

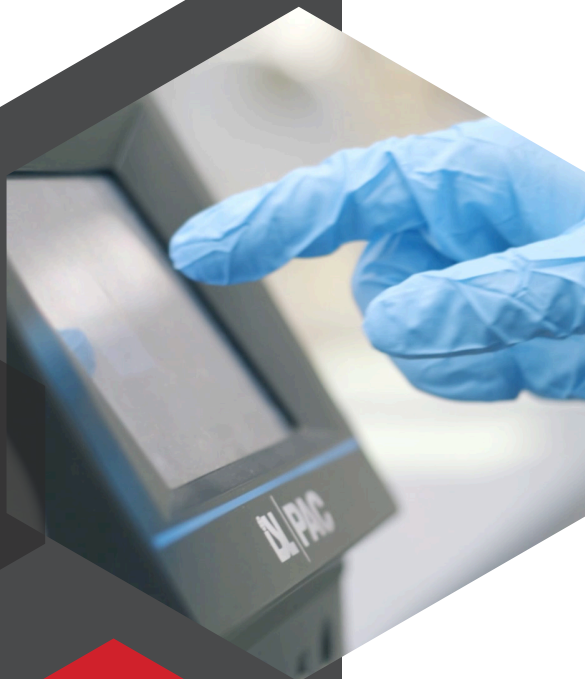
# PETROLEUM

## Test Equipment



# Solutions

beyond lab equipment



## Petroleum Test Equipment

For quality control, R&D and production laboratories

Optimus Instruments supports innovative progress by delivering quality improving instruments and services. Over 35 years of experience in supplying instruments and service in various industries allow us to serve our customers with great expertise.

**Optimus Instruments** is your premium distributor and service partner for:



HWS Labortechnik



**PILODIST®**  
laboratory & process technology



**VAN DER HEIJDEN**  
Labortechnik GmbH



**“In industries where quality is key, there is no such thing as a standard solution.”**

By providing streamlined and integrated combinations of quality instruments we aim to deliver that one solution you are looking for.

Optimus Instruments supplies the complete package including application analysis, supply and installation, user training, maintenance, calibration and repair.



# Total Care

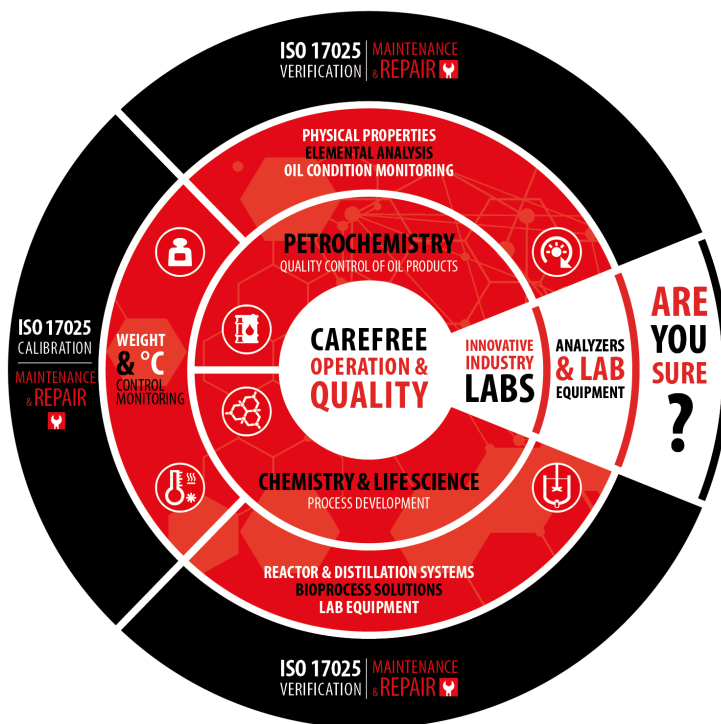
## Management

Optimus Instruments is dedicated to deliver carefree confidence in lab operation. This starts with supplying high quality lab equipment and continues in excellent after sales service performed by highly skilled personnel according to standardized working methods.

### ARE YOU SURE?

A close collaboration with our service company European Lab Services allows you to answer 'yes' to that question without hesitation. By supplying high level verification and calibration services, the right certification is provided for carefree operation.

ELS is still the only company worldwide offering on-site verification of petroleum analyzers according to ISO17025.



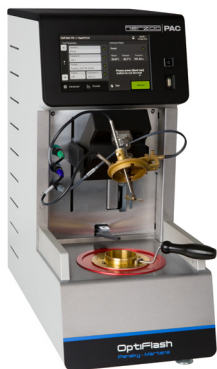
## Delivering

# Carefree Confidence



# Flash Point

# Cold Behaviour



## OptiFlash

Pensky Martens

**ASTM D93**

Automatic cup cover lift  
Easy to clean design  
Fire detection & safety monitoring

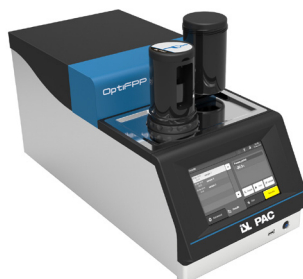


## OptiFlash

Small Scale

**ASTM D3828**

2 or 4 ml sample size  
Easy to clean for viscous samples  
Fire detection & safety monitoring



## OptiFPP

CFPP

**EN 116 - EN 16329**

Built-in cooling for increased power  
Ultra-low temperatures (-70°C)  
Cable free measuring head



## OptiCPP

Pour & Cloud Point

**ASTM D2500 / D97 / D5950 / D5771**

Built-in cooling for increased power  
Ultra-low temperatures (-105°C)  
Cable free measuring heads



## OptiFlash

Cleveland (COC)

**ASTM D92**

Automatic detector lift  
Gas AND electrical ignition available  
Unique optical fire detection



## OptiFlash

Abel/Tag

**ASTM D56 / ISO 13736 / IP170**

Automatic cup cover lift  
Easy to clean design  
Built-in Peltier cooling



## OptiMPP

Mini Pour & Cloud

**ASTM D7346-15 / D7689-17**

fast test results in 20 to 50 minutes  
Built-in 20 position sample changer  
Ultra-low temperatures (-90°C)

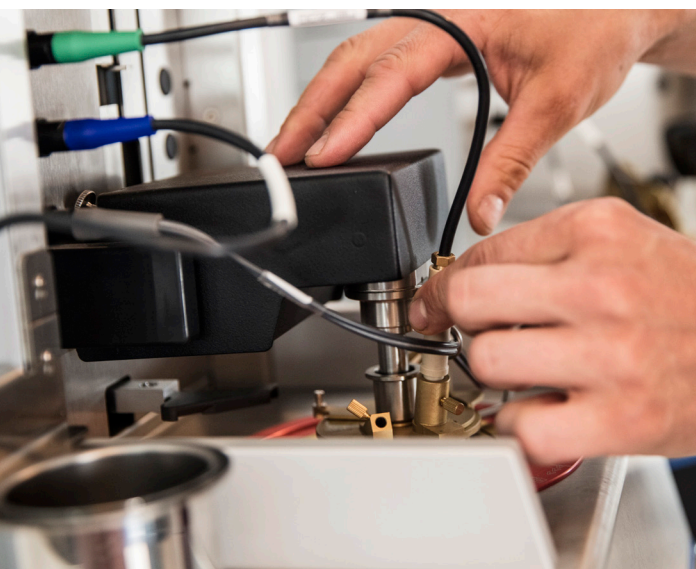


## OptiFZP

Freezing Point

**ASTM D7153 / D2386 (Corr.)**

Accurate results in under 15 min.  
Built-in cooling system  
Self contained cleaning



## 70Xi

Pour, Cloud & Freeze

**D5949 / D5773 / D5972**

All-in-one cold flow analyzer  
Highest repeatability  
Single shot or autosample



# Distillation



## OptiPMD

Micro Distillation

**ASTM D7345 / Corr. to ASTM D86**

Accurate results in under 10 min,  
only 10 ml sample required  
Safety features: fire extinguisher,  
flask overheating protection,  
auto sample detection  
Ease of use: no sample preparation  
and 1-touch button operation



## PD 100 CC

TBP

**ASTM D2892**

Automatic operation at various pressures  
Automatic dehydration (option)  
Automatic fraction collector (20 pos.)



## PD 200 CC

Potstill

**ASTM D5236**

Improved automatic pressure reduction  
Flask sizes from 2 to 20L  
Automatic fraction collector



## OptiDist

Atmospheric Dist.

**ASTM D86**

Reduced operation time and cost  
Enhanced built-in safety features  
Unparalleled versatility



## HDV 632

Vacuum Dist.

**ASTM D1160**

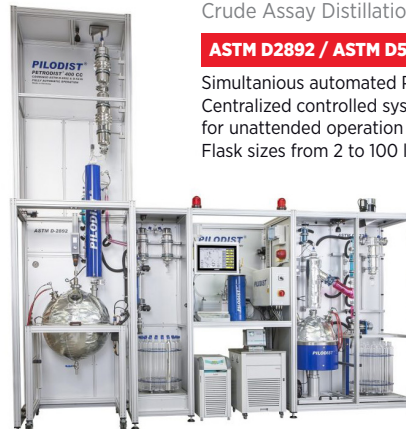
Highest precision and accuracy  
Automatic cleaning procedure  
Auto sample degassing  
and ramp program

## PD 400 CC

Crude Assay Distillation Equipment

**ASTM D2892 / ASTM D5236**

Simultaneous automated Potstill and TBP distillation  
Centralized controlled system and safety options  
for unattended operation  
Flask sizes from 2 to 100 liter



## PD 1120 CC

Boiling Point

**ASTM D1120 / SAE-J1704**

For engine coolants and brake fluid  
Only 8-15 min analysis time  
Both reflux and equilibrium boiling point



## QuickDist 500 CC

**ASTM D2892 (simulated)**

Ultra-fast distillation or fractionation  
Full crude fractionation in under 3 hours  
Ideal for catalyst & hydrocracked  
products testing



# Fuel Analysis



## OptiFuel

FTIR Analyzer

**D6277 / D7371 / D5845**

Multiparameter analysis of fuels and Jet  
High resolution and wide FTIR range  
Benzene, FAME, Oxygenates & Density



## HVP 972

Vapor Pressure

**ASTM D5191 / D6378**

Accurate determination of vapor pressure  
Fully automated measurement cycle  
Self-contained and compact unit



## JFTOT

Thermal Oxidation

**ASTM D3241**

Reduced user intervention  
High level of automation  
Reduced vapor and fuel exposure



## OptiReader

Tube Scanner

**ASTM D3241**

Better precision than ASTM D3241  
Precise HT scanning in less than 10 min  
For use with Intelligent Heater Tubes



## KEM DA

Density (Manual)

**ASTM D4052**

Injection by syringe or pump  
Measurement time from 2 to 10 min.  
Various density and temperature ranges



## DFA70Xi

Diesel Fuel Analyzer

**D5773 / D5949 / D7945**

Cloud, Pour, Viscosity and Density in one  
Four different tests in under 25 min.  
Option to add Jet Fuel  
freeze point testing



## JFA70Xi

Jet Fuel Analyzer

**D5972 / D7945 / D4052**

Combi freeze, viscosity and density  
Three different tests in under 15 min.  
Jet viscosity testing at -40°C



## MCRT

Micro Carbon Residue

**ASTM D5001**

Up to 12 samples simultaneously  
Automatic constant flow control  
Carbon residue range of <0,1% to 30%



## CID 510

Derived Cetane

**EN 16715 / ASTM D7668**

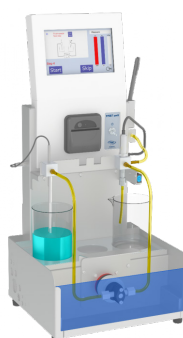
Best precision and correlation to D613  
Approved in various fuel specs: EN590  
High profitability and fast ROI



## DTOT

Thermal Oxidation

Usable on diesel and biodiesel  
High automation level  
Reduces vapor and fuel exposure



## TFBT

Filter Blocking Test

**ASTM D2068 / IP 387**

In accordance with FAME regulations  
Temperature range 20°C to 100°C  
Compact and integrated design



# Viscosity

# Elemental Analysis



## HVM

Multirange Viscometer

**ASTM D445**

Highest accuracy in the market  
Performs two tests simultaneously  
Automatic multi-solvent cleaning



## OptiMVD

Mini Viscometer

**ASTM D7945 / D7777**

Combined Density and Viscosity testing  
Extremely fast, automated measurement  
Integrated double autosamplers



## ElementS

Simultaneous Total Sulfur and Nitrogen Analysis

**ASTM D5453, D6667, D7183, D4629, D5176, ASTM D7184**

**EN ISO 20846, etc.**

Unrivalled Performance; 20 ppbw LOD and Excellent Precision  
Analysis in a wide dynamic concentration range  
(10<sup>4</sup>) using single calibration method  
Optional customized applications available, modular design



## VH

Houillon Viscometer

**ASTM D7279 / D2270**

High throughput: up to 10 tests per hour  
Small sample size: <1ml  
Automatic cleaning and drying



## TV

Manual Viscosity Baths

**ASTM D445**

Very precise temperature control  
Low temperature version down to -80°C  
Robust stainless steel housing



## Viscopro 2100

In-line Process Viscometer

**ASTM D445 / D7483**

Unique Oscillating Piston  
Method with robust housing  
Insensitive to outside environment  
Hazardous area certifications  
including ATEX



## Viscolab PVT+

High pressure Viscometer

**ASTM D445 / D7483**

Up to 30,000 psi  
High temperature range  
Small sample size



# Used Oil Testing

# Other Tests



## Analex pql

Metallic Wear

Accurate PQ index determination  
Extremely fast, ideal for continuous work  
Sample container flexibility



## LCM

Portable Particle Counter

**ISO 4406:1999**

Under 2 minutes test procedure  
Max. pressure up to 420 bar  
ISO 0 to ISO 22 calibration range



## Rofox

Oxidation Stability

**ASTM D525 / D873**

4 individual test positions  
Advanced software for process control  
Safe and unattended operation



## RB36 5G

Softening Point

**ASTM D36 / E28**

For bitumen, tar, waxes, adhesives, etc.  
Pre-programmed test procedures  
Built-in programmable air cooling



## XRF

X-Ray Fluorescence

**ISO 8754**

Portable multi-element analyzer for  
S, Cr, Cu, Fe, Pb, Ni, Sn, V,  
Zn, Mo, Ag, Ca, ...  
Single button operation



## FWM

Ferrous Wear Meter

PPM reading directly on LCD screen  
Easy operation with minimal training  
Portable or lab suitable



## NCK2 5G

Evaporation Loss

**CEC L 40-93, ASTM D5800-B**

Precise temp. control, no Wood's alloy  
Smart probe tracks calibration offsets  
Flexible: start test in 'cold' or 'hot' mode



## WAT 70Xi

Wax Appearance

**ASTM D5773 / D2500 (Corr.)**

Detection of both WAT and WDT  
Fastest method in the market  
Self cleaning instrument



## ATR

Attenuated Total Reflection

Simultaneous testing of: TAN,  
TBN, insolubles, soot loading,  
viscosity, FAME and water  
Portable or lab suitable



## Pro ASTM

Centrifuges

**Various ASTM methods**

500 - 4000 RPM, 1 RPM steps  
Safety multi point lid locking  
10 acceleration/deceleration rates



# Temperature Control



## Van Der Heijden

Chillers

### Applications:

Lab instrument cooling  
Condenser cooling  
Building cooling

### Range:

5 °C ... 25 °C

### Cooling Power:

0,18 kW ... 38,5 kW



## Huber

Minichiller & Unichiller

### Applications:

Rotary evaporators  
Distillation systems  
Industrial cooling

### Range:

-25 °C ... +100 °C

### Cooling Power:

0,2 kW ... 50 kW



## Huber

Unistat Thermostats

### Applications:

Cold behaviour testing  
Pilot plants  
Industrial regulation

### Range:

-125 °C ... +425 °C

### Cooling Power:

0,7 kW ... 130 kW



## Water Baths



## Immersion Coolers



## Heating & Cooling Bath Circulators



With over 35 years of experience in liquid thermoregulation solutions, Optimus Instruments is your number one technical partner for temperature control of reactor systems, lab equipment, heat exchangers and industrial systems. The Huber TCU's find their application between -125°C and +425°C in lab, pilot plant and production



EUROPEAN LAB SERVICES

## VERIFICATION OF PETROLEUM ANALYZERS **ACCORDING TO ISO 17025**



ELS is the only company worldwide offering on-site performance evaluation of petroleum analyzers in laboratories for crude, fuels and bio diesel, lubricating oil and grease, asphalt, waxes and bitumen.

The performance of your analyzer is evaluated based on the strict requirements of the corresponding standard method of the instrument. Common verification is performed on analyzers for Flash Point (ASTM D93), Atmospheric Distillation (ASTM D86), CFPP (EN 116), Density Analyzers (ASTM D4052) and various others.

## **TOTAL CARE & MAINTENANCE SERVICE**

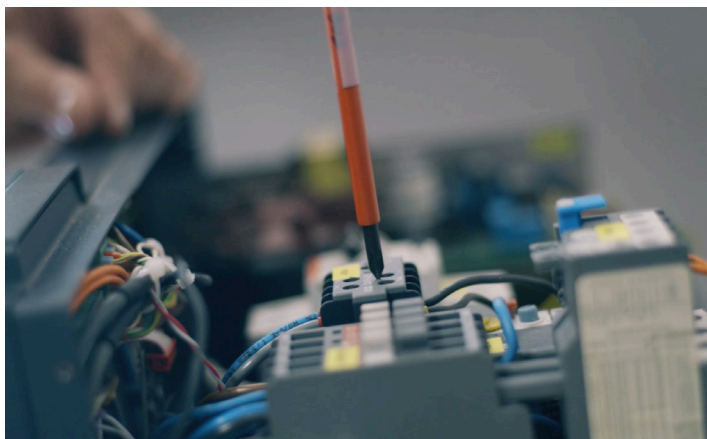


ELS offers on-site repair, maintenance and total care for petroleum analyzers and laboratory equipment.

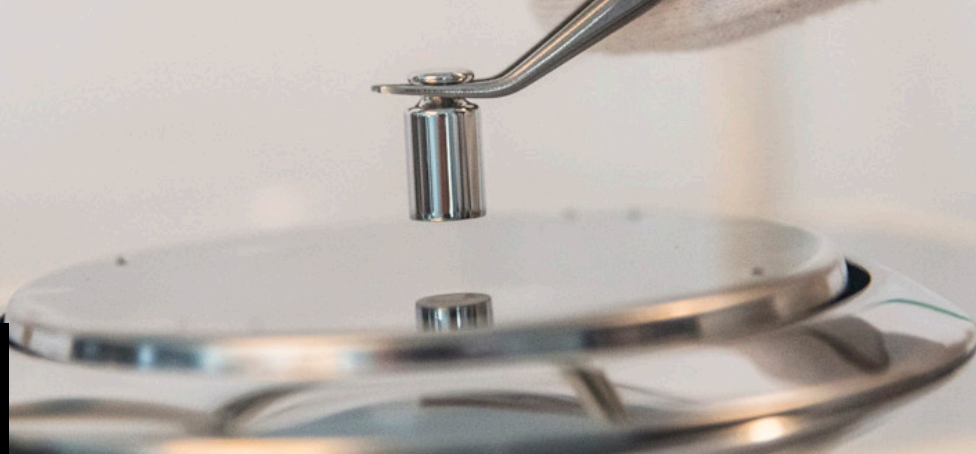
### **ELS offers total care solutions:**

- Planned periodic calibration and verification
- Proactive maintenance and repair
- Quick action in case of failure due to local offices
- Extensive parts stock
- Online portal for service status
- Certificate management
- Total cost of ownership reports

By providing customer based Service Level Agreements, ELS is able to deliver exactly the right support for your lab in order to have carefree confidence in your equipment.







CALIBRATION OF THERMOMETERS

CALIBRATION OF LAB BALANCES

VERIFICATION OF LAB EQUIPMENT

ENVIRONMENTAL VALIDATION/MAPPING



**ACCORDING TO ISO 17025**

## CALIBRATION CAPABILITIES (ISO 17025)

<b>TEMPERATURE</b> Digital thermometers, Pt100, liquid-in-glass, ...	-80°C to 660 °C
<b>STANDARD FIXED POINT TRIPLE-POINT OF WATER</b>	0,01 °C
<b>MASS</b> Precision balances, analytical balances	1 mg to 20 kg
<b>HUMIDITY</b>	10% RH to 95% RH

## VERIFICATION CAPABILITIES (ISO 17025)

Petroleum test equipment, climatic and thermostatic chambers

<b>TEMPERATURE</b>	-80 °C to 1000 °C
<b>RELATIVE HUMIDITY</b>	10% RH to 95% RH
<b>REVOLUTIONS</b>	20 to 15000 rpm
<b>VOLUME</b>	0,1 to 500 ml
<b>FLOW</b>	20 to 60000 ml/min
<b>TIME</b>	0,01 to 1440 min
<b>PRESSURE</b>	-1 to 60 / 900 to 1100 bar
<b>LENGTH</b>	5 to 25 mm
<b>MASS</b>	1 mg to 20 kg



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