.25	3.7	5	57	0	0.25	2	36
SF 6 FF	10	145	7.6	0.46	16.10	9.88	0.59	20.93	5.5	7.5	59	0	0.25	2	36

\* Unit performance measured according to ISO 1217, Ed.3, Annex C-2009.

\*\* Mean noise level measured according to ISO 2151/Pneurop/Cagi PN8NTC2 test code; tolerance 2 dB(A).

### Reference conditions

10 bar (145 psi), 20°C (68°F)

### Standard receiver sizes (CE-ASME)

LFx D	LF FF	SF
24l, 50l, 90l	90l, 270l, 500l	30l, 270l

### Standard voltages (IEC-CSA/UL standard)

LFx D		LF		SF	
50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
115/1	115/1	230/1	230/1	230/1	230/1
230/1	230/1	230/3	230/3	230/3	230/3
230/3	230/3	380/3	460/3	400/3	380/3
400/3	460/3	400/3	575/3		460/3
		500/3	380/3		575/3

## DIMENSIONS

	W (mm)	D (mm)	H (mm)	Weight (kg)
<b>LFx D</b>				
LFx D 0.7-1 24l	550	525	800	47
LFx D 1.5-2 50l	870	355	890	65
LFx D 0.7-1 FF SD 24l	550	525	800	54
LFx D 0.7-1 FF SD 50l	870	505	890	72
LFx D 0.7-1 FF CD 24l	540	680	800	59
LFx D 0.7-1 FF CD 50l	870	515	890	67
<b>LF</b>				
LF FF Fx 270l	1550	750	1130	220
LF FF Fx 500l	1950	750	1255	265
LF FF CD 270l	1550	760	1250	227
LF FF CD 500l	1950	820	1350	273
<b>SF</b>				
SF FF	850	600	590	102

## OPTIONS

	LFx D	LF	SF
Silencing hood (Not in combination with the HDF)		■	
Heavy-duty filter		■	
Pneumatic receiver drain	■	■	
Electronic timer drain	■	■	■
Heating element and thermistors for motor		■	
Receiver upgrade 24l/50l to 90l	■		
Receiver upgrade 90l to 270l	■	■	■
Receiver upgrade 270l to 500l		■	■
Wheel set for 50, 90 and 250l receiver	■	■	
Hour meter	■	■	
Outdoor breather (NFPA design approved)	■	■	