



Akrit  
Engineering

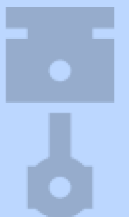


**FAST MARINE  
SERVICES**

# Akrit Engineering

Building Marine Engine Intelligence

## Product Presentation

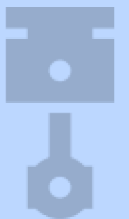




Akrit  
Engineering

# The ELPI Device

For Optimum Engine Performance (EP)



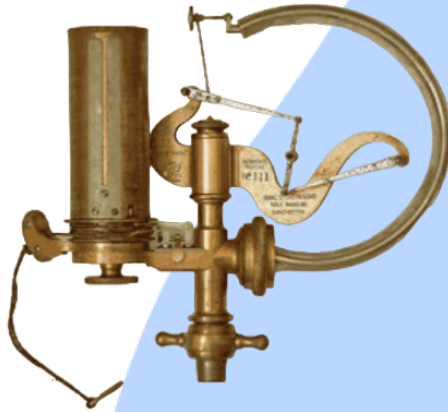


Akrit  
Engineering

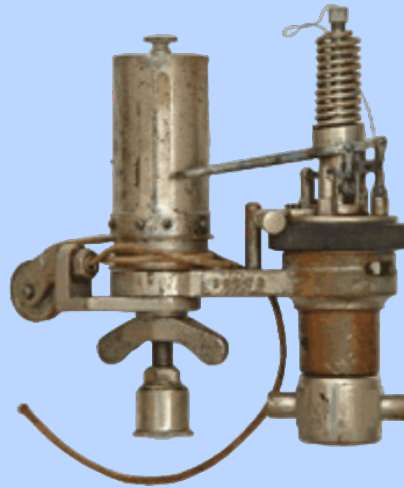
# EP History



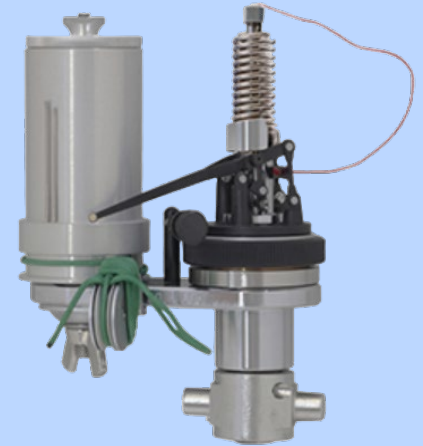
Watt  
1796



Kenyon,  
1876



Maihak type 50  
1930



Leutert type 50  
Moden

EP is more than 200 years old (Est. 1793).

Up to the 1980<sup>th</sup> the only way to test EP was by using mechanical indicators, as seen above.





Akrit  
Engineering

# Modern Devices



Icon Research



Lemag



Kistler



Selco



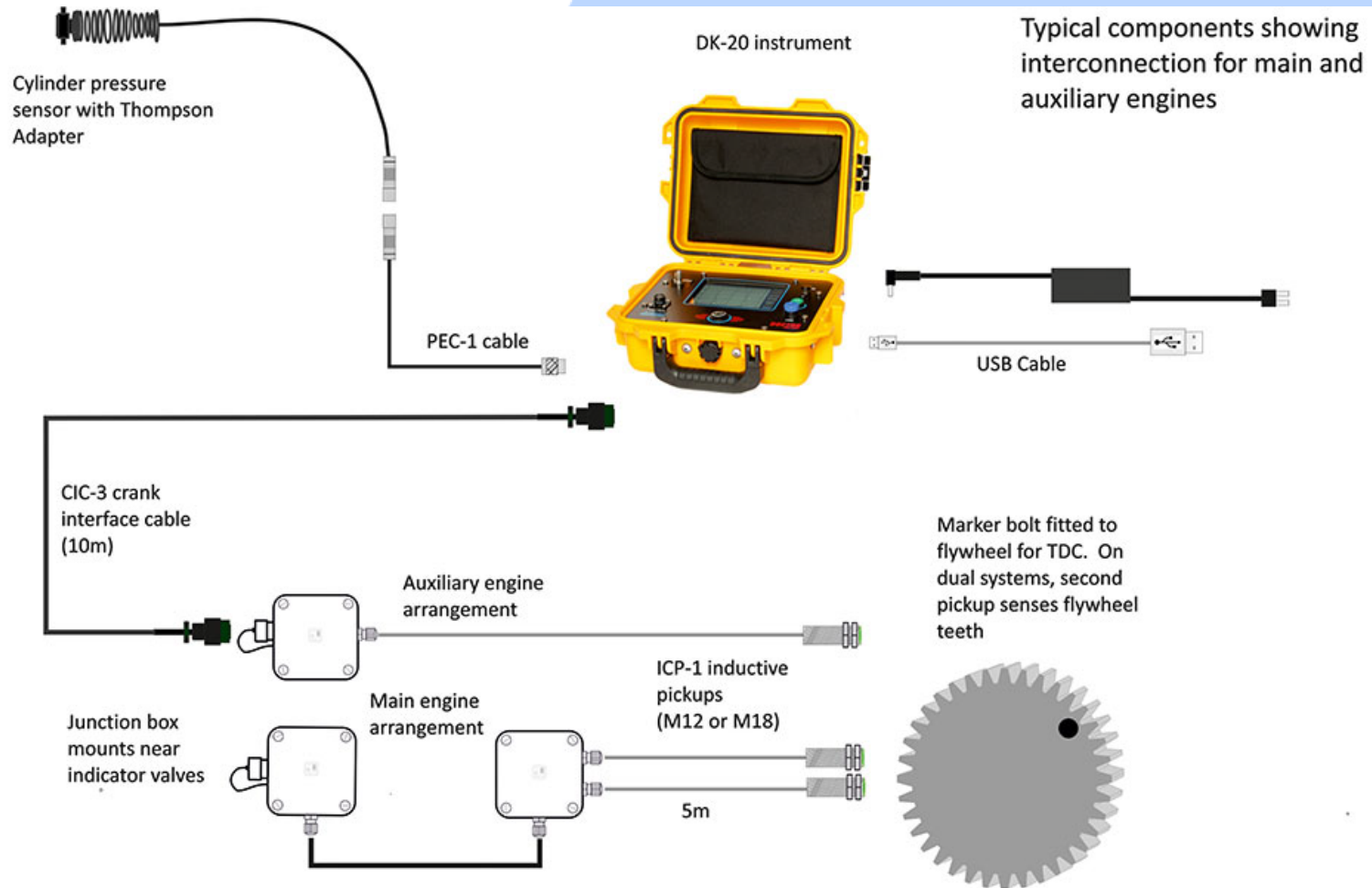
Leutert





Akrit  
Engineering

# Device with the sensor on the wheel

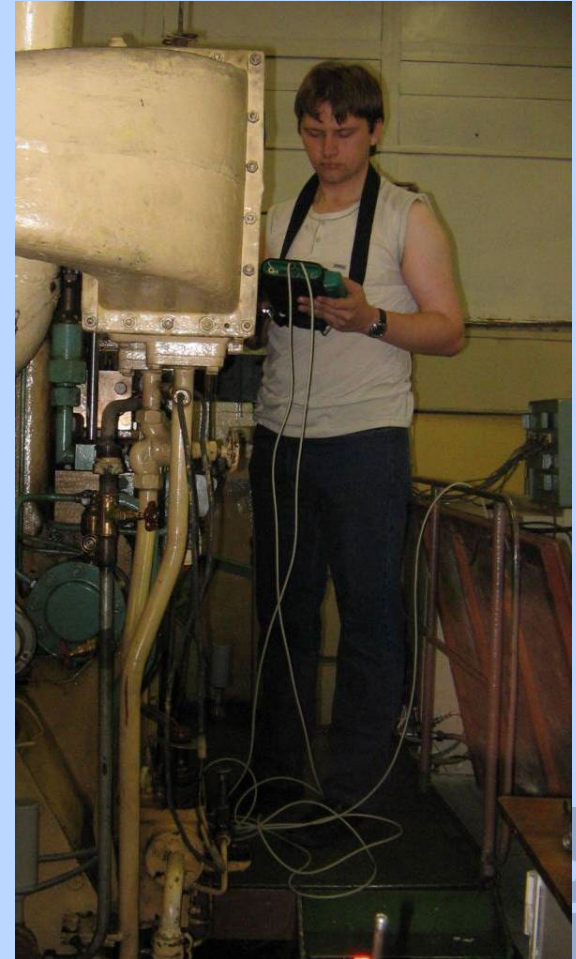


Icon Research DK-20, price £7,000-£10,000



Akrit  
Engineering

# Devices with the cable





Akrit  
Engineering

# **The ELPI: Features & Functionality**

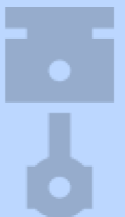
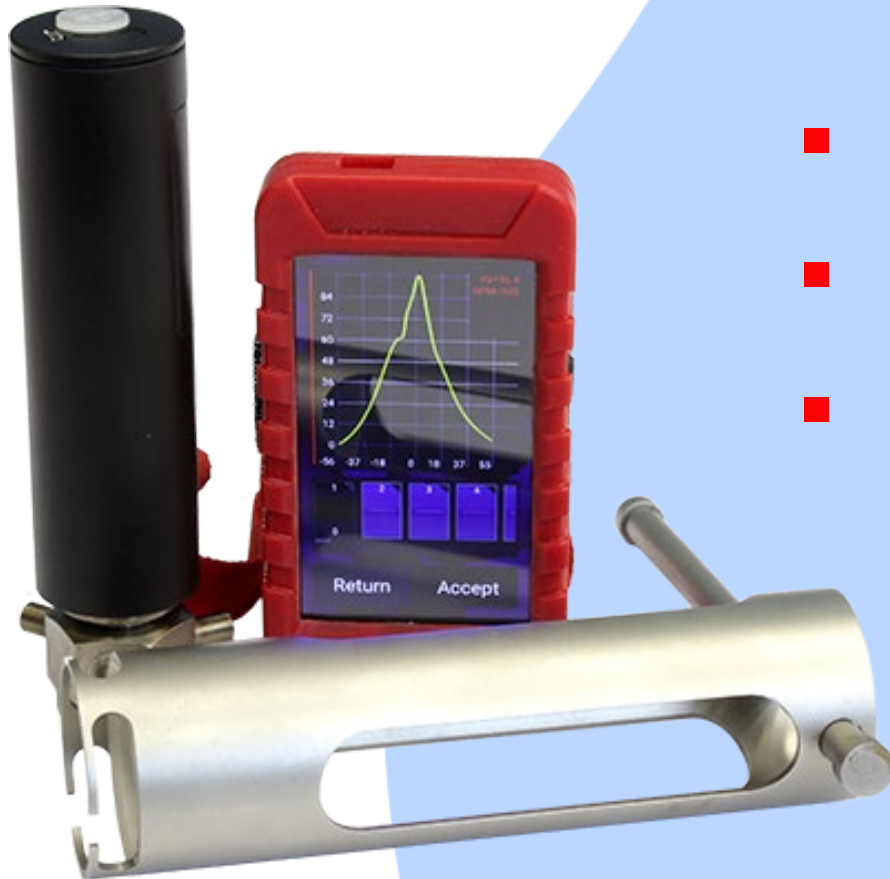




Akrit  
Engineering

# The ELPI consists of:

- Pressure Sensor
- Mini-Computer
- Main Key (option)





Akrit  
Engineering

# The ELPI: Advantages





Akrit  
Engineering

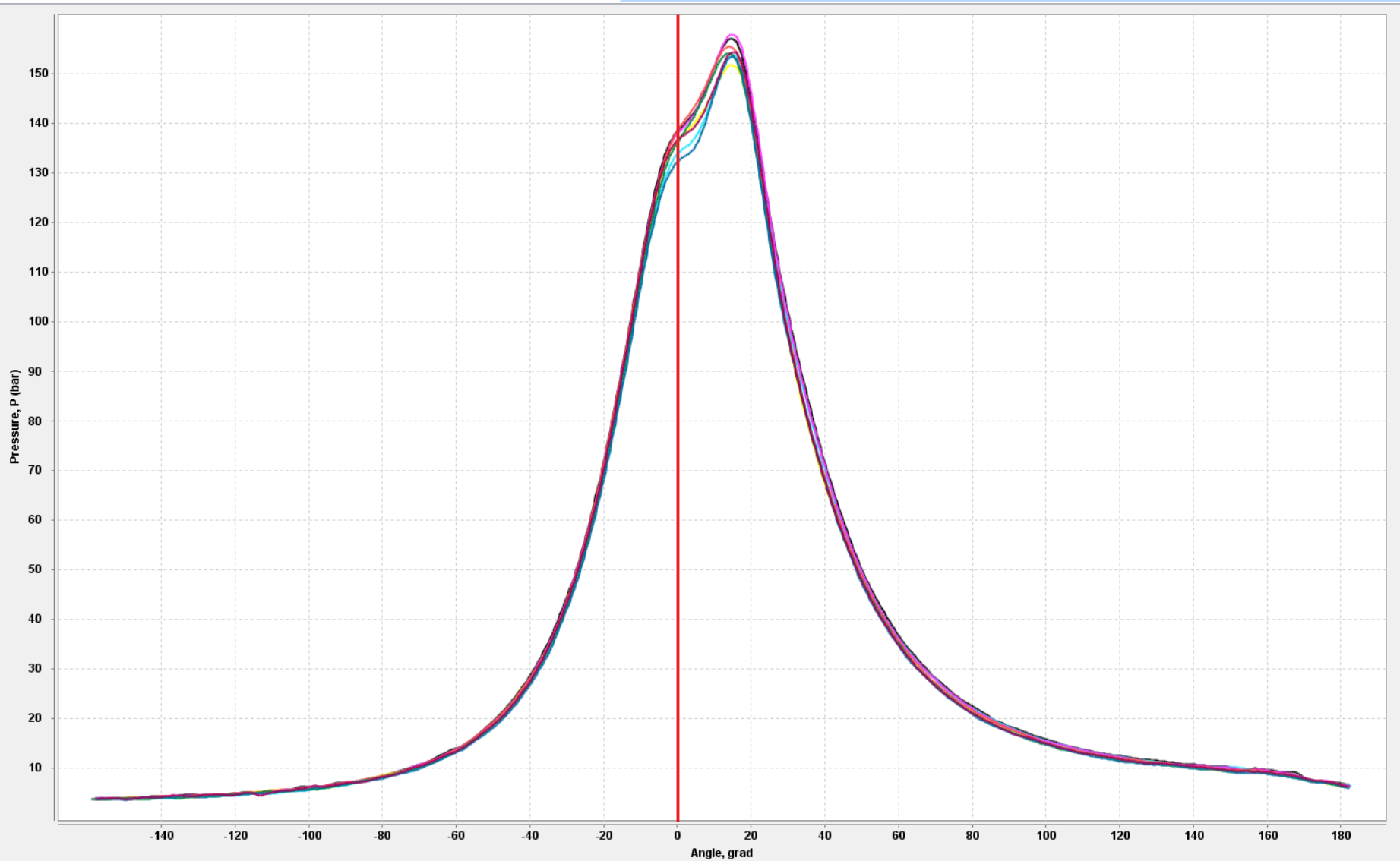
# The only wireless, the range up to 10m.





Akrit  
Engineering

# New TDC finding method





Akrit  
Engineering

# Compact

## The ELPI vs DK-20





Akrit  
Engineering

# One small case





Akrit  
Engineering

# Standard parameters

- $n$  Engine speed, rpm.
- $P_z$  Maximum combustion pressure, bar.
- $F_z$  Maximum combustion pressure angle, grad.
- $P_c$  Compression pressure, bar.
- $P_{exp}$  Expansion pressure, bar.
- $P_i$  Mean indicated pressure, bar.
- $N_i$  Mean indicated power, KW.





Akrit  
Engineering

# Additional parameters

$P_c'$  Firing pressure, bar.

$f_c'$  Firing pressure angle, grad.

$L$  Pressure rise.

$\lambda$  Pressure rise rate.

$v_m$  Maximum pressure rising speed, bar/grad.

$v_s$  Average pressure rising speed,  
bar/grad.





Akrit  
Engineering

# Technical Data

**Measuring range:** 0 - 25 MPA (250 bar)

**Wireless range:** 10 m.

**Accuracy:** < 1.0 % fs

**Speed range:** 40 - 2000 rpm

**Connection:** Standard thread W27x1/10"

**Power:** Rechargeable battery





Akrit  
Engineering

# The EDD

Crankshaft Deflection Device





Akrit  
Engineering

# The EDD 1/2

## Benefits:

- Utilises the same mini-computer as the engine performance indicator, the ELPI.
- Remote controlled operation.
- Compact and easy to store.
- User friendly design.



**Accurate, fast and easy  
crankshaft deflection measurements.**





Akrit  
Engineering

# The EDD 2/2

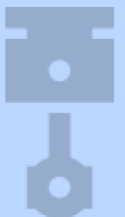
## The EDD: How it Works



## TECHNICAL DATA



|                                                           |                                                  |
|-----------------------------------------------------------|--------------------------------------------------|
| Measuring range<br>(distance between<br>crankshaft webs): | 100 - 800 mm                                     |
| Accuracy:                                                 | 0.01 mm or 0.001 mm depending on<br>requirements |
| Power:                                                    | Rechargeable battery                             |
| Weight with sensor:                                       | 400 gr                                           |





Akrit  
Engineering

# Fuel Oil Economy Improvement

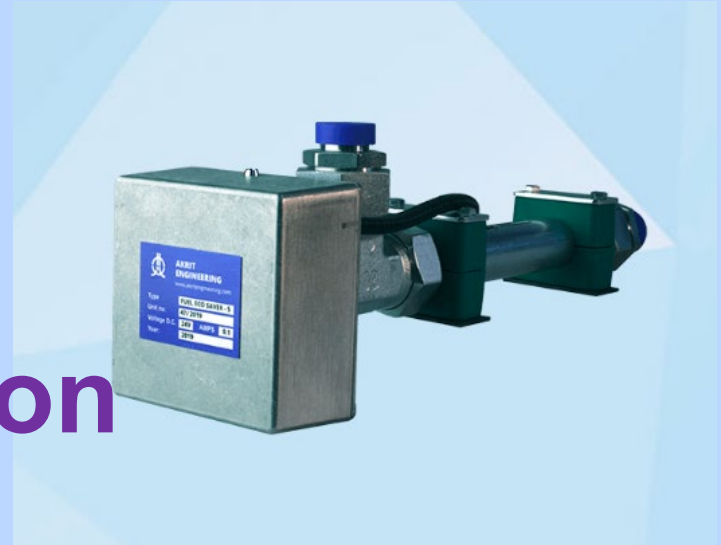




Akrit  
Engineering

# Fuel Eco Saver (FES) 1/3

**Savings of 5-10%  
in fuel oil consumption**



## **Suitable:**

- Suited to both engines and boilers.
- Helps to save 5-10% in fuel oil consumption.





Akrit  
Engineering

# Fuel Eco Saver (FES) 2/3

## Benefits:

- Increases combustion efficiency and reduction in unignited fuel.
- Reduces emission.
- Eliminates combustion deposits inside the combustion chambers of engines and boilers.
- Keeps pistons, piston rings and injectors clean, as well as reducing deposit formations in turbochargers and exhaust valves.

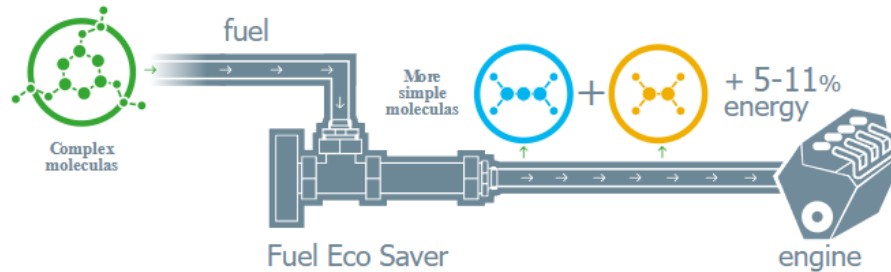




# The FES – How It Works 3/3

Akrit  
Engineering

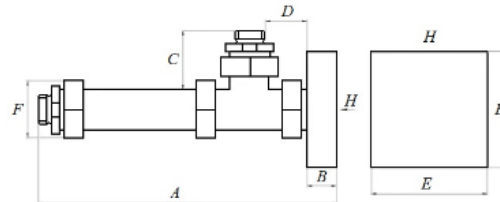
## The FES: How It Works



## TECHNICAL DATA



- ✓ Working pressure: 0-30 bar
- ✓ Power supply: 24V DC
- ✓ Current: 0.2A
- ✓ Dimensions, mm: A = 440, B = 60, C = 80, D = 40, E = 120, F = 40
- ✓ Weight: 3.7 kg



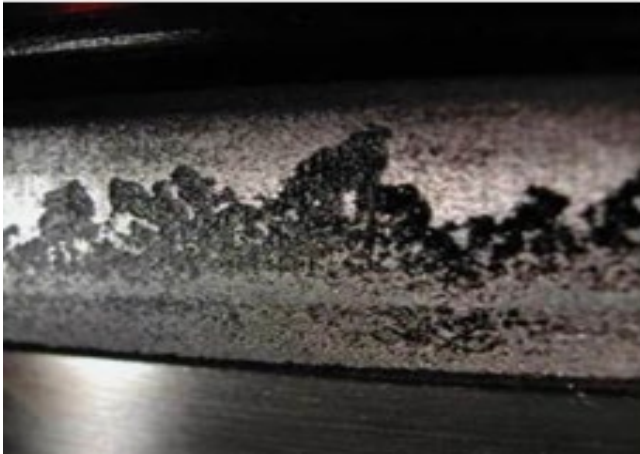


# Lubrication Eco Saver (LES)

## 1/2

Akrit  
Engineering

Before



After



## Suitable for:

- Engine, compressors and equipment using gears and bearings.

## Purpose:

- LES saves fuel oil and lubricating oil, while also improving emissions.





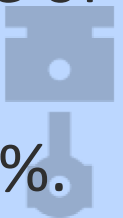
Akrit  
Engineering

# Lubrication Eco Saver (LES)

## 2/2

### Benefits:

- Improved mechanical efficiency of diesel engines, thus reducing fuel consumption by about 4 - 6%.
- Increased cylinder compression by around 10%, meaning less wear and extended component life.
- Reduced engine noise, vibration and heat generated by friction.
- Reduced oil consumption of around 12%.
- Doubled lifetime of engine oils and quadrupled lifetime of transmission oils.
- Reduced combustion deposits in cylinders by about 30%.





Akrit  
Engineering

# Fuel Equipment Improver(FEI)

## What the FEI Is:

- An additive to the fuel oil which smoothens mechanical surfaces.
- Reduces friction without leaving any film deposits.
- Treated only small amount of FO



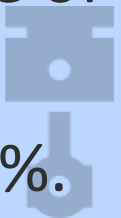


Akrit  
Engineering

# Fuel Equipment Improver(FEI)

## Benefits:

- Improved mechanical efficiency of diesel engines, thus reducing fuel consumption by about 4 - 6%.
- Increased cylinder compression by around 10%, meaning less wear and extended component life.
- Reduced engine noise, vibration and heat generated by friction.
- Reduced oil consumption of around 12%.
- Doubled lifetime of engine oils and quadrupled lifetime of transmission oils.
- Reduced combustion deposits in cylinders by about 30%.





Akrit  
Engineering

**[www.akritengineering.com](http://www.akritengineering.com)**

**[info@akritengineering.com](mailto:info@akritengineering.com)**

**[BusDevTeam@akritengineering.com](mailto:BusDevTeam@akritengineering.com)**



**FAST MARINE  
SERVICES**

**[www.fastmarine.net](http://www.fastmarine.net)**

**[info@fastmarine.net](mailto:info@fastmarine.net)**

**[sales@fastmarine.net](mailto:sales@fastmarine.net)**

