Oil-free Series
Screw Air Compressors

Oil-free air for all sustainable air needs

ELGi
Always Better.

OILFREE™
CLASS-0 ISO 8573-1

Single-Stage OF-L Series: **90 - 300 kW**

Two-Stage OF Series: **90 - 450 kW**

Two-Stage OF-A Series: **45 - 300 kW**

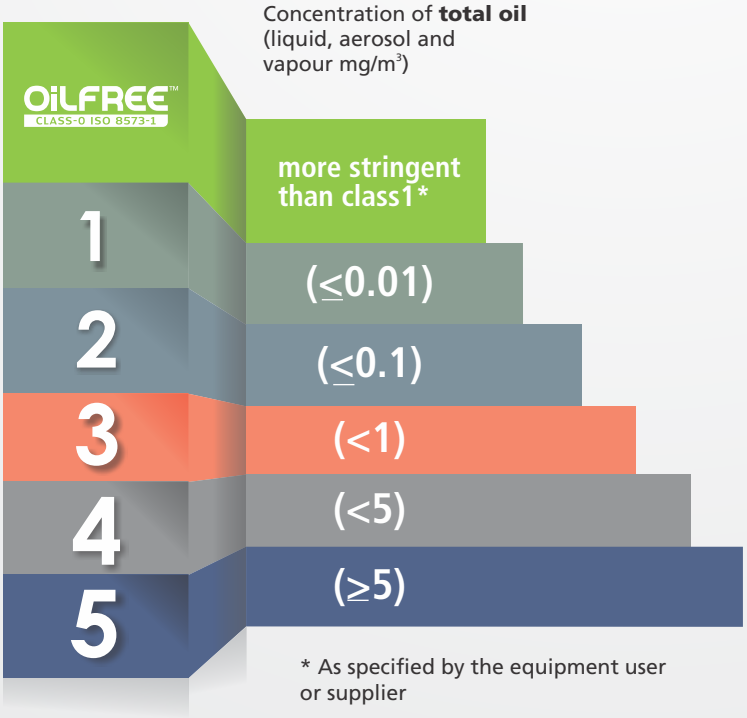
www.elgi.com

CIN: L29120TZ1960PLC000351

"I need oil free air quality of Class Zero with no breakdowns and workable economics."

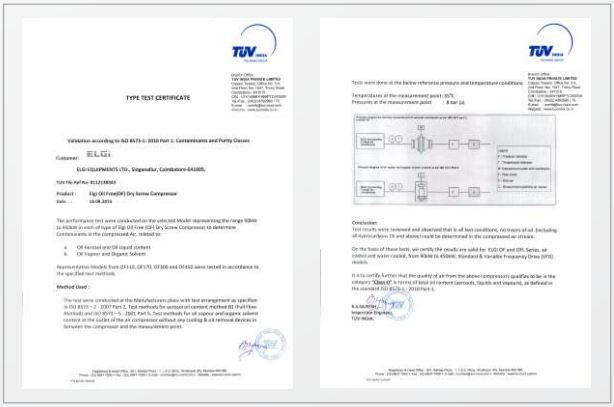
OILFREE™
CLASS-0 ISO 8573-1

Concentration of **total oil** (liquid, aerosol and vapour mg/m^3)



* As specified by the equipment user or supplier

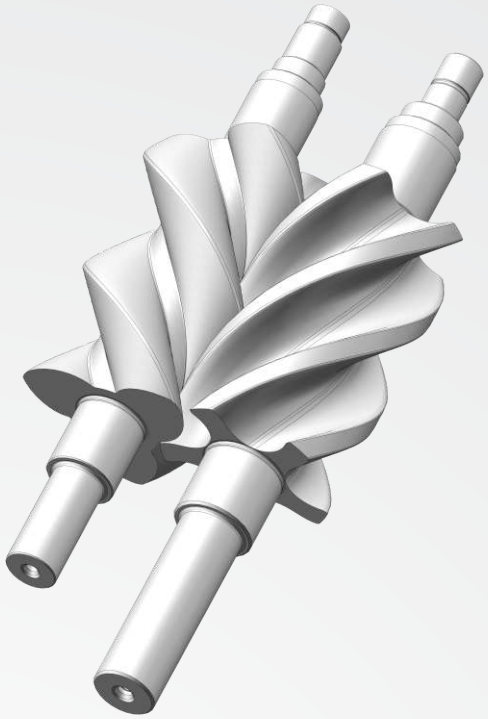
Class '0' Oil free air per ISO: 8573-1



ELGi Oil free Technology

ELGi is one of the very few compressor companies to design and manufacture oil-free airends. With in-house oil-free technology, the compressors are engineered to deliver maximum uptime and reliability. ELGi's unique η-V rotor design reduces pressure losses and increases stage efficiencies, leading to an optimized compressed air system.

Optimized component layout of the OF series machine provides easy serviceability with reduced service time. Incorporating superior safety norms, the compressors have not only low energy losses and low air outlet temperatures but are also highly reliable and compact. All these advanced features are integrated into one simple design that drives maximum Reliability and Uptime.

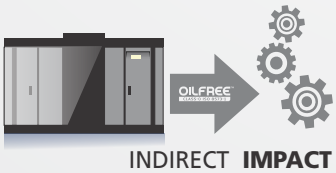


It's not just about delivering air It's about delivering a reliable solution for all oil-free applications

Applications

Oil free air is required where there is absolute intolerance of oil vapour presence in the entire manufacturing process

DIRECT **IMPACT**



INDIRECT **IMPACT**

BEVERAGE

FOOD

TEXTILE

PHARMA

METALS

POWER

OIL & GAS

AUTOMOTIVE

OiLFREE™

CLASS-0 ISO 8573-1

ELGi

OIL FREE SERIES

100%
Class-0 Air

Reliable
Products

Innovative
Products

Lower LCC

Air Audit
System

Customer
Satisfaction

Remote Monitoring
System

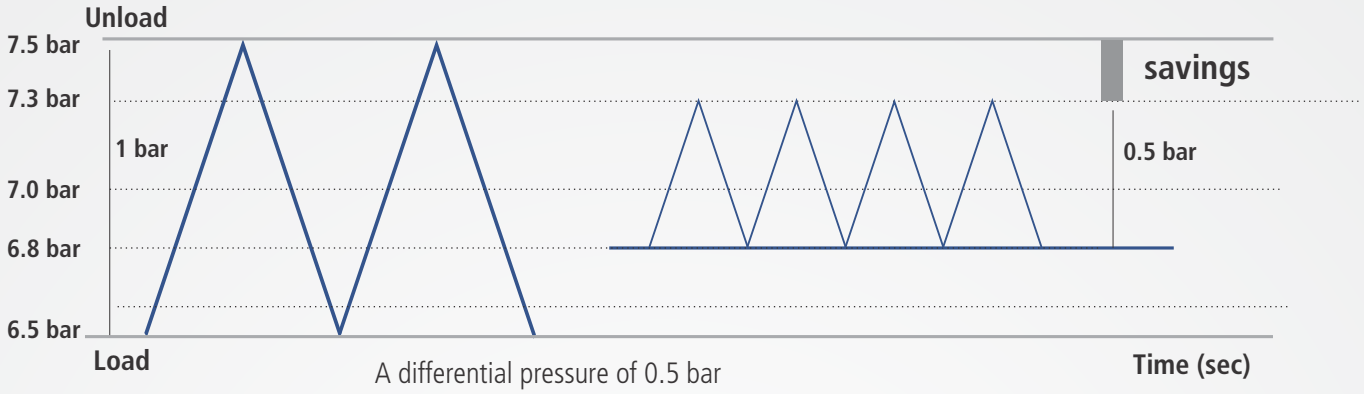
Customized
Solutions

With our Rack and Pinion capacity control system, there is no maintenance for over one million cycles **lower cost of ownership**

Without two-step control

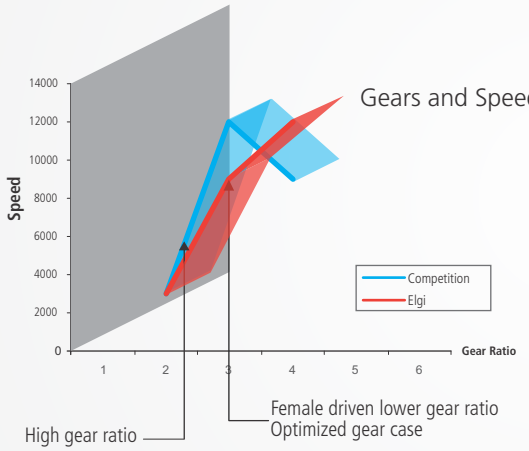
With rack and pinion control

Gives an edge to operate numerous cycles in a minute with reduction in pressure band. This saves energy and maintains pressure discharge.



A differential pressure of 0.5 bar saves about 3% energy **Quicker return on investment**

Reliability / Working Conditions



- Lower speed of airend **Gives better reliability due to lower gear ratio**
- Usage of rigid Stainless Steel tubes **Improves product reliability and reduce maintenance**
- Reduced pressure differential. Load unload pressure differential is 0.2 bar g **Reduces stress on the motor**
- Tropical design **Ensures reliable operation at severe working temperatures (-5°C to 45°C)**

Efficiency/Cost of Ownership

Low life cycle cost - High energy efficiency design delivering maximum UPTIME and lower cost of ownership

- Operates on low pressure cooling - water head **Reduced power consumption of feed water pumps**
- Lower temperature differential of cooling water **Power saving by reduced cooling water pump sizing**
- Optimized airend design **Deliver best efficiency of its class at different pressures and quicker return on investment**
- The OF series compressor package ensures that cooling water in-out temperature differential is only 8°C compared to other conventional systems of 14°C **Ensures lower thermal stress to the system, better fouling factor and lower cost of ownership**

Consistent Air Quality

Consistent oil-free air meeting ISO8573-1 class 0 oil standards.

- Food grade coating is done where air contacts metal surface inside the compressor **Ensures consistent oil-free air without metal debris**
- Pipes have special e-coating **Ensures consistently clean and oil-free air**
- Optimized rotor clearances **Ensures consistent air delivery**

OILFREE™
CLASS-0 ISO 8573-1

Intelligent control for consistent air quality And increased Uptime

- Reliability of the entire system is ensured by using a dedicated programmable Logic Controller (PLC)
- The PLC uses more than 15 safety interlocks gathering input from analog and digital modules

PLC - Optional with customized solutions

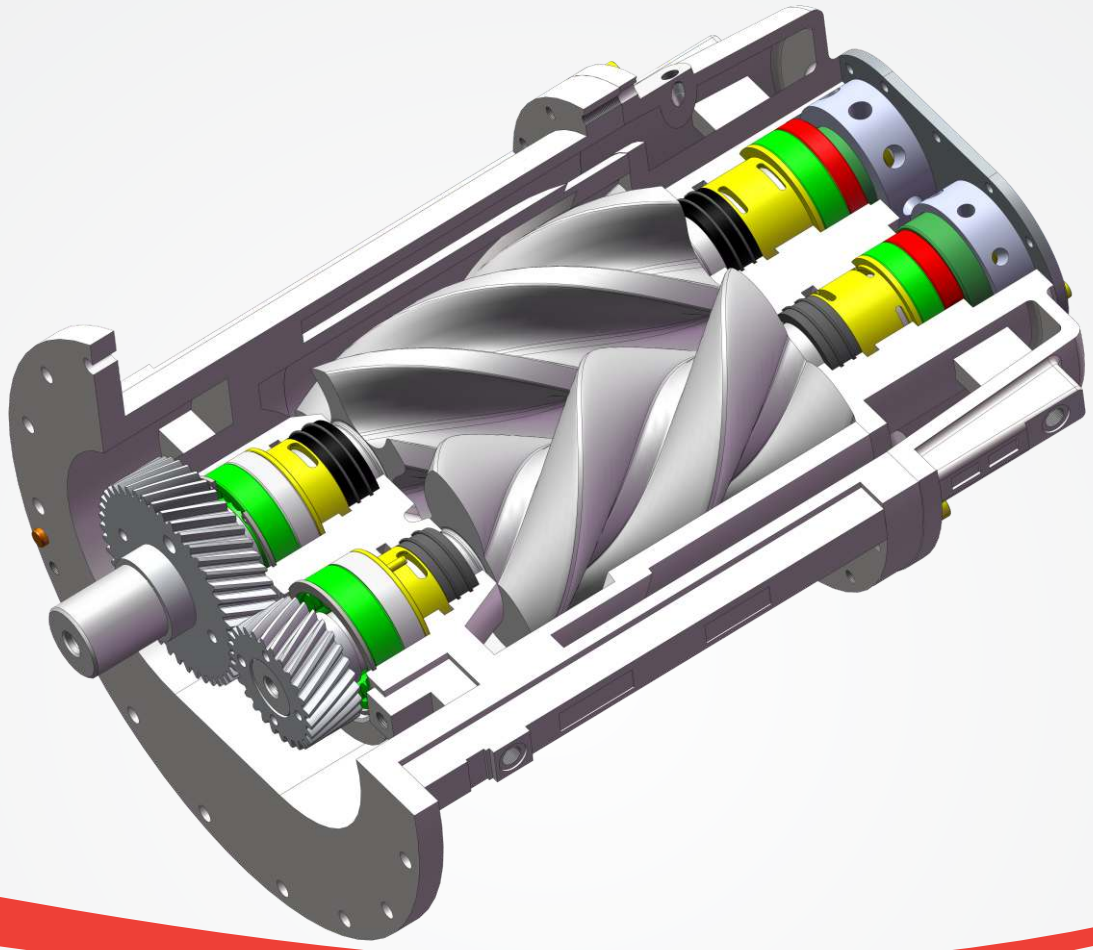
Add on features:

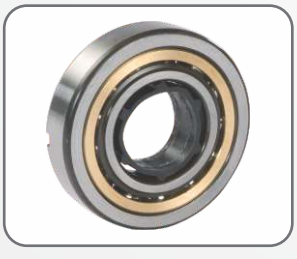
- Distributed control system connectivity with Modbus
- Customized in-line with client requirement
- Shock pulse monitoring system

OiLFREE™

CLASS-0 ISO 8573-1

Every component in ELGi OF series starting from design, manufacturing till quality testing embodies the philosophy of reliability. The materials used ensure long life, reliability and ruggedness under wide ambient conditions to provide you with oil-free air for uninterrupted and seamless productivity.





Bearings

- Special bearings running at relatively low speeds and high temperatures
- Optimized for oil free compressor speeds and temperatures considering the load and unload conditions.

Oil-Seal

- Non-contact type Visco seals made of Bronze
- Helical grooves cut with helix direction opposite to rotor rotation to prevent oil entry into compression chamber

Casing

- Completely coated with PP© coating (food grade)
- Water jackets are also coated with the same coating

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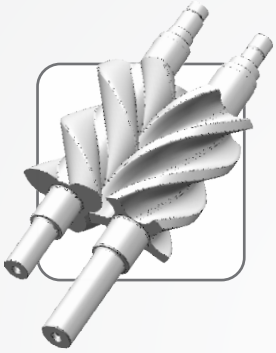
CLASS-0 ISO 8573-1

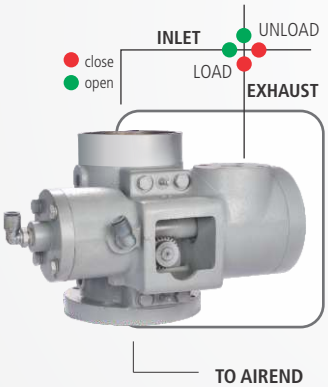
Coolers

- Cupronickel coolers with water-in-tube system,designed for temperature difference of max. 10^{0}C
- Least fouling factor in its kind with best thermal efficiency



Rotor

- Patented η-V profile with 3/5 lobe for high swept volume and lower pressure ratio
- Rotor operate at lower speed due to the patented profile and less inter-lobe Leakages
- Rotor and housing are coated with based food-grade PP© coating to resist corrosion and endure high temperatures up to 250^0 C. This results in optimum long term performance with no loss in efficiency.

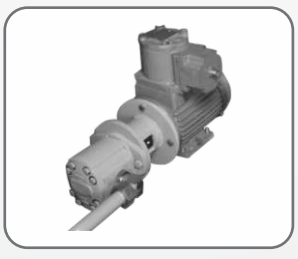


Capacity Control Valve

- Hydraulic rack and pinion type actuation
- Valve membrane made of stainless steel metal instead of elastomer
- More than one million cycles life tested
- Simultaneous closing of inlet valve and opening of blow-off valve by rack and pinion to ensure safety and air-end life
- Lesser maintenance compared to electrically actuated valves

Air Seal

- Carbon impregnated Stainless Steel floating type seals
- Axially locked by Belleville spring and radially locked by compressed air



Oil Pump

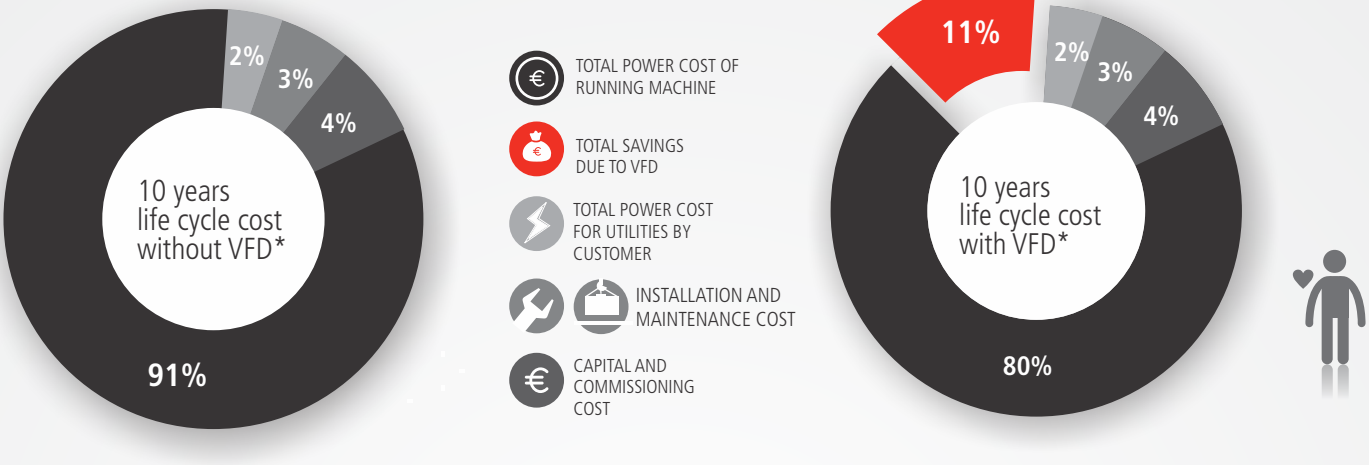
- Separate motor powered oil pump ensures lubrication before and during start of machine (ensuring no dry running of gears and bearings)
- All oil tubing is made of Stainless Steel to increase reliability

Timing Gears

- Helical gears, precision ground to DIN 4 quality and case hardened to minimize transmission losses and noise during operation
- Dynamically balanced to reduce vibrations by optimizing the loads on bearings and increase bearing life

Improved Cost Of Ownership

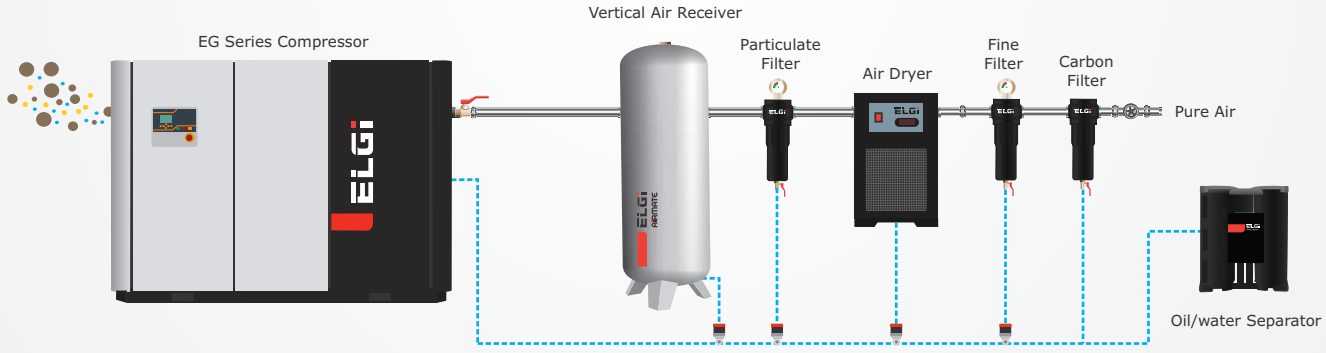
In addition to ensuring Uptime, ELGi OF series is designed to deliver quick returns on capital invested by reducing the operating cost.



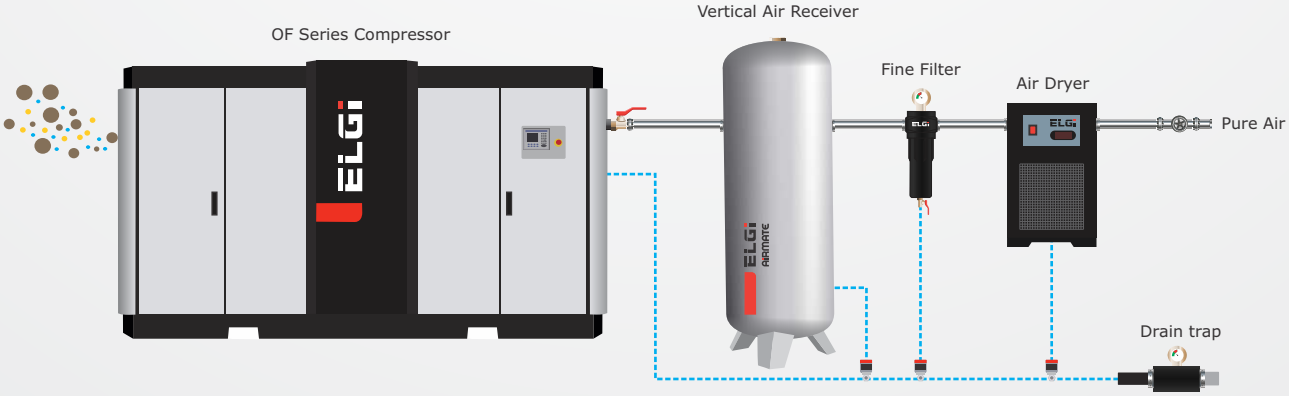
* Cost based on OF 275-7 model with VFD.
Values subject to change for different models

Reduced Installation Cost

Oil-Lubricated Compressed Air Supply System



Oil-Free Compressed Air Supply System

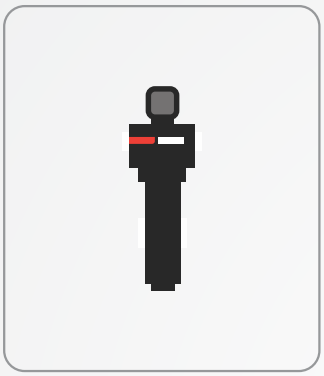


A Significant Value Addition

Downstream Accessories

ELGi provides a wide range of air-cure solutions for specific down stream air requirements

AIRMATE™
AIR ACCESSORIES

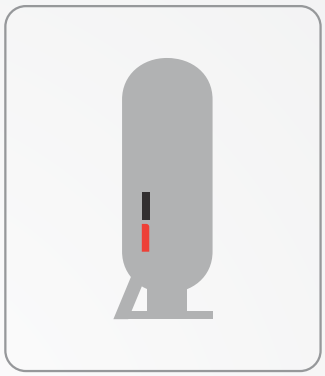


Downstream filter

- Capacity : 19-1200 cfm / 0.54 - 33.98 m^3/min
- Working pressure : 7-60 bar
- Filtration range: 1-3 microns

Drain valves

- Working pressure: 7-13 bar



Air receiver

- Capacity : 250-10000 ltrs.
- Working pressure : 7-60 bar
- Code of construction: ASME sec. VIII Div.I or IS 2825, according to PED

WITH THE CONSERVE ENERGY SAVING ACCESSORIES AND AIRMATE DOWNSTREAM ACCESSORIES, ELGI IS STRIVING FOR A CLEAN, GREENER AND SUSTAINABLE FUTURE

CONSERVE™
ENERGY EFFICIENCY

CONSERVE™ ENERGY EFFICIENCY

ENERGY SAVING ACCESSORIES

Variable Frequency Drives (VFD)

The ElGi CONSERVE VFD matches the compressor output to air demand by varying motor speed and hence the power consumption of the compressor reduces in line with the reduction in demand. The VFD eliminates frequent load-unload cycle and minimizes power wastage there by saving energy cost.

A fixed speed compressor operates on a load unload band of at least 0.5 bar (g) around the working pressure whereas with ElGi VFD, compressor can be operated within a band of 0.1 bar (g). Since the compressor is not operated under higher than working pressure requirements, there is substantial energy saving. Approximately, for every 0.1 bar (g) reduction in operating pressure, there is 1% power saving.

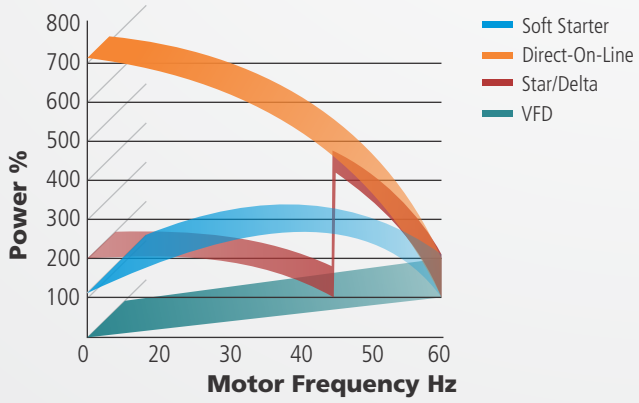
In a fixed speed compressor with a Star-Delta starter, the starting current is as high as three times the full load current (FLC). With ElGi VFD, the starting current is less than the FLC. This helps to avoid using higher ratings of allied components like fuses, MCCB, cable size, generator rating, isolators etc.

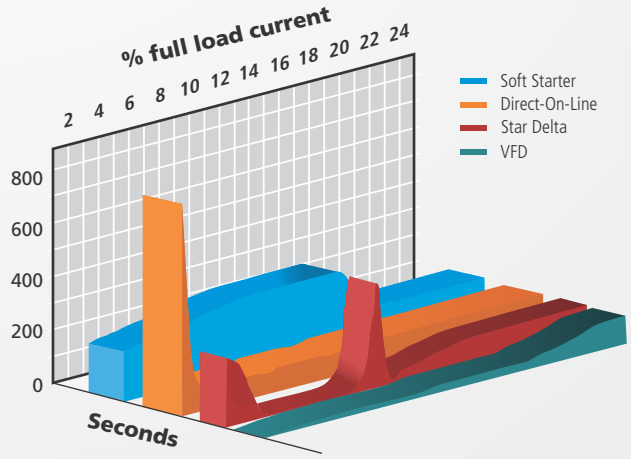
For compressed air systems with fluctuating demand pattern, return on additional capital investment due to energy saved can be within few months.

Advantages:

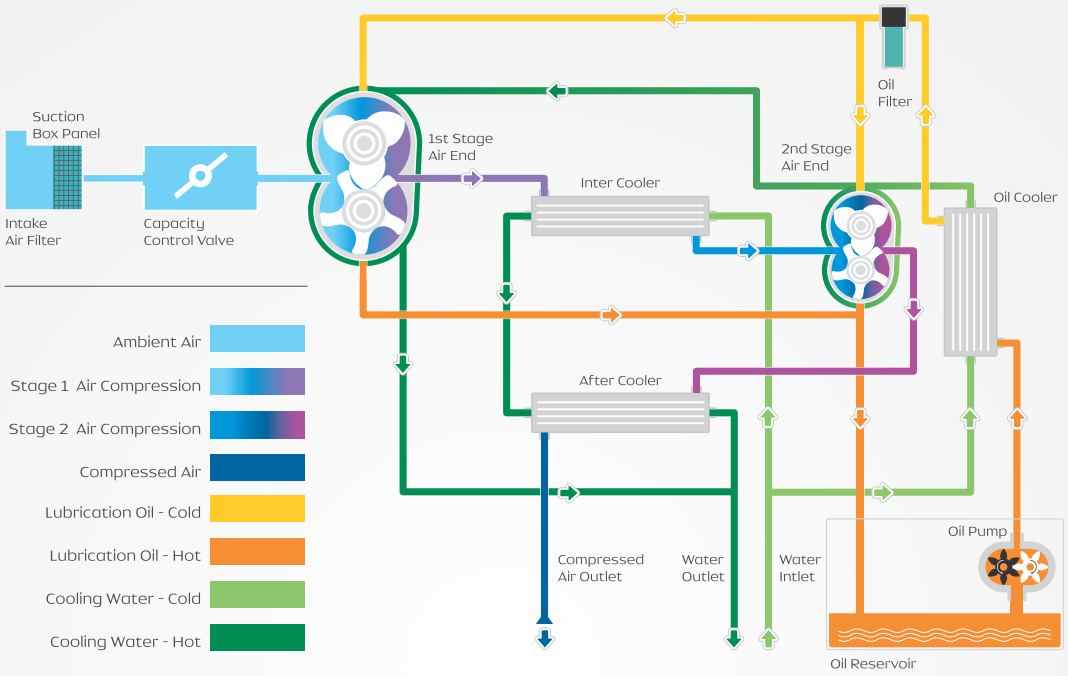
Electrical:
- Low starting current
- High efficiency
- Improved power factor
- Reduced maximum demand
- Inverter with Harmonics filter

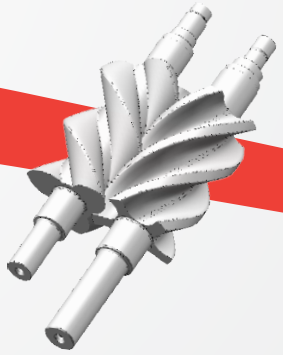
Mechanical:
- Minimum maintenance
- Reduced mechanical wear
- Smooth start
- Smooth control



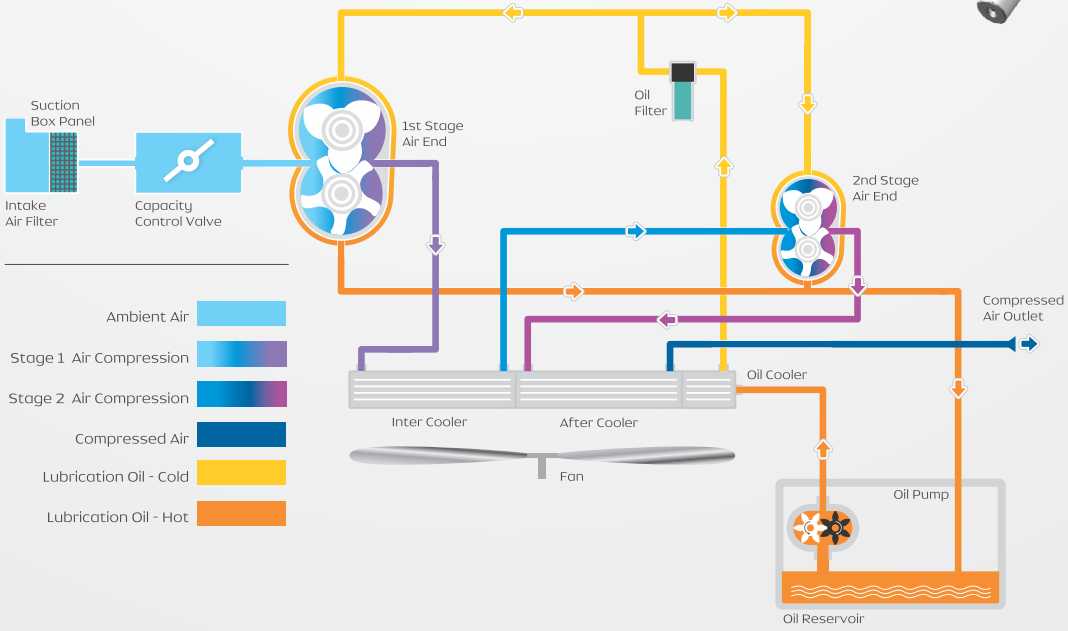


Oil Free Two Stage Water Cooled





Oil Free Two Stage Air Cooled



Oil Free Single-Stage Water Cooled Models
415V/380V-50Hz

Model	Nominal Power	Working Pressure	Free Air Delivery (FAD)		Dimension	Weight
	kW	bar (g)	cfm	m^3/min	L x W x H (mm)	Kg
1.5 bar(g) Working Pressure						
OF-90 L	90	1.5	1116	31.6	3154 x 1650 x 1929	4250
OF-110-L	110	1.5	1438	40.7	3154 x 1650 x 1929	4600
OF-132-L	132	1.5	1760	49.8	3154 x 1650 x 1929	4600
OF-200-L	200	1.5	2585	73.2	3700 x 2100 x 2400	8000
2.0 bar(g) Working Pressure						
OF-90 L	90	2.0	1061	30.0	3154 x 1650 x 1929	4250
OF-110-L	110	2.0	1101	31.2	3154 x 1650 x 1929	4250
OF-132-L	132	2.0	1571	44.5	3154 x 1650 x 1929	4600
OF-160-L	160	2.0	1734	49.1	3154 x 1650 x 1929	4600
OF-200-L	200	2.0	2601	73.7	3700 x 2100 x 2400	8000
2.5 bar(g) Working Pressure						
OF-90 L	90	2.5	969	27.4	3154 x 1650 x 1929	4250
OF-110-L	110	2.5	1068	30.2	3154 x 1650 x 1929	4250
OF-132-L	132	2.5	1250	35.4	3154 x 1650 x 1929	4600
OF-160-L	160	2.5	1556	44.1	3154 x 1650 x 1929	4600
OF-200-L	200	2.5	1989	56.3	3700 x 2100 x 2400	8000
OF-250-L	250	2.5	2570	72.8	3700 x 2100 x 2400	8000
3.0 bar(g) Working Pressure						
OF-90 L	90	3.0	875	24.8	3154 x 1650 x 1929	4250
OF-110-L	110	3.0	964	27.3	3154 x 1650 x 1929	4250
OF-132-L	132	3.0	1081	30.6	3154 x 1650 x 1929	4600
OF-160-L	160	3.0	1379	39.1	3154 x 1650 x 1929	4600
OF-200-L	200	3.0	1663	47.1	3700 x 2100 x 2400	8000
OF-250-L	250	3.0	1969	55.8	3700 x 2100 x 2400	8000
OF-300-L	315	3.0	2545	72.1	3700 x 2100 x 2400	8000

Note:

- Free Air Delivery (FAD) are tested as per ISO 1217 : 2009 - Annex C
- FAD indicated is for the full package measured at the outlet
- The water inlet pressure min to max is 2 bar(g) to 3.5 bar(g)
- The cooling water temperature rise is 8°C
- Weight indicated is approximate and actual can vary significantly
- Due to continuous improvements, specifications are subject to change without prior notice
- Displayed here is the standard range. For customized packages with different voltages, medium and high voltage motor, pressure variants (4.5 - 10 bar g for two stage machines), please contact our nearest sales office
- All standard packages can be offered with built in VFD. Please contact our nearest sales office for specifications and turndown details
- All mentioned packages are water cooled models only.
- The ambient temperature operating conditions -5°C to 45°C
- All motors can be supplied for various country standards like ABNT, NEMA and IEC however packages(dimension & weight) may vary

Oil Free Two-Stage Water Cooled Models
415V/380V-50Hz

Model	Nominal Power	Free Air Delivery (FAD)		Dimension	Weight
	kW	cfm	m^3/min	L x W x H (mm)	Kg
7 bar(g) Working Pressure					
OF-90	90	572	16.2	2955 x 1650 x 1850	4500
OF-110	110	675	19.1	2955 x 1650 x 1850	4500
OF-135	132	860	24.4	2955 X 1650 X 1850	4900
OF-145	160	880	24.9	2955 X 1650 X 1850	4900
OF-170	160	1077	30.5	2955 X 1650 X 1850	4900
OF-200E	200	1250	35.4	3500 X 1650 X 2050	6350
OF-200	200	1360	38.5	3500 X 1850 X 2050	6350
OF-210	250	1466	41.5	3500 X 1850 X 2050	6350
OF-250	250	1518	43.0	3500 X 1850 X 2050	6350
OF-265	275	1660	47.0	3500 X 1850 X 2050	6350
OF-275	275	1712	48.5	3500 X 1850 X 2050	6350
OF-300	315	1836	52.0	3500 X 1850 X 2050	6350
OF-355	355	2000	56.6	4200 X 2100 X 2550	9500
OF-400	400	2260	64.0	4200 X 2100 X 2550	9500
OF-450	450	2515	71.2	4200 X 2100 X 2550	9500
8 bar(g) Working Pressure					
OF-90	90	505	14.3	2955 x 1650 x 1850	4500
OF-110	110	600	17.0	2955 x 1650 x 1850	4500
OF-135	132	800	22.7	2955 X 1650 X 1850	4900
OF-145	160	815	23.1	2955 X 1650 X 1850	4900
OF-170	160	990	28.0	2955 X 1650 X 1850	4900
OF-200	200	1250	35.4	3500 X 1650 X 2050	6350
OF-210	250	1380	39.1	3500 X 1850 X 2050	6350
OF-250	250	1420	40.2	3500 X 1850 X 2050	6350
OF-265	275	1560	44.2	3500 X 1850 X 2050	6350
OF-275	275	1610	45.6	3500 X 1850 X 2050	6350
OF-300	315	1705	48.3	3500 X 1850 X 2050	6350
OF-355	355	1985	56.2	4200 X 2100 X 2550	9500
OF-400	450	2260	64.0	4200 X 2100 X 2550	9500
OF-450	500	2510	71.1	4200 X 2100 X 2550	9500
8.8 bar(g) Working Pressure					
OF-90	90	480	13.6	2955 x 1650 x 1850	4500
OF-110	110	565	16.0	2955 x 1650 x 1850	4500
OF-135	132	750	21.2	2955 X 1650 X 1850	4900
OF-145	160	775	21.9	2955 X 1650 X 1850	4900
OF-170	160	950	26.9	2955 X 1650 X 1850	4900
OF-200	200	1230	34.8	3500 X 1650 X 2050	6350
OF-210	250	1325	37.5	3500 X 1850 X 2050	6350
OF-250	250	1365	38.7	3500 X 1850 X 2050	6350
OF-265	275	1455	41.2	3500 X 1850 X 2050	6350
OF-275	275	1555	44.0	3500 X 1850 X 2050	6350
OF-300	315	1650	46.7	3500 X 1850 X 2050	6350
OF-355	400	1985	56.2	4200 X 2100 X 2550	9500
OF-400	450	2260	64.0	4200 X 2100 X 2550	9500
OF-450	500	2510	71.1	4200 X 2100 X 2550	9500

Oil Free Two-Stage Water Cooled Models
415V/380V-50Hz

Model	Nominal Power	Free Air Delivery (FAD)		Dimension	Weight
	kW	cfm	m^3/min	L x W x H (mm)	Kg
10 bar(g) Working Pressure					
OF90	90	403	11.41	2955 x 1650 x 1850	4500
OF110	110	473	13.39	2955 x 1650 x 1850	4500
OF145	160	688	19.48	2955 x 1650 x 1850	4900
OF170	160	808	22.88	2955 x 1650 x 1850	4900
OF210	250	1203	34.06	3500 x 1650 x 2050	6350
OF250	250	1248	35.34	3500 x 1650 x 2050	6350
OF265	275	1298	36.75	3500 x 1650 x 2050	6350
OF275	275	1348	38.17	3500 x 1650 x 2050	6350
OF300	315	1443	40.86	3500 x 1650 x 2050	6350
OF355	355	1771	50.12	4200 x 2100 x 2550	9500
OF400	400	2018	57.11	4200 x 2100 x 2550	9500
OF450	450	2225	62.97	4200 x 2100 x 2550	9500

Note:

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- FAD indicated is for the full package measured at the outlet
- The water inlet pressure min to max is 2 bar(g) to 3.5 bar(g)
- The cooling water temperature rise is 8°C
- Weight indicated is approximate and actual can vary significantly
- Due to continuous improvements, specifications are subject to change without prior notice
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- All mentioned packages are water cooled models only.
- The ambient temperature operating conditions -5°C to 45°C
- All motors can be supplied for various country standards like ABNT, NEMA and IEC however packages(dimension & weight) may vary

Oil Free Two-Stage Air Cooled Models
415V/380V-50Hz

Model	Nominal Power	Free Air Delivery (FAD)		Dimension	Weight
	kW	cfm	m^3/min	L x W x H (mm)	Kg
7.0 bar(g) Working Pressure					
OF 45 A	45	235	6.7	2200 x 1250 x 2000	2600
OF 55 A	55	295	8.4	2200 x 1250 x 2000	2600
OF 75 A	75	425	12.0	2200 x 1250 x 2000	2600
OF 90 A	90	568	16.08	2950 x 1850 x 2270	4800
OF 110 A	110	654	18.52	2950 x 1850 x 2270	4800
OF 135 A	132	855	24.21	2950 x 1850 x 2270	5750
OF 145 A	160	889	25.17	2950 x 1850 x 2270	5750
OF 170 A	160	1050	29.73	2950 x 1850 x 2270	5750
OF 200 A	200	1307	37.0	5200 x 2000 x 2050	7042
OF 210 A	250	1428	40.4	5200 x 2000 x 2050	7042
OF 250 A	250	1481	41.9	5200 x 2000 x 2050	7930
OF 265 A	275	1597	45.2	5200 x 2000 x 2050	7930
OF 275 A	315	1645	46.6	5200 x 2000 x 2050	7930
OF 300 A	315	1741	49.3	5200 x 2000 x 2050	7930
8.0 bar(g) Working Pressure					
OF 90 A	90	509	14.41	2950 x 1850 x 2270	4800
OF 110 A	110	592	16.76	2950 x 1850 x 2270	4800
OF 135 A	132	793	22.46	2950 x 1850 x 2270	5750
OF 145 A	160	824	23.33	2950 x 1850 x 2270	5750
OF 170 A	160	999	28.29	2950 x 1850 x 2270	5750
OF 200 A	200	1208	34.2	5200 x 2000 x 2050	7042
OF 210 A	250	1346	38.1	5200 x 2000 x 2050	7042
OF 250 A	250	1388	39.3	5200 x 2000 x 2050	7930
OF 265 A	275	1504	42.6	5200 x 2000 x 2050	7930
OF 275 A	275	1550	43.9	5200 x 2000 x 2050	7930
OF 300 A	315	1641	46.5	5200 x 2000 x 2050	7930
8.8 bar(g) Working Pressure					
OF 45 A	45	190	5.4	2200 x 1250 x 2000	2600
OF 55 A	55	257	7.3	2200 x 1250 x 2000	2600
OF 75 A	75	360	10.2	2200 x 1250 x 2000	2600
OF 90 A	90	485	13.73	2950 x 1850 x 2270	4800
OF 110 A	110	560	15.86	2950 x 1850 x 2270	4800
OF 135 A	132	754	21.35	2950 x 1850 x 2270	5750
OF 145 A	160	785	22.23	2950 x 1850 x 2270	5750
OF 170 A	160	957	27.10	2950 x 1850 x 2270	5750
OF 200 A	200	1198	33.9	5200 x 2000 x 2050	7042
OF 210 A	250	1297	36.7	5200 x 2000 x 2050	7042
OF 250 A	250	1337	37.9	5200 x 2000 x 2050	7930
OF 265 A	275	1405	39.8	5200 x 2000 x 2050	7930
OF 275 A	275	1495	42.3	5200 x 2000 x 2050	7930
OF 300 A	315	1588	45.0	5200 x 2000 x 2050	7930

Oil Free Two-Stage Air Cooled Models
415V/380V-50Hz

Model	Nominal Power	Free Air Delivery (FAD)		Dimension	Weight
	kW	cfm	m^3/min	L x W x H (mm)	Kg
10 bar(g) Working Pressure					
OF55	55	193	5.46	2200 x x1250 x x2000	2600
OF75	75	295	8.35	2200 x x1250 x x2000	2600
OF90	90	403	11.4	2955 x 1650 x 1850	4500
OF110	110	473	13.39	2955 x 1650 x 1850	4500
OF145	160	680	19.24	2955 x 1650 x 1850	4900
OF170	160	802	22.7	2955 x 1650 x 1850	4900
OF210	250	1173	33.2	3500 x 1650 x 2050	6350
OF250	250	1210	34.24	3500 x 1650 x 2050	6350
OF265	275	1278	36.17	3500 x 1650 x 2050	6350
OF275	275	1354	38.32	3500 x 1650 x 2050	6350
Of300	315	1400	39.62	3500 x 1650 x 2050	6350

Note:

- Free Air Delivery (FAD) are tested as per ISO 1217 : 2009 - Annex C
- FAD indicated is for the full package measured at the outlet
- The water inlet pressure min to max is 2 bar(g) to 3.5 bar(g)
- The cooling water temperature rise is 8°C
- Weight indicated is approximate and actual can vary significantly
- Due to continuous improvements, specifications are subject to change without prior notice
- Displayed here is the standard range. For customized packages with different voltages, medium and high voltage motor, pressure variants (4.5 - 10 bar g for two stage machines), please contact our nearest sales office
- All standard packages can be offered with built in VFD. Please contact our nearest sales office for specifications and turndown details
- All mentioned packages are water cooled models only.
- The ambient temperature operating conditions -5°C to 45°C
- All motors can be supplied for various country standards like ABNT, NEMA and IEC however packages(dimension & weight) may vary

Compressed air solutions for all sustainable air needs

Oil free series screw
45 - 450 kW / 5.38 - 73.65 m³/min

EG series rotary screw
11 - 250 kW / 1.39- 43.61 m³/min

EN series rotary screw
2.2 - 45 kW / 0.26 - 6.85 m³/min

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YOUR CONTACTS IN EUROPE:

ELGi Benelux:
T: +32 2 828 01 44, T: +31 8 573 26 774, **E:** elgi__benelux@elgi.com

ELGi France:
T: +33 9 730 38 248, **E:** elgi__france@elgi.com

ELGi Iberia:
T: + 34 9 106 02 138, **E:** elgi__iberia@elgi.com

ELGi Italy & Southern Europe:
T: +39 0 171 18 65443, **E:** elgi__italy@elgi.com

ELGi Eastern Europe:
T: + 48 2 215 30 318, + 42 0 234 29 0881, **E:** elgi__easterneurope@elgi.com

ELGi Nordics:
T: + 46 8 121 11 175, + 45 7 872 31 21, **E:** elgi__nordics@elgi.com

ELGi UK & Ireland:
T: + 44 2 037 69 3605, **E:** elgi-uk__ireland@elgi.com

ELGI COMPRESSORS EUROPE S.R.L.
Dreve Richelle 167, 1410 Waterloo, Belgium
T: +32 2 828 01 44, E: euenquiry@elgi.com
W: www.elgiaircompressors.eu

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