



ELGI COMPRESSORS

THE LIFE SOURCE OF INDUSTRIES

www.elgi.com

ELGi

Always Better.

WHY ELGI

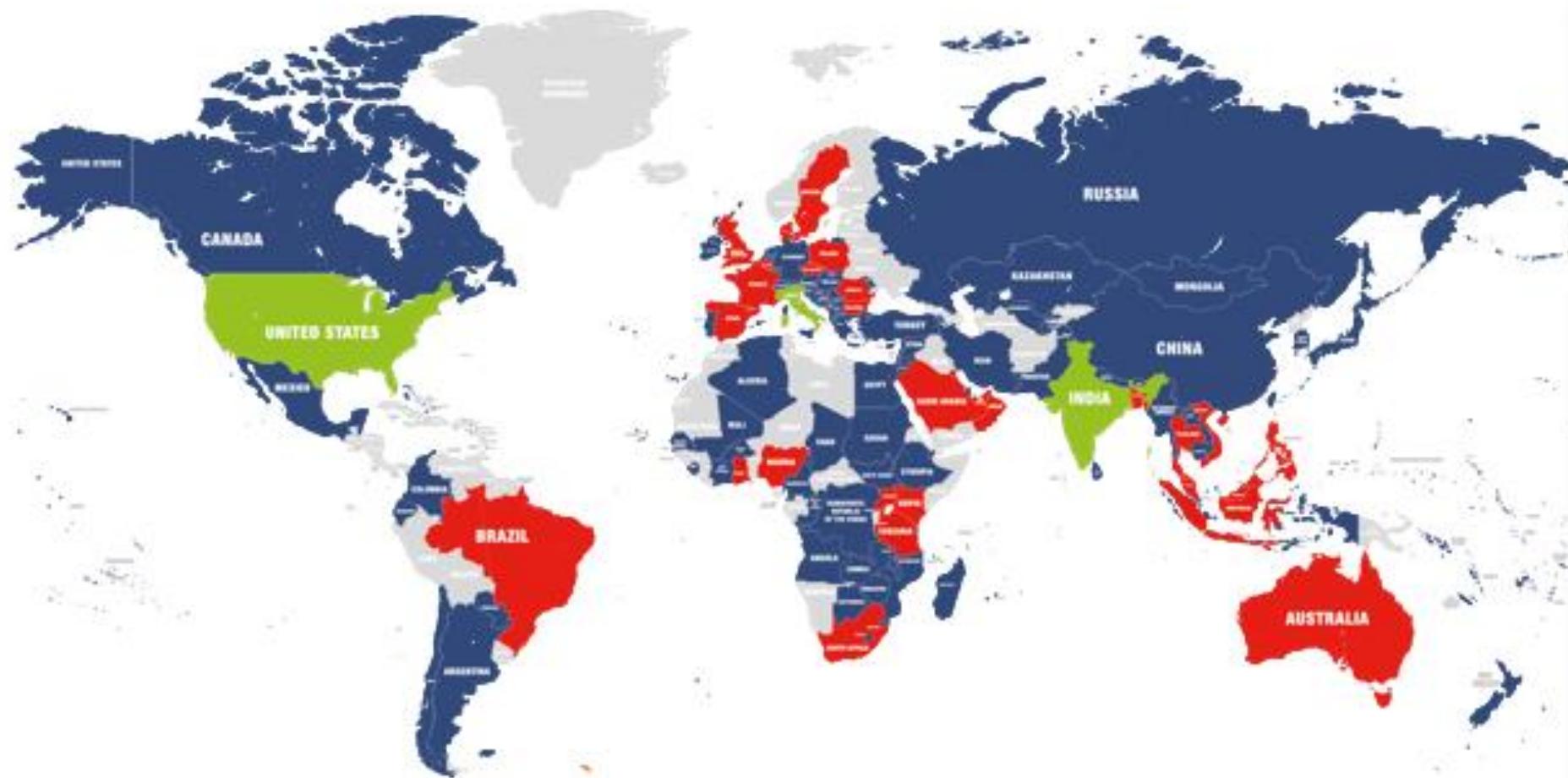
<https://www.youtube.com/watch?v=kRBAKBhbFks>

[ELGi Infrastructure - YouTube](#)

https://en.wikipedia.org/wiki/Deming_Prize

[Leaders at ELGi share their thoughts on winning the 2019 Deming Prize - YouTube](#)

About ELGi



120+

Countries where
ELGi does business

26

Countries with
Direct presence

3

Countries with
manufacturing
presence

Subsidiary Companies and Joint Ventures

Subsidiary Companies (Acquired)



Joint Ventures



Pattons of California LLC



Future-ready manufacturing units in the world with highest standards of quality and safety



Compressor Plant - INDIA

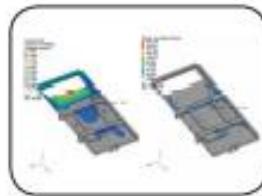


Compressor Plant - USA



Compressor Plant - ITALY

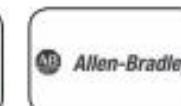
Technological advantage



ELGi has developed in-house FEA, CFD, NVH and industrial design capabilities to ensure continuous innovation in product quality.

FEA: Finite Element Analysis, CFD: Computational Fluid Dynamics,
NVH: Noise Vibration Harshness

ELGi's Globally renowned vendors



Deming Prize awarded to ELGi

The **Deming Prize** is the longest-running and one of the highest awards on TQM (Total Quality Management) in the world. It recognizes both individuals for their contributions to the field of Total Quality Management (TQM) and businesses that have successfully implemented TQM.^[1] It was established in 1951 to honor W. Edwards Deming who contributed greatly to Japan's proliferation of statistical quality control after World War II. His teachings helped Japan build its foundation by which the level of Japan's product quality has been recognized as the highest in the world, was originally designed to reward Japanese companies for major advances in quality improvement. Over the years it has grown, under the guidance of the Japanese Union of Scientists and Engineers (JUSE) to where it is now also available to non-Japanese companies, albeit usually operating in Japan, and also to individuals recognized as having made major contributions to the advancement of quality. The awards ceremony is broadcast every year in Japan on national television.

https://en.wikipedia.org/wiki/Deming_Prize



About ELGi

ERGO DESIGN – ELGi's in-house design firm focuses on product design for best-in-class aesthetics and form



6,500

Square feet of studio space

17

TEAM STRENGTH
Total no. of employees

ELGi

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Global Manufacturing Capability



**5+ Million Sq. Ft.
of “Future-ready”
Manufacturing
Facilities**



About ELGi

ELGi foundry produces high precision grey and SG iron castings using the most advanced and environmentally friendly processes



400,000

Square feet of foundry land

100,000

Square feet of factory space

9,000

PRODUCTION CAPACITY
metric tonnes per annum

30-3200

WEIGHT OF CASTINGS
kilograms

ELGi's vertically integrated compressor production offers high quality with best-in-class efficiency



5,000,000

Square feet of factory land

1,000,000

Square feet of factory space

15,000

Airends per year

40,000

Compressors per year

About ELGi

HOUSING - MACHINING (VMC / HMC)

ELGi machines castings in-house using best-in-class machine tools ensuring highest quality standards



03 - 250

PRODUCTION CAPABILITY
kilograms

38,000

PRODUCTION CAPACITY
parts per year

< 2 microns

ACCURACY

ROTOR PRODUCTION - MILLING

ELGi custom designs and builds its own rotor milling machines to produce highest quality rotors with lowest manufacturing cost



LOW VIBRATION

Resulting in tighter milled rotors

HIGHER RIGIDITY

That enables faster production

SELF-MONITORING

To prevent defects

About ELGi

COMPRESSOR ASSEMBLY

Best-in-class conveyor assembly line with automated monitoring and *testing stations*



PRODUCTION CAPABILITY

15,000

Screw air compressors
per year

25,000

Piston compressors
per year

ELGi manufactures pressure vessels meeting international standards



60,000

Square feet of
factory space

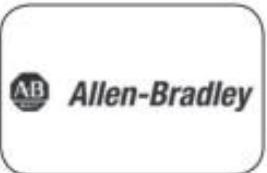
29,000

PRODUCTION CAPACITY
Receivers per year

ELGi's Vendor

Global Vendors

Best-in-class globally recognized vendors to ensure quality and seamless warranty



ELGi's Customer



Air compressors across the spectrum



EN Series

Encapsulated Screw Air Compressor
2.2 – 75 kW / 8 – 469 CFM



Oil Lubricated Recip

Oil Lubricated Piston Compressor
1.0 – 40 HP / 2.0 – 128 CFM



EG Series

Oil Lubricated Screw Air Compressor
11 – 250 kW / 47 – 1612 CFM



Oil Free Recip

Oil Free Piston Compressor
1.0 – 75 HP / 1.8 – 300 CFM



OF Series

Oil Free Screw Air Compressor
90 – 450 kW / 572 – 2450 CFM



PG Series (Electric)

Electric Portable Screw Compressor
22 – 75 kW / 131 – 514 CFM



CG Series

Centrifugal Compressor
450 – 930 kW / 3000 – 5200 CFM



PG Series (Diesel)

Diesel Powered Screw Compressor
185 – 1500 CFM / 100 – 400 PSI

Complete end-to-end Solutions & accessories



- Variable Frequency Drives
- Receivers
- Dryers
- Downstream Filters
- Drain Valves

For All Industries and Applications



Manufacturing



Iron & Steel



Construction



F & B



Textiles



Electronics



Automotive



Mining



Paper



Pharma



Medical Air



Oil and Gas



Rice and Pulse



Railways



Electrical



Aviation



Leather



Nuclear Plant

Air Compressors across the Spectrum

Product Portfolio



EN Series

Encapsulated Screw Air Compressor

- ▶ 2.2 - 45 kW
- 9 - 280 cfm



EG Series

Oil Lubricated Screw Air Compressor

- ▶ 11 - 250 kW
- 49 - 1540 cfm



OF Series

Oil Free Screw Air Compressor

- ▶ 45 - 450 kW
- 190 - 2601 cfm



AB Series

Oil Free Screw Air Compressor

- ▶ 11 - 110 kW
- 27.4 - 560 cfm

Air Compressors across the Spectrum

Product Portfolio



Oil-Free Recip

Oil Free Piston Compressor

- ▶ 5 - 30 hp
14.5 - 90 cfm



Oil Lubricated Recip

Oil Lubricated Piston
Compressor

- ▶ 1 - 40 hp
2 - 128 cfm



PG Series Diesel

Diesel Powered Screw
Compressor

- ▶ 185 - 1500 cfm
100 - 400 psi (g)



PG Series Electric

Electric Portable Screw
Compressor

- ▶ 22 - 90 kW
130 - 500 cfm

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Air Compressors across the Spectrum

Product Portfolio



EV Series

Oil Lubricated Screw Air Compressor

- ▶ 11 - 45 kW
- 29 - 281 cfm



CG Series

Centrifugal Compressor

- ▶ 450 - 950 kW
- 3000 - 5400 cfm

Complete end-to-end solutions and accessories

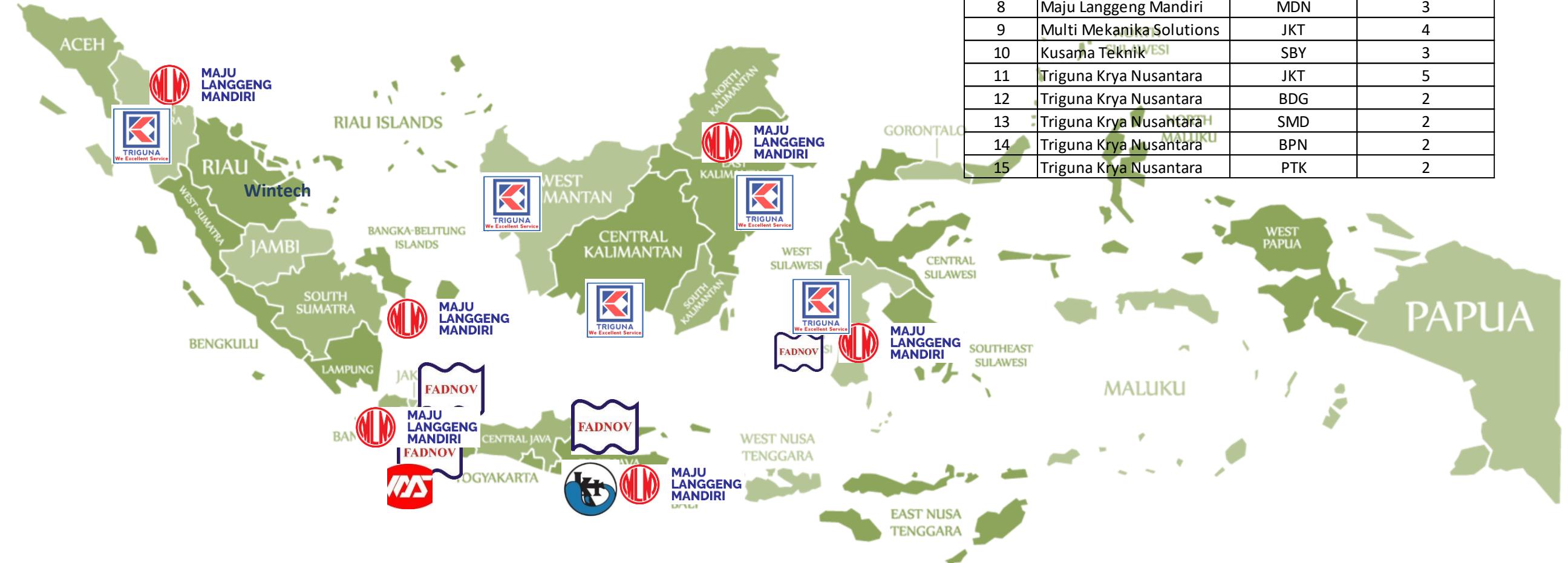
- Variable Frequency Drives
- Receivers
- Dryers
- Downstream Filters
- Drain Valves



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Dealer & Service Support



No	Authorized Distributor	Region	Service Tech
1	Fadnov	JKT	3
2	Fadnov	BDG	6
3	Fadnov	SBY	2
4	Maju Langgeng Mandiri	JKT	5
5	Maju Langgeng Mandiri	SMG	2
6	Maju Langgeng Mandiri	SBY	3
7	Maju Langgeng Mandiri	MKS	2
8	Maju Langgeng Mandiri	MDN	3
9	Multi Mekanika Solutions	JKT	4
10	Kusama Teknik	ESI	3
11	Triguna Krya Nusantara	JKT	5
12	Triguna Krya Nusantara	BDG	2
13	Triguna Krya Nusantara	SMD	2
14	Triguna Krya Nusantara	BPN	2
15	Triguna Krya Nusantara	PTK	2

ELGI

Always Better.

The ELGi advantage: 5 reasons why we are the preferred choice of industry leaders



- 1 Best-in-class Lifecycle Cost (LCC)
- 2 Uptime Guaranteed
- 3 The ELGi technical edge
- 4 Reliability (6-year Warranty)
- 5 Proven Results

ELGi's The best in class LCC

We constantly strive to innovate...



Up to 80% savings on Airends
due to serviceable Airends



Up to 60% lower cost
of spares and consumables



Up to 12% on Energy Saving*
due to cutting edge technology



<1ppm oil discharge Vs 2-3ppm
discharge by competition



Philosophy of repair first,
replace only if must

... to provide consistently lowest LCC compared to peers

ELGi

LCC parameters	EG 55 @ 9.5 bar	55 kW @ 8.5 bar	55 kW @ 7 bar
A. Power Cost	\$ 364,256	\$ 364,256	\$ 373,556
Effective unload time (%)	2%	9%	17%
B. Maintenance Cost	\$ 9,920	\$ 18,910	\$ 26,505
Consumables (filters, oil, AOS)	\$ 5,580	\$ 12,555	\$ 11,935
Maintenance parts (valve kits)	\$ 2,015	\$ 2,170	\$ 5,270
Hard parts (air-end reconditioning)	\$ 2,325	\$ 4,185	\$ 9,300
LCC (A + B)	\$ 374,176	\$ 383,166	\$ 400,061
C. Initial cost	Competitively Priced	Highly Priced	Highly Priced

*Energy is more than 75% of the LCC. Savings depends up on model to model, usage pattern and competitors model.

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BEST in CLASS WARRANTY PROVIDED By ELGI

Compressor Part	ELGI EG series	ELGI Oil-free
Air-end	6 years (or) 30000 hrs whichever is earlier	4 years (or) 30000 hrs whichever is earlier
Motor	3 yrs	2 yrs
After-cooler	3 yrs	2 yrs
Compressor Package	1 yr	1 yr
Best-in-class Warranty		
No Questions Asked warranty Complete peace of mind for customers		

Everything you need in a compressor



EG Series Core Features



-  **Energy efficient**
-  **Low cost of ownership**
-  **High Reliability**
-  **Ease of maintenance**
-  **Compact, Silent and Safe**

Energy Efficient

- 1 Bigger Airend with precise Rotor clearances run at optimum speed to achieve high energy efficiency. The heat load generated Is substantially reduced



- 3 Intake valve with integrated blow down, solenoid and actuator is designed optimally to reduce the starting current, reduce losses and Improve the efficiency



- 5 Designed with In built variable frequency drive to match the exact air demand and With substantial reduction in unload power Consumption



- 2 Best quality Air-Less oil carry over (1ppm)* - Which can separate air and oil with OSBIC (Oil separation by impact and centrifugal action) through 3 stages



- 4 Airend is driven by Premium efficiency (IE3) motor to increase the efficiency of the system thus reducing the carbon emission



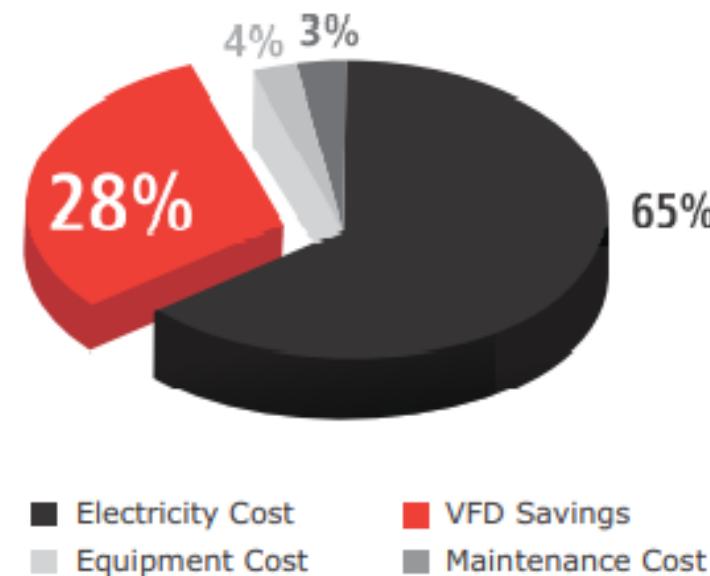
Low Cost of Ownership

- 1 Extended life of air compressor spares and consumables

- 2 Offers low life cycle cost with zero compromise on performance and quality

Items Description	Every 2000 hrs	Every 4000 hrs	Every 8000 hrs / 2yrs
Items for replacement			
Motor Grease		✓	
Air Filter element		✓	
Oil Filter element	✓		
Air oil Separator			✓
Oil Air Lube UT			✓
Oil return line - Steel			✓
Check and replace items			
Intake Valve kit			✓
MPV kit			✓
Thermal Valve kit			✓
O-ring kit			✓
Solenoid Valve			✓
Belt			✓
Anti Vibration mounts			✓
Blow Down Valve kit			✓

Typical compressor life cycle cost with VFD



High Reliability

- 1 Parts and package tested for extreme environment and extended endurance (50° C Ambient Temperature and 95%RH)



- 2 The Package designed for high ambient temperature and Continuos duty totally enclosed fan cooled motor with 'F' class insulation used



- 3 Electrical Panel and the complete machine are CE Certified to Ensure the highest safety and reliability Standards



- 4 Flanged joints with 'O' ring seals to ensure leak free machine



- 5 **Heavy duty Air filters.**
- a. Offers high dust carrying capacity
 - b. Less frequent clogs
 - c. Cold air suction is always ensured



- 6 Strong rigid and robust metal structure design



Ease of Maintenance

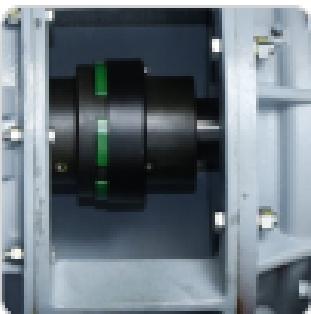
- 1 Quick access to all routine maintenance Parts for ease of serviceability



- 3 Display in Controller for indicating the change period of Air oil separator and Oil filter.



- 5 Easy access for the change of Drive coupling Element during maintenance



- 2 Proven low maintenance cost in the market



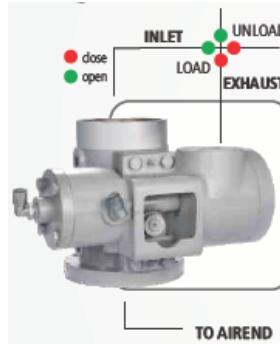
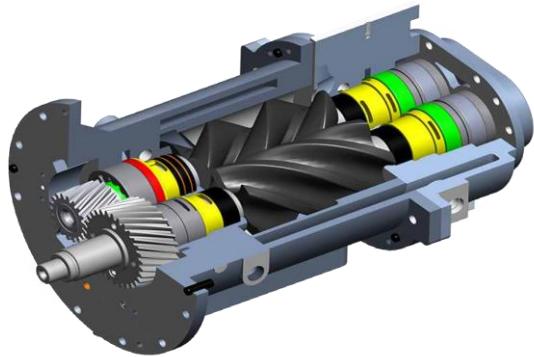
- 4 ELGI's Neuron III is a custom designed controller engineered for the efficient control of compressor and compressed air system.



Airend Replacement Cost

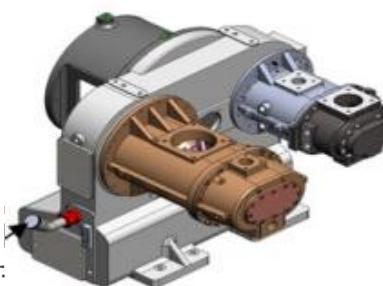
No	ELGi	USD		USD
1	LP-Airend	\$ 24.000	LP-Airend	\$ 48.000
2	HP-Airend	\$ 9.000	HP-Airend	\$ 40.000
		\$ 33.000		\$ 88.000

Features & Benefit (OILFREE)



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



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

Coolers

- Cupronickel coolers with water-in-tube system, designed for temperature difference of max. 8°C
- Least fouling factor in its kind with best thermal efficiency

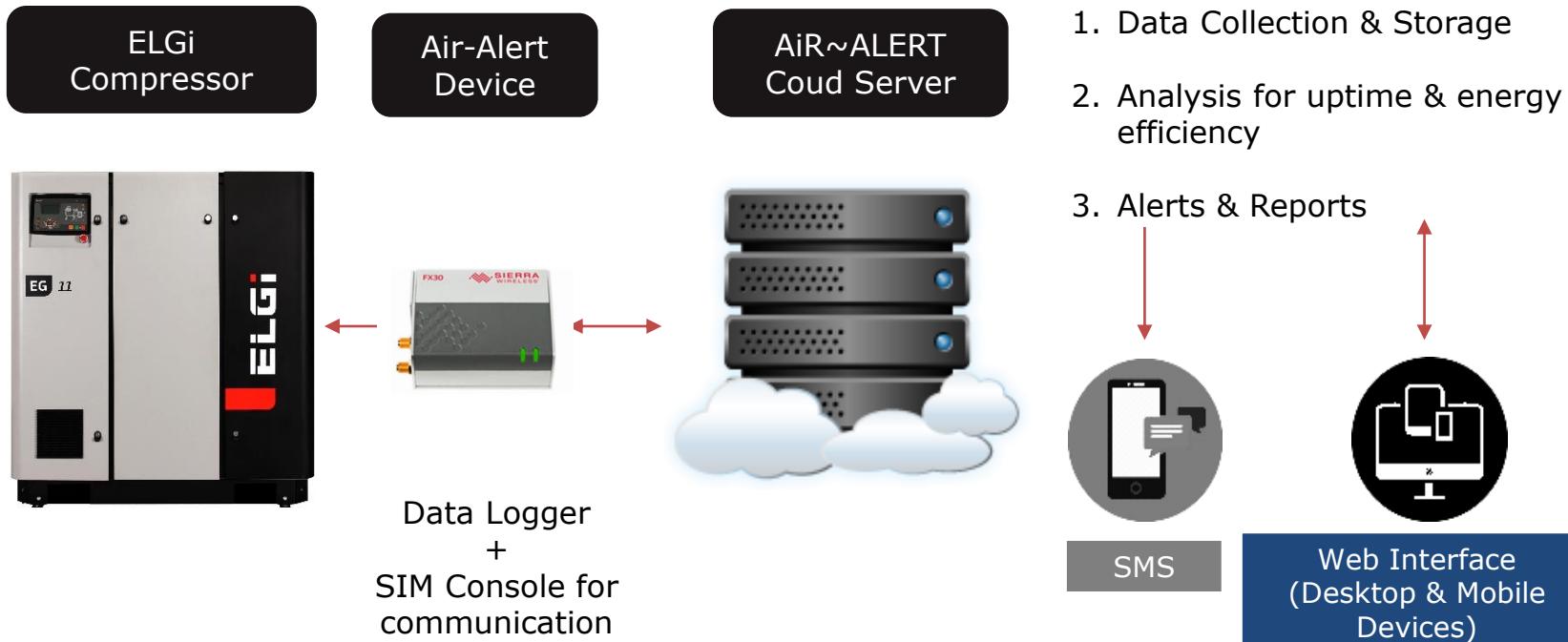


Value Proposition

What is Air~Alert?

- AiR~ALERT device acquires data from compressor and sends it to a dedicated server.
- The server analyzes the data and provides actionable alerts to the customer to ensure on time service, fault detection and prediction alerts and insights to improve energy efficiency.
- Customers can view this data on a user friendly web interface on desktop and mobile screens.

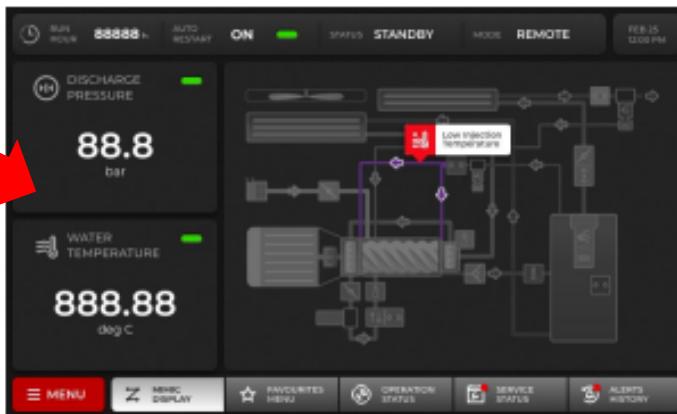
How does it work?



What is Air~Alert? – Neuron IV Controller



The home screen will show discharge pressure , discharge temperature ,VFD speed % (if VFD enabled), compressor status, warn messages, compressor mode selection details and date & time



Compressor mode selection details:

MODE :PR SCH - Pressure schedule enabled ,
Manual UL - unload mode enabled,
PR SCH & Manual UL disabled the space will be shown as empty

Local or Remote or DCS - compressor start from - Local or remote or DCS.

Auto Restart ON/OFF:

Auto restart enabled or auto restart disabled.
For more details refer menu settings in operator menu.

Shortcut Tab usage

When the controller is in home screen, you can access below listed parameters using the shortcut Tab.

"Operation status" - Live analog values and Cumulative Hrs

First Window

- Load Pressure
- Unload Pressure
- Live Sump pressure (displays only if sump pressure enabled)
- Load Hours
- Unload Hours
- Cumulative Hours

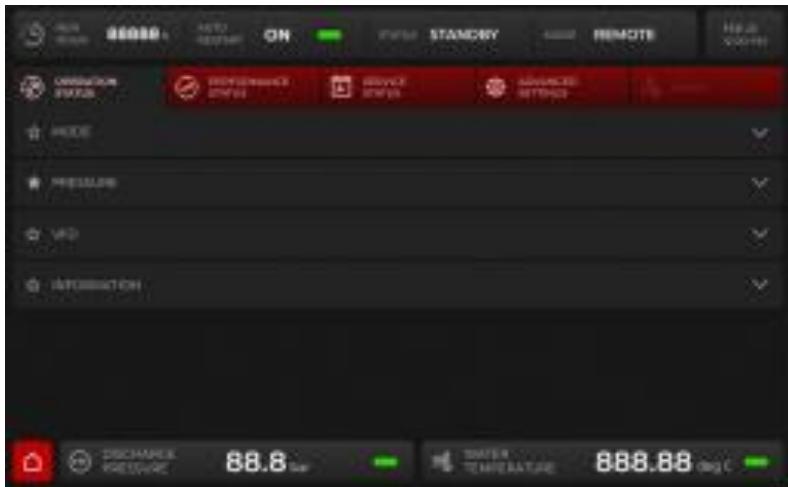
Second Window

- Oil Temperature
- Discharge Temperature
- Seal air Pressure
- Live Motor winding Temperature
- Live Water Temperature
- Live Ambient Temperature

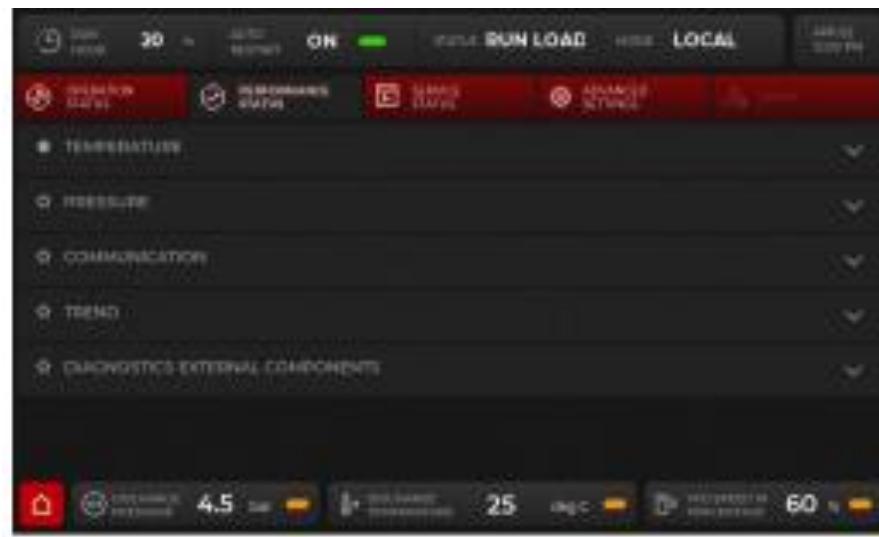
Third Window

- VFD Speed % (displays only if VFD enabled)
- VFD % (displays only if VFD enabled)
- Utilization

Neuron IV Controller – Status Menu



Operation Status



Performance Status



Service Status



Advance Setting

Gateway



Stakeholders



Customers

Distributors

ELGi



Customer Value Proposition

Air~Alert Value Proposition-Customers



Improved Uptime



Improved Efficiency



Remote Monitoring



Improved Uptime



No delayed or missed service cycle

Automated, proactive service alert via web notification enabling on time service of compressors. Helps in planning spares and booking service appointments at customer's convenient time



On time service ensures efficiency & productivity

Maintaining at right intervals improves efficient operation and provides potential savings up to \$ XXX/month*



Detection & prediction of faults

Detects faults and provides an alert to take immediate action. Predicts up to 44% of failures ahead of and thereby minimizing downtime and significantly reducing unplanned maintenance costs.

*Energy savings calculated based on EG 22 unit running beyond recommended service life of consumables (filters, AOS element & valve kits)

AiR-ALERT™

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Improved Energy Efficiency



Insight on effective use of compressors

Tracks utilization of the compressors and enables customers to monitor and improve energy efficiency of the compressor



Energy savings up to 35%

By tracking the utilization of an air compressor, energy saving solutions such as VFD, appropriate sizing of compressor, optimal pressure band settings can be implemented with attractive ROI. Savings up to **\$ XX,XXX/year*** with energy saving solutions



Leak Detection

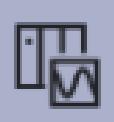
Industry survey indicates 20% to 30% of the produced compressed air is lost due to leakage. Based on continuous utilization pattern study and changes in processes can help estimate deterioration in compressed air system. Savings potential up to **\$ XX,XXX/year****

*Savings calculated based on EG 22 operating parameters. VFD savings for 70% flow operating conditions and 0.5 bar g pressure band optimization

**Assuming 10% leakage from EG 22 flow

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Remote Monitoring & Actionable reports



24/7 online remote monitoring of key parameters

Live web interface on desktop and mobile screens that provides valuable trend graphs and information on key operating parameters such as discharge pressure, oil temperature, trips & alerts etc. enabling remote access from anywhere in the world

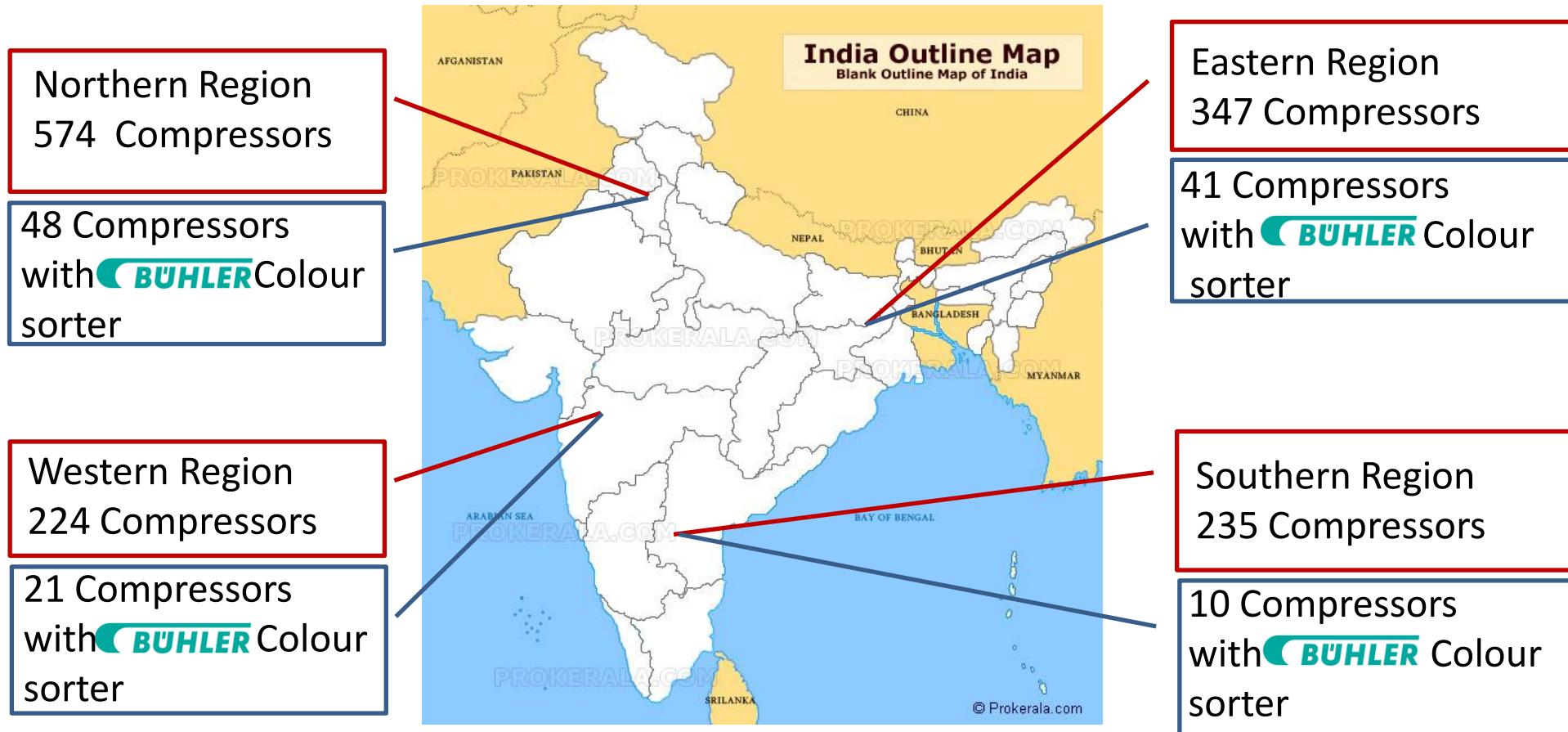


Periodic reports

Provides summary and detailed reports and upcoming service needs. Automated, periodic reports on compressor health, utilization, fault & trip alerts

AiR-ALERT™

References in India – ELGi Compressors in Rice Segment



UOM – Qty in Nos

PROVEN RESULTS in Thailand Rice Segment

Customer Name	Address	Compressor Model	Segment
Chia Meng Rice Mill	Nonthaburi	EG75VFD	Rice
Somboon Puechphol Rice Mill	Suphanbur	EG75	Rice
Sirimongkol Rice Mill	Si Sa Ket	E22-10	Rice
Sri Thai Mai Rice	NONGBUALAMPHU	E22-10	Rice
Heng Somboon Rice Mill	Nakhonpathom	EG30	Rice
Sawangwinit sin rice mill	Chai Nat	E11	Rice
Lomrak Thanya Rice Mill Pattana kamchai	Singburi	E30	Rice
Nongbour romudom rice	Nakornsawan	E22	Rice
Pakkanan Rice Mill	Phichit	E30	Rice
Petcharawan Rice Mill	Phichit	E30	Rice
Mahanakhon Rice Co.,Ltd.	Bangkok	EG22	Rice
Nong ta tam rice	Prajuabkirikhan	E22	Rice

Total of 18nos operating with the group with the oldest compressor being around 12 years old at Murzah Wilmar Rice Millers, Morogoro- Tanzania (JV between Wilmar and Murzah group_

Post formation of JV we once again supplied 1 unit each of EG75 DV & EG45 DV in 2020.

Wilmar Tanzania group is satisfied with the operations of EG75 & EG45 and we are working for their new requirements for EG250 package for their Morogoro, Tanzania factory

Adani-Milwar in India uses AC OFSAC's in their Gujarat Plant

Our Installation in Adani group: Mundra Power plant and the recently inspected OF450-2Nos for their Solar cell plant

Reach us:

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Ramesh Ponnuswami, Sydney: Ramesh.Ponnuswami@elgi.com

Thank You