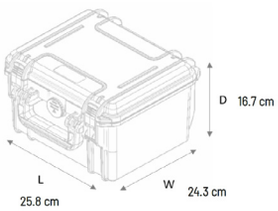
IKRON®
Fluid Filtration

CONTAMINATION MONITORING

POA



SUITCASE FEATURES

MATERIAL	Polypropylene / Nylon
DIMENSIONS LxWxD	258x248x167,5 mm
WEIGHT	2,9 kg
PROTECTION CLASS	IP67

TECHNICAL DATA

POWER SUPPLY	24 V DC, 4 A, max 96 W
	12000 mA battery
OPERATING TEMPERATURE	10 ÷ 80 °C fluid / 0 ÷ 55 °C environment
WORKING PRESSURE	8 bar
FLUID COMPATIBILITY	Lubricants, oil (mineral, synthetic)
VISCOSITY	1 cSt ÷ 500 cSt
CONNECTIONS	2 x 1/8" male quick couplings
PUMP TYPE	Micro gear
DATA REPORT STORAGE	USB memory
SCREEN	7" LCD touch
DATA TRANSMISSION	Online through cloud storage
CONNECTION FOR UPDATES	Remote through Wi-Fi
CALIBRATION FREQUENCY	Yearly

OUTPUT INFORMATION

SOLID CONTAMINATION	ISO4406 / NAS1638
OXIDATION INDEX	CC Parameter
WATER CONTAMINATION	RH (%)
CHEMICAL CONTAMINATION	CI Parameter
PARTICLES CLASSIFICATION	Fatigue, shear wear, sliding wear

ACCURACY

ISO4406	± 0.5
NAS1638	± 1
MAX DETECTED ISO CLASS	24
MIN DETECTED ISO CLASS	16
MAX DETECTED NAS CLASS	12
MIN DETECTED NAS CLASS	5
OXIDATION INDEX	± 5
WATER CONTAMINATION	± 5%
CHEMICAL CONTAMINATION	± 0.10

APPLICATION FIELDS

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PRODUCT DESCRIPTION

The Ikron POA (Portable Oil Analyzer) is a compact machine control unit - the only system on the market based on Lab-on-Chip technology. It delivers highly accurate data on both chemical and physical properties of the oil, as well as on the condition of the monitored machine.

POA is an all-in-one portable solution designed for on-site monitoring of oils and lubricants, which are critical to the reliable operation of a wide range of machinery, including turbines, compressors, gearboxes, hydraulic systems, and many others. It can be used in both static and dynamic applications, ensuring maximum flexibility in the field.

All key parameters are measured, processed, and displayed in real time, enabling immediate decision-making and delivering significant time and cost savings compared to traditional laboratory analyses or complex and non-intuitive test kits.

Measurement data and reports are either automatically stored and consolidated on the supplied USB unit, allowing easy export and further processing to generate trends and strategic insights, or securely archived and analyzed in the cloud. Through a dedicated dashboard, users can access historical data, visualize trends, and support predictive maintenance strategies.

WHAT IT MEASURES

PARTICLES AND DEBRIS

Debris levels in oil and lubricants are assessed using TUNA* technology, with correlation to ISO 4406 and NAS 1638 standards. The system detects and differentiates metallic and non-metallic particles, excluding air bubbles, and classifies particles larger than 10 µm by type and morphology, enabling early fault detection and effective predictive maintenance (PdM).

WATER CONTENT

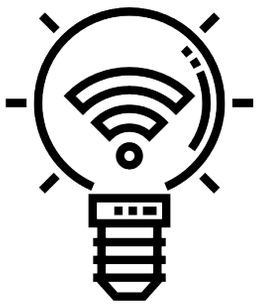
Water presence in oil is monitored through the Relative Humidity Index, providing a reliable indication of moisture contamination. Excess water can cause oxidation, corrosion, reduced lubrication performance and additive depletion, and may also signal leakage or seal degradation.

STATE OF WEAR

The Oxidation Index indicates the degree of chemical degradation of the oil. Abnormal values may be associated with oil oxidation, thermal degradation, or additive depletion, all of which can negatively impact equipment performance and service life.

The Contamination Index provides information on the overall level of oil contamination resulting from both mechanical wear and chemical-physical degradation, as well as the presence of solid particles.

FEATURES



SMART AND VERSATILE DESIGN

Designed to seamlessly adapt to any operating environment, POA features a compact and portable design that ensures ease of use, even for non-expert personnel. Its multi-functional architecture combined with an intuitive touchscreen interface enables fast and reliable operation, making it ideally suited for both static and dynamic applications, whether deployed in the field or in laboratory settings.

DUAL MODE

POA delivers maximum operational flexibility by supporting both offline and inline operating modes. In offline mode, data can be collected during spot measurements, with automatic generation and storage of PDF reports on a USB device for immediate review or subsequent analysis. In inline mode, measurement data are continuously transmitted to the cloud, where they are archived, historically tracked, and processed with advanced analytics, and made available for remote visualization through a dedicated dashboard. This dual-mode capability makes POA ideal for quick diagnostic checks as well as for continuous condition monitoring over time.

INSTANT RESULTS AND AUTOMATIC REPORTS

All critical parameters are processed in real time and displayed directly on the screen, providing immediate insight into system conditions. Detailed and comprehensive reports are automatically generated, ensuring full traceability, faster decision-making, and significant time savings compared to traditional analysis methods.

HIGH ACCURACY AND MAXIMUM RELIABILITY

Thanks to TUNA* technology, POA is able to detect even minimal variations in oil quality and machine condition, enabling the early identification of contaminants, wear phenomena, and emerging anomalies. This advanced level of sensitivity allows users to anticipate potential failures, optimize maintenance strategies, and maximize plant availability and operational reliability.

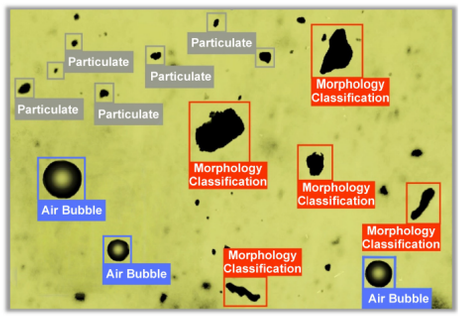
* autodigiTal visUal imagiNg meAsurement

ADVANCED PARTICLE COUNT

NCAT POA 01 T A - 04/26

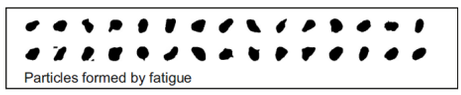
AIR BUBBLES RECOGNITION

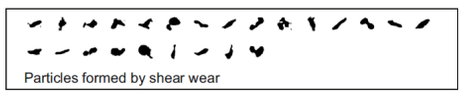
POA incorporates cutting-edge digital imaging technology, allowing air bubbles to be precisely identified and automatically excluded from the count, ensuring reliable and accurate results.

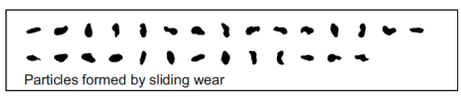


PARTICLE SHAPE RECOGNITION

Digital imaging technology enables particle classification based on shape, in accordance with ASTM D7596-14, distinguishing between fatigue wear, shear wear and sliding wear particles.







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