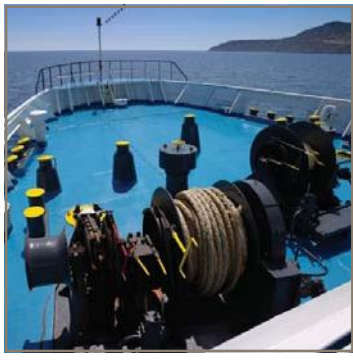
aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

icount Oil Sampler (IOS)

Portable Condition Monitoring for Hydraulic Oil and Fuel Systems



ENGINEERING YOUR SUCCESS.

Accurate Condition Monitoring made Quick, Simple and Cost Effective

The icountOS (IOS) is an innovative solution to the challenge of measuring the quality of hydraulic oils and hydrocarbon fuels in many different applications: from renewable energy, marine and offshore, to manufacturing, mobile, agriculture, military and aerospace.

Compact, lightweight and robust, the truly portable IOS makes field analysis simple, quick and easy.

Able to sample directly from a hydraulic reservoir, barrel, vehicle fuel tank or from a high pressure online hydraulic system with the addition of a pressure reducing adaptor; the IOS is undoubtedly the most adaptable contamination service tool available today.

The system is completely self contained, with laser detection particle counter, battery and pump plus memory with web page generator for data download onto any PC or laptop - combined into a single unit.

The IOS uses Parker's proven laser detection technology, which delivers precise, repeatable, reproduceable results, in real time detection of both particulates, down to 4 microns and dissolved water.

Just as importantly, the IOS has been developed to offer a wealth of features, combined with simplicity and ease of use, at a cost that is far lower than competing systems, and which fits within most maintenance budgets.

Powerful and easy to use

Lightweight and portable

Wherever, Whenever you need to be 100% sure of Oil and Fuel Quality

With its robust carrying case, sealed to IP67, and proven laser and diagnostics technologies, the IOS is the perfect tool for maintenance and plant engineers to use with all fixed and mobile plant and machinery.

IOS technology is proven in many different applications, under the most demanding conditions, and is used by leading companies around the world.

In the construction and mining sector, IOS is ideally suited to service and fluid monitoring of essential equipment and services.

In the defence industry, IOS provides essential condition monitoring support for mission critical front line battle tanks and military vehicles.

The IOS is the primary diagnostic instrument to help automotive manufacturers develop predictive monitoring programs.

Ease of on-site use, light weight and portability are key IOS features for monitoring fuel quality in military bulk fuel installations in theatre.

Accuracy and speed of use make the IOS ideal for wind turbine engineers, for both rountine maintenance and emergency repairs, flushing and commissioning.

In the aviation sector, the ability to meet strict quality controls makes the IOS the ideal choice for ground handling support companies, ensuring clean and dry fuel deliverance.

icountOS

How It Works

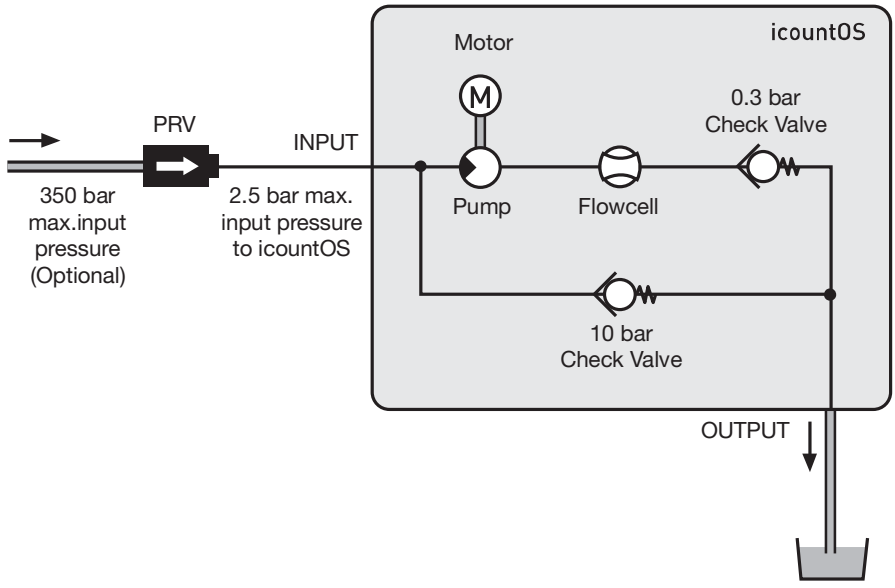
The IOS quality condition monitor for hydraulic oils and hydrocarbon fuels uses advanced technology to produce extremely repeatable results.

At the heart of the system is a sophisticated laser detector, using a light obscuration flow cell, providing continuous measurement of fluid flow passing through a sample tube.

Measurements are taken every second as standard, although measurement intervals and test period can be defined by the user, with results being reported immediately and updated in real time.

Data is displayed on a built-in OLED digital display and can also be stored for subsequent upload via the embedded icount's web page interface connecting through an RJ45 cable.

Hydraulic Circuit



Proven Laser Detection Technology

Parker's experience in developing laser light obscuration or blockage and applying that technology in portable particle counting and detection is what makes Parker's range of contamination analyzers so very special.

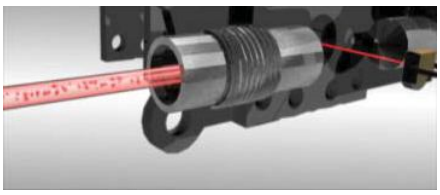


Fig 1. In simple terms a controlled column of contaminated fluid enters the laser optical scanner chamber. This design maintains contamination distribution within the fluid.

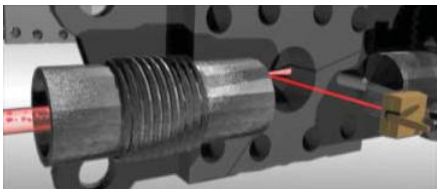


Fig 2. On reaching the photo diode cell, the highly accurate laser light is applied and projected through that oil column. The laser diode projects an image of the sample onto a photo diode cell.

Fig 3. A cast image or shadow created by the contaminant in the oil creates a measurable change in the light intensity.

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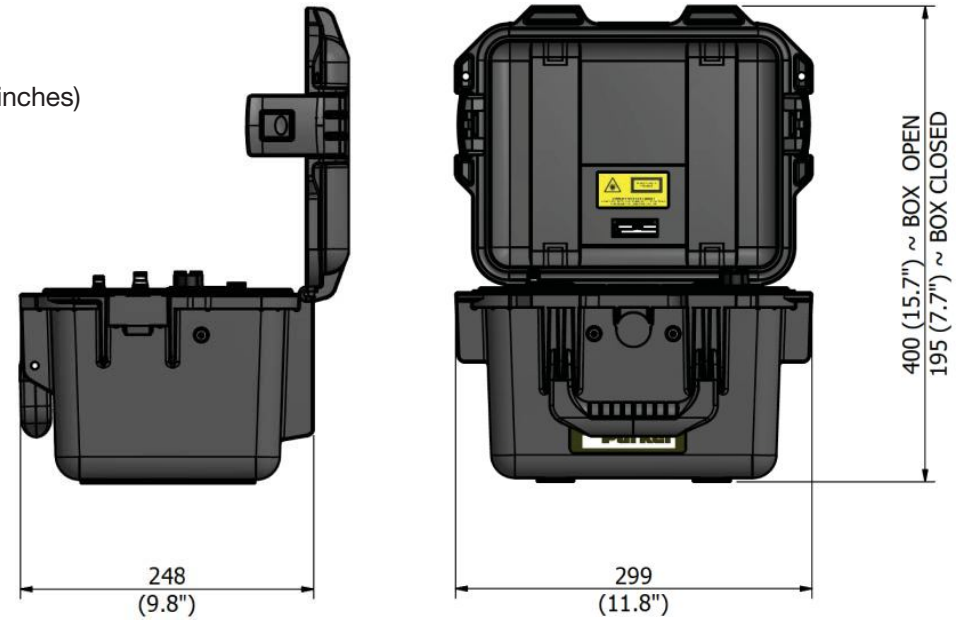
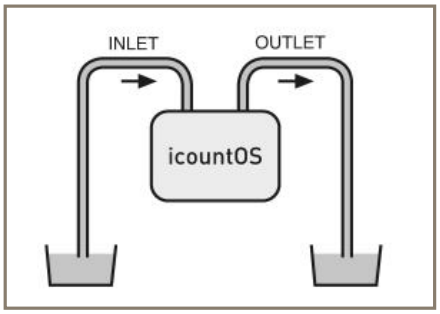
dimensions are in mm (inches)

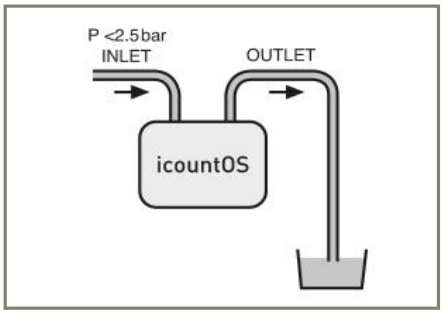


Low Pressure Connection Setup

We recommend that the IOS is positioned in a safe, stable area, as close as possible to the system output and only the hose fittings provided are used.



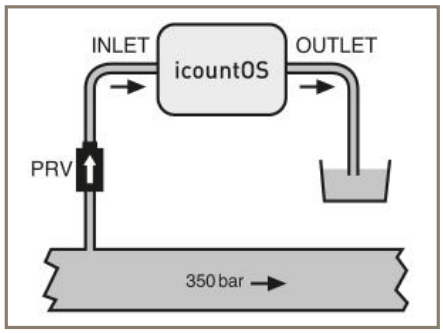
Option 1



Option 2

High Pressure Connection Setup (Optional equipment needed)

(High pressure is defined for this unit as more than 2.5 bar, with a maximum of 350 bar)
We recommend that the IOS is positioned in a safe, stable area, as close as possible to the system output and only the hose fittings provided are used. For pressure systems (more than 2.5 bar) one high pressure hose assemblies: ACC6NN034, and a Pressure Reducing Valve (PRV) ACC6NN027 are required.



Attach OUTLET (Ø 4mm) hose

To remove the PRV, press down on the removal tool at the same time as lifting PRV off.

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Features

Proven Laser Detecton Technology

The IOS uses light obscuration, light blockage technology. A light source is projected through a moving column of oil or fuel. Contaminants in the fluid interrupt the light beam, casting images on a photo diode cell, where the resulting change in light intensity produces a directly proportional change in electrical output.

High Onboard Test Data Storage Capacity

Class leading onboard memory provides storage capacity for up to 250,000 sets of test results. Data is displayed instantly, stored or downloaded to a PC or laptop for analysis via a standard IP68 RJ 45 patch cord connection; a 2m cable is supplied as standard. (File types - text/CSV or XMI)

Quick Connection

Connecting the IOS is quick and reliable. The fluid connectors are on the front panel, with two secure push fittings: .236” diameter (6mm) inlet and .157” diameter (4mm) outlet/drain. Parker can supply dedicated hoses and fittings for use with most hydraulic and hydrocarbon fluids.

Tough Storm Case

The robust waterproof IP54 (when open) case and fully sealed impact resistant brushed stainless steel front panel provide excellent protection in the most demanding of applications. The combined unit weighs under 12.1 lb (5.5kg), making it an ideal ‘first use’ diagnostic service tool.

Fast Contamination Detection

The IOS provides fast detection of the presence of contaminants, with the results being shown on the front panel mounted, high visibility OLED digital display. This provides easy identification of fluid condition, showing measured codes, the sizes per channel in microns, the user definable limits and moisture sensor readings as a % of relative humidity.

Complies with the Latest Standards

The IOS is designed in accordance with the latest global standards including:

- CE marking
- EC Declaration of Conformity
- Machinery Directive
- EMC EN61000-6-3:2001
- EMC EN61000-6-2:2001
- EN 61010-1:2001

Long Life Remote Operation

The IOS uses a long life regulated 12 Vdc power supply, with an M12, 4 pin connector, plus a rechargeable NiMH detector battery unit for use onsite or in remote locations.

Fluid and Pressure Control

The IOS automatically adjusts flow rates, to an optimum level of 60ml/min. Total flow range is between 40 and 140ml/min, with maximum online operating pressure being 36 psi (2.5Bar). An optional inlet reduction valve is also available for high pressure applications.

Pressure Reducing Valve (PRV)

A pressure compensated PRV device (Parker Hannifin part number ACC6NN027) has been developed to enable testing where flow pressures in the hose exceeds 35 psi (2.5 bar), up to a maximum of 5000 psi (350 bar).

Results are viewed in the OLED digital display window

High Pressure Connection

Manual Connection: Press the Pressure Reducing Valve firmly into the **INLET** port.

Low Pressure Connection

Connect **INLET** .236” Ø (6mm) hose.

Parameter	Value
Working pressure range	0 to 35 psi (2.5 bar)
Working pressure with PRV	35 psi (2.5) to 5000 psi (350 bar)
Working viscosity	1 to 300 cSt