

OIL POLISHING SYSTEM



PURIFYING OILS, Perfecting Performance

For effective recycling of

- Non-smell Base Oils
- Reduced sulfur Fuels
- Transformer Oils

Key features & benefits

Non Smell | Improved Oxidation Stability
Clear Color | Lower Production Cost
Reduced Sulfur



Business Profile



Total solution provider for oil polishing system, fuel sulphur removal and more...

As a **technology-driven innovator**, **ELEVAR ENGINEERING PVT. LTD.** develops advanced **Oil Polishing Systems (OPS)** designed to deliver efficient processing, consistent product quality, enhanced automation, and reduced operating costs across a wide range of petroleum products, including **Lube Oil, Kerosene, Diesel, MHO, Light Diesel Oil, Transformer Oil, Plastic Pyrolysis Oil, Slack Wax, and other hydrocarbon products**. We provide a complete **turnkey solution**, covering **system design, process planning, equipment manufacturing, automation development, installation, commissioning, and trial runs**, ensuring a seamless transition from concept to production.

From **small-scale applications of 20 tons per day to large-scale operations of 200 tons per day**, ELEVAR ENGINEERING is committed to delivering systems built for **reliability, efficiency, durability, and long-term performance**. Through continuous innovation and engineering expertise, **ELEVAR** is establishing itself as a trusted name in oil purification and polishing technology, serving customers across domestic and international markets and strengthening its position as a **supplier of choice for advanced Oil Polishing Systems**.

Our sister firms

ERDOL Rahmen Engineers Pvt. Ltd., India

Leading manufacturer of fully automatic Used Oil Recycling Plants with WFE, fully automatic Lube Oil Blending Plants and Waste Furnace Oil Recycling Plants.

Ekatva Technologies Pvt. Ltd., India

Authorized AVEVA SCADA system integrator, manufacturer of customized power & control panels, End to end electrical turnkey solution as per client need.

Erdol Lubricants

Only Non-smell recycled base oil manufacturer with manufacturing capacity of 25 TPD. Expansion going on with 100 TPD another unit.

Gemini International Trading FZE, UAE

Bulk supplier (exporter) based in UAE for Virgin & Recycled base oil, MHO, Bitumen, Naphtha, Lubricants Additives and all petroleum products.

Ekatva Technovation Pvt. Ltd., India

Robotics field technologies developer, customised sensors developer as per industry needs, Tank level Monitoring System provider, digital oil Colori meter.



Elevar oil polishing system

The **ELEVAR Oil Polishing System** is one of the most environmentally friendly and cost-effective solutions available for the **Petroleum Refining** industry. Designed with a focus on sustainability and efficiency, it can purify and deliver superior-quality **Base Oil, Kerosene, Diesel, MHO, Light Diesel Oil, Transformer Oil, Slack wax & other petroleum products** with minimal investment.

At the heart of this system is **ELEPURE™ Catalyst**, a regenerative catalyst developed by **Elevar Engineering Pvt. Ltd.** Using an advanced **adsorption-based method**, the system effectively removes impurities such as **volatile compounds, foreign particles, high sulphur content, and aromatic compounds** from distilled base oils, dark base oils, and dark fuels.

The ELEVAR system significantly enhances the **color, oxidation stability**, and reduces **sulphur content** of base oil and other petroleum products, producing cleaner, more valuable end products. Impressively, the **ELEPURE™ Catalyst** can be **regenerated and reused over at least 200 cycles**, ensuring long-term performance and minimal operational costs.

 www.elevarengineering.com



How it works

The ELEVARE Oil Polishing System operates through two-stage process:

01 | Polishing Stage

During this stage, used or dark base oil / petroleum product is passed through the system under **precisely controlled pressure, flow rate, and temperature**, based on the specific feed characteristics. These parameters are **critical** for achieving optimal polishing results. The system is equipped with a **fully automatic control panel**, which ensures accurate regulation of these variables-eliminating the need for constant human supervision.

By perfect regulation, the system delivers **exceptional quality base oil / petroleum product output**, improving oil color, reducing sulphur content, and enhancing oxidation stability, removing bad smell.



Output colors of distilled dark base oil after polishing over 8 hour polishing cycle

0 - 1 Hour

1 - 3 Hour

3 - 6 Hour

6 - 8 Hour

8 - 9 Hour



Insight of timeline

- Dark base oil or petroleum product is fed into the Oil Polishing System.
- The feed travels through specialized columns under precisely controlled conditions **pressure, flow rate, and temperature**—which are customized based on the characteristics of the feed material.
- Depending on the feed's properties, it takes approximately **5 to 7 hours** before the first polished material begins to appear.
- The **initial output** is typically **clear and water-white** in color.
- Over time, the output color gradually shifts to a **yellowish or orange** shade.
- This output continues for approximately **8 to 16 hours**, depending on the nature of the feed.
- During this period, **the average color** of the material in the **final output collection tank** is observed. Once the output reaches the **maximum acceptable color limit**, feeding must be stopped.
- At this point, the **ELEPURE™ Catalyst inside the columns** is considered saturated and must undergo **regeneration** to prepare it for the next polishing cycle.

02 | Regeneration of ELEPURE™ Catalyst

After the polishing cycle is complete, the **ELEPURE™ catalyst** must be regenerated to prepare it for the next cycle. This is done through a **thermal oxidation cleaning process**, which removes accumulated contaminants from the **ELEPURE™ Catalyst** surface. The regeneration process is also **fully automated**, managed by the system's built-in automatic controls to ensure proper regeneration of **ELEPURE™** catalyst. Using this system, **ElevaR Engineering Pvt. Ltd.** guarantees minimum **200+ regeneration cycles** – while maintaining its polishing efficiency.



Infrastructure & projects showcase

Delivering high-performance
oil purification & polishing
solutions across industries





Applications



01 Before & After Polishing of Lube Oil

Distilled Engine & Lubricating Oils

- Improves Colour
- Reduces Sulphur Content
- Removes Smell
- Improves Oxidation Stability



02 Before & After Polishing of Transformer Oil

Transformer Oil

- Removes Residual Impurities
- Restores Dielectric Quality
- Improves Colour
- Removes Smell



03 Before & After Polishing of Light Diesel Oil

MHO, Dark Diesel and Fuels

- Improves Colour
- Reduces Sulphur Content
- Improves Combustion Quality
- Improves Oxidation Stability



04 Before & After Polishing of Plastic Pyrolysis Oil

Plastic Pyrolysis Oil

- Improves Colour
- Reduces Sulphur Content
- Improves Combustion Quality
- Improves Oxidation Stability

Performance

01 | Lube Oil

Parameter	Input Base Oil	Output Base Oil
Colour (ASTM D1500)	4	1.5
Smell	Strong odor from aromatics, sulphur, volatile hydrocarbons, and degraded molecules	Non smell
Oxidation Stability	Low	High (stable colour over long period)
Sulfur	High	Reduced by 20% - 60%

02 | Transformer Oil

Parameter	Input Transformer Oil	Output Transformer Oil
Colour (ASTM D1500)	2 - 3	0
Smell	Varnish like smell due to chemical break-Down and contamination from internal transformer faults or aging processes	Non smell
Oxidation Stability	Low	High (stable colour over long period)

03 | Light Diesel Oil

Parameter	Input Light Diesel Oil	Output Light Diesel Oil
Colour (ASTM D1500)	> 4	1
Smell	Strong odor from oxidised volatile organic compounds (VOCs), sulphur, and other impurities	Pure petroleum smell
Oxidation Stability	Low	High (stable colour over long period)
Sulfur	High	Reduced by 30% - 80%

04 | MHO / Diesel / Kerosene / Plastic Pyrolysis Oil

Parameter	Input Fuel	Output Fuel
Colour (ASTM D1500)	2 - 3	0 - 0.5
Smell	Strong odor from aromatics, sulphur, volatile hydrocarbons, and degraded molecules	Pure petroleum smell
Oxidation Stability	Low	High

Clay and OPS comparison

Parameter	Clay (Filter Press)	OPS (Oil Polishing System)
Color (ASTM D1500)	1.5 – 3 colour	1 – 1.5
Smell	Bad smell from volatile compounds, aromatics, unsaturated sulphur impurities, burnt smell from oxidised compounds	Non smell
Oxidation Stability	Low stable, colour increase within 2 hrs to 2 weeks from production	Stable colour over very long period
Oil Loss	> 50 Ltr / 1000 Ltr input	< 20 Ltr / 1000 Ltr input
Production Cost	> 150 USD / Ton	25 – 35 USD / Ton
Environmental	Hazardous process (Spent clay is hazardous)	Clean Process (Spent ELEPURE™ Catalyst is non-hazardous and dry)
EPA Permission	Banned in most countries	Easy
ROI	Very long	1 – 1.5 Year
Process	Complex and dangerous; Highly skilled operators needed	Easy; any technical person can be trained to operate system easily
Usage	1 time use and throw clay	> 200 times usable regenerative ELEPURE™ Catalyst
Disposal	Hard to dispose Spent clay, Buy back not available	Spent ELEPURE™ Catalyst is totally non hazardous and disposal is easy, Buy back is also available



**Why Choose
ELEVAR Oil
Polishing System?**

Available Capacities

Parameter	OPS - 40	OPS - 40 L	OPS - 80	OPS - 80 L
Total Columns	40	40	80	80
Polishing / Regeneration Columns At A Time	40 / 40	40 / 40	40 / 40	40 / 40
Catalyst Holdup Capacity	10 MT	13 MT	20 MT	25 MT
Production Per Batch	10 KL +	13 KL +	20 KL +	25 KL +
Required Space	9 x 12 meter	9 x 12 meter	10 x 18 meter	10 x 18 meter
Required Electricity Connection	150 kW	160 kW	280 kW	290 kW
Required Manpower For Plant Operation	1 Operator + 2 Helper	1 Operator + 2 Helper	2 Operator + 2 Helper	2 Operator + 3 Helper
Time Per 1 Cycle	25 - 30 hours	25 - 30 hours	25 - 30 hours	25 - 30 hours
Acceptable Feedstock	Distilled Base oil / Transformer oil / Plastic Pyrolysis Oil / Dark fuels MHO / Other hydrocarbon products			
Acceptable Sulfur Content	Max 2000 PPM			
Acceptable Feed Colour	Max 4.5 (ASTM D 1500)			

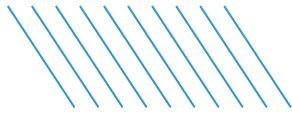
For higher capacities, multiple unit of above plants are supplied according to customer requirement.

- Fully automatic plant suitable for American & European industry standards.
- Long lasting system with all high-grade equipment.
- Have own 20 KL plant which operates 24 x 7, 365 days.
- Test your own raw material in Elevar's own plant for complete satisfaction.

- Provides activated ELEPURE™ catalyst with GUARANTEE.
- Full operation by Touch Screen Control Panel & all automatic valves to reduce human efforts and human errors.



Performance Guarantee



Digital Contact Hub



 Location



 WhatsApp



 Instagram



 Website



 Youtube



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