Parker Store

Fluid Analysis and Condition Monitoring Program

MFP AUTOMATION ENGINEERING

SCAN ME

Total System Hea

A comprehensive approach to long term asset health and reliability.

Dedicated to your system's overall health, **Parker Hydraulic & Fuel Filtration Division** offers you innovative products that cover your diagnostic, therapeutic and preventive needs. By taking this comprehensive approach, we ensure improved operational efficiency, productivity and reliability of your critical assets.

Diagnostic

Combining sensors and diagnostic tools with circuit filtration and off-line systems, machine operators receive real-time insight into changing system health. Fact based decisions are then made which improve up-time and minimize negative results to the bottom line.

Therapeutic

Clean, cool and dry systems contribute to increased production throughput as well as machine reliability and longer fluid life. Therapeutic products can extend the life of your fluid beyond routine drain and change intervals as well as dramatically reduce waste and cost.

Preventive

Selecting the correct filtration solution is vital to preserving the desired performance specifications of your system. Preventing component deterioration or even failure depends on the initial quality of your filtration solution.

Parker Hydraulic & Fuel Filtration Division is your single-source supplier for managing your **Total System Health.**

Together, we can collaborate on a comprehensive machine health management strategy.

lth Management

Hydraulic & Fuel Filtration Division

Your prescription for total system health.

Dedicated to the long term health and reliability of mission critical assets, Parker Hydraulic & Fuel Filtration Division offers you innovative products that cover your diagnostic, therapeutic and preventive needs.

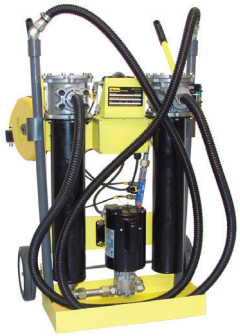
Total System Health Management

Diagnostic

Monitors
Detects
Alerts

Therapeutic

Supports
Improves
Fortifies



Preventive

Long Term Defense/Value
Reduced Cost of Ownership

Your Trusted Partner in Total System Health Management

Fluid Analysis

Par-Test™

Fluid analysis has proven to be a critical tool for any preventive maintenance program. Fluid analysis is able to identify potential problems that cannot be detected by human senses.

A comprehensive fluid analysis program can help prevent major hydraulic or lube oil system failures.

Par-Test is a complete laboratory analysis, performed on a small volume of fluid. The report you receive is a neatly organized three page format. One may quickly analyze the test results of an individual sample and/or look at a trend analysis for up to five different samples. Two types of services are offered through Par-Test, a water base fluid analysis kit or a petroleum base fluid analysis kit. For both types of services the Par-Test kit includes a pre-cleaned glass bottle, mailing container with pre-addressed label, sample information data sheet (to be completely filled out by end user) and the following analysis:

Fluid sampling for Par-Test involves important steps to insure you are getting a representative sample. Often, erroneous sample procedures will disguise the true nature of the system fluid. A complete sampling procedure is detailed on the back of this brochure. There also is a National Fluid Power Association standard (NFPA T2.9.1-1972) and an American National Standards Institute Standard (ANSI B93.13-1972) for extracting samples from a fluid power system.

Petroleum Base Kit

Particle Count
Photomicrograph
Free Water Analysis
Spectrometric Analysis
Viscosity Analysis
Water Analysis (PPM)
Neutralization Analysis

Water Base Kit

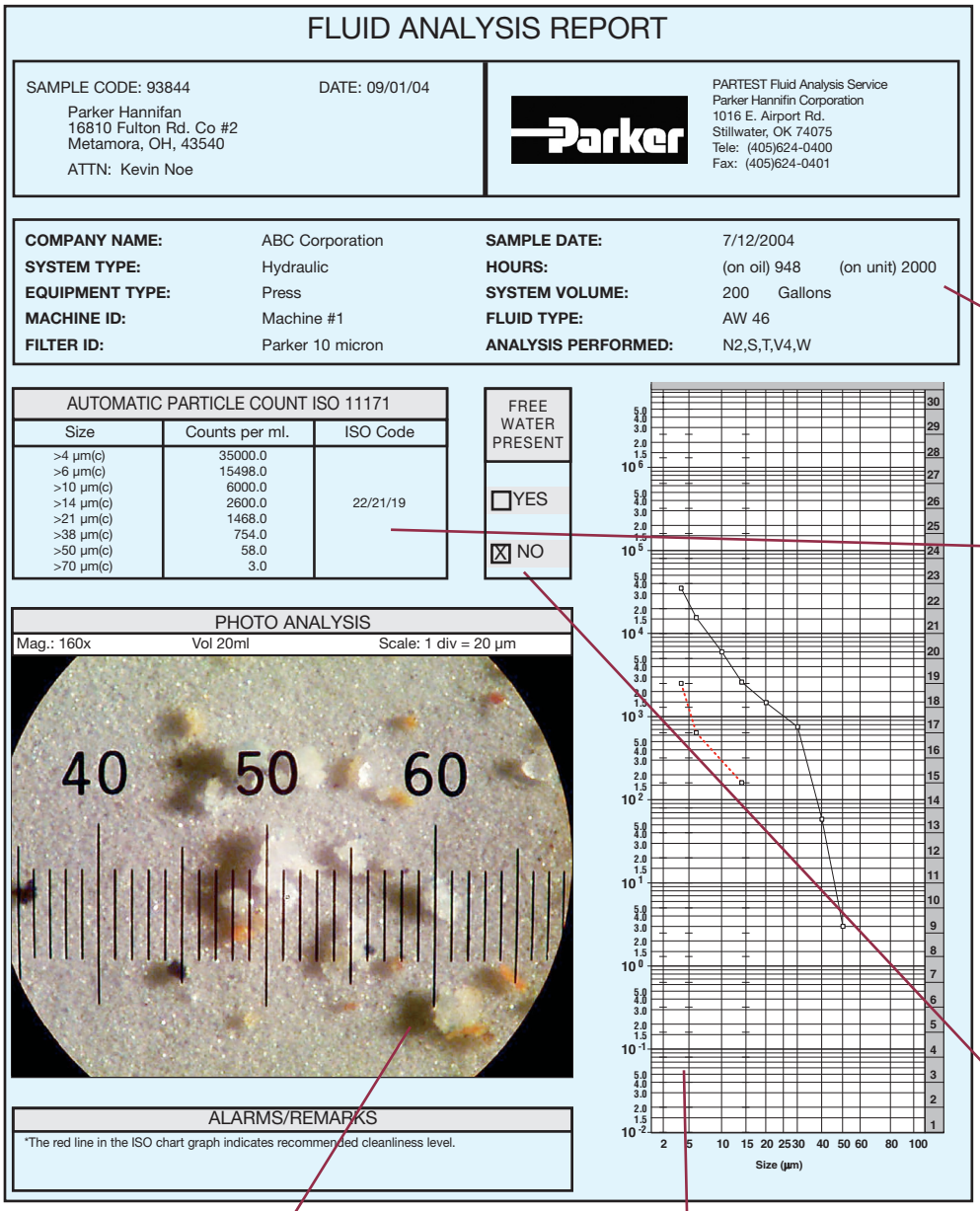
Particle Count
Photomicrograph
Spectrometric Analysis
Viscosity Analysis
Neutralization Analysis

How to Order

Description	Part Number
Petroleum base fluid kit (single test bottle)	927292
Petroleum base fluid kit (Carton of 10 test bottles)	927293
Water base fluid kit (single test bottle)	932995

Fluid Analysis

Par-Test™



FLUID ANALYSIS REPORT

SAMPLE CODE: 93844 DATE: 09/01/04

Parker Hannifan
16810 Fulton Rd. Co #2
Metamora, OH, 43540

ATTN: Kevin Noe

PARTEST Fluid Analysis Service
Parker Hannifin Corporation
1016 E. Airport Rd.
Stillwater, OK 74075
Tele: (405)624-0400
Fax: (405)624-0401

COMPANY NAME:	ABC Corporation	**SAMPLE DATE:**	7/12/2004
SYSTEM TYPE:	Hydraulic	**HOURS:**	(on oil) 948 (on unit) 2000
EQUIPMENT TYPE:	Press	**SYSTEM VOLUME:**	200 Gallons
MACHINE ID:	Machine #1	**FLUID TYPE:**	AW 46
FILTER ID:	Parker 10 micron	**ANALYSIS PERFORMED:**	N2,S,T,V4,W

AUTOMATIC PARTICLE COUNT ISO 11171

Size	Counts per ml.	ISO Code
>4 µm(c)	35000.0	
>6 µm(c)	15498.0	
>10 µm(c)	6000.0	
>14 µm(c)	2600.0	22/21/19
>21 µm(c)	1468.0	
>38 µm(c)	754.0	
>50 µm(c)	58.0	
>70 µm(c)	3.0	

FREE WATER PRESENT

☐ YES

☒ NO

PHOTO ANALYSIS

Mag.: 160x Vol 20ml Scale: 1 div = 20 µm

ALARMS/REMARKS

*The red line in the ISO chart graph indicates recommended cleanliness level.

For our Par-Test™ customers, the analysis report is available online for your ease and convenience. Historical data is also available. Visit www.partestlab.com

Sample Data

Information supplied by the user regarding the fluid to be analyzed. Complete and accurate information is crucial for a useful analysis.

Particle Count

Results are reported over 6 different particle size ranges and expressed as an ISO code (modified). The counts are per milliliter of fluid and the reporting is cumulative; ie. The particle count in the >2 micron row includes the number of particles greater than 5, 10, 15, 25 and 50 microns as well as particles between 2-5 microns in size. Particle resuspension method is utilized for water based fluid samples.

Free Water Analysis

Determines if the water present is beyond the saturation point of the fluid. At the saturation point, the fluid can no longer dissolve or hold any more water. Its appearance becomes cloudy or "milky". Many hydraulic oils saturate between 500 and 1000 PPM of water.

Photo Analysis

A photomicrograph of a small volume of fluid (20 ml) magnified 100X. This analysis gives a quick glance at the contamination present in the fluid. Each line of the graduated scale represents 20 microns in size.

The full color photomicrograph helps identify particles which would otherwise be grouped by class.

ISO Chart

Graphically illustrates the particle count on a graph. The recommended cleanliness code level, if given on the submittal form, is shown by a broken line on the ISO chart.

Fluid Analysis

Par-Test™

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SPECTROMETRIC ANALYSIS

WEAR METALS AND ADDITIVES	PPM BY WEIGHT	STATUS*
IRON	120.0	H
COPPER	510.0	H
CHROMIUM	< 1.0	N
LEAD	< 1.0	N
ALUMINUM	1.0	N
TIN	< 1.0	N
SILICON	< 1.0	N
ZINC	423.0	N
MAGNESIUM	< 1.0	N
CALCIUM	540.0	H
PHOSPHORUS	10.0	L
BARIUM	1.0	N
BORON	< 1.0	N
SODIUM	< 1.0	N
MOLYBDENUM	< 1.0	N
SILVER	< 1.0	N
NICKEL	< 1.0	N
TITANIUM	< 1.0	N
MANGANESE	< 1.0	N
ANTIMONY	< 1.0	N

L = LOW N = NORMAL H= HIGH

The Spectometic Analysis reports the ppm level of 20 different wear metals and additives in the sample. Generally the first 7 and last 5 elements are considered wear elements not normally present in hydraulic oil. Zinc through molybdenum (shaded) represent some common additives in oil. If a baseline oil sample (new oil out of a drum) is provide, then comments on the analyzed sample can be provided on whether the status of the elements are low, normal, or high.

Viscosity Analysis - ASTM D445

CST@100C:		SSU@210F:	
CST@40C:	46.25	SSU@100F:	215.0

Viscosity at 40C (100F) is reported in Centistokes (cST) and SUS (Saybolt Universal Seconds). The test is conducted in accordance with ASTM D445 procedures for determining the kinematic viscosity of fluids

Neutralization Analysis - ASTM D794

TAN: 0.44

The Total Acid Number (TAN) test measures the acidity of a hydraulic fluid. The higher the number, the more acidic the fluid. Over time this may mean the fluid is becoming oxidized.

Water Analysis - ASTM D6304

WATER CONTENT (PPM): 410.0

The water analysis test shows the actual parts per million of water in a sample. This is known as the Karl Fischer titration test and is conducted in accordance with ASTM D6304.

Comments

*Please check spectrometric status for abnormal conditions.

WEAR METALS AND ADDITIVES

Iron: Ferrous wear particle typically from pumps, gears, cylinders, or rust

Copper: Brass (copper/zinc) and bronze (copper/tin) in bearings and bushings

Chromium: (white non ferrous metal) Chrome from cylinder rods, bearings, valve spools

Lead: Babbitt or copper lead bearings

Aluminum: White nonferrous metal from pump bodies, bushings, bearings, and grinding compounds

Tin: Babbitt bearings, plating

Silicon: Sand/dirt contamination or antifoaming additive in oil

Zinc: Plating or anti-wear additive in oil

Magnesium: Detergent, dispersive additive in oil, bearings, water

Calcium: Dispersant additive or acid neutralizer

Phosphorous: Anti-wear or fire resistant additive in fluid

Barium: Corrosion, rust inhibitor additive in oil

Boron: Detergent, dispersive additive in oil

Sodium: Detergent or coolant additive

Molybdenum: Alloy metal or anti friction additive

Silver: White non ferrous metal

Nickel: Alloy metal

Titanium: White non ferrous metal

Manganese: White non ferrous metal

Antimony: Babbit bearings, greases

Viscosity Analysis

Viscosity is a very important property of a fluid in terms of system performance. Viscosity expresses the internal friction between molecules in the fluid. Typically a breakdown in viscosity will be seen as an increase. Both SSU at 100º F and cSt at 40º C are reported.

Neutralization Analysis

Referred to as the Total Acid Number (TAN) this titration test measures the acid level of the sample fluid. The production of acidic material causes oxidation degradation or aging of most fluids. This activity is promoted by elevated temperatures, presence of entrained metal particles, and intimate contact with air. It is the rate of increase of the TAN during any given time period that is significant, not just the absolute value.

Water Analysis

Karl Fischer test gives accurate measure of water concentration in the sample fluid. The results are reported in parts per million (PPM) and allow for detection of water levels well below the saturation point.

Remarks

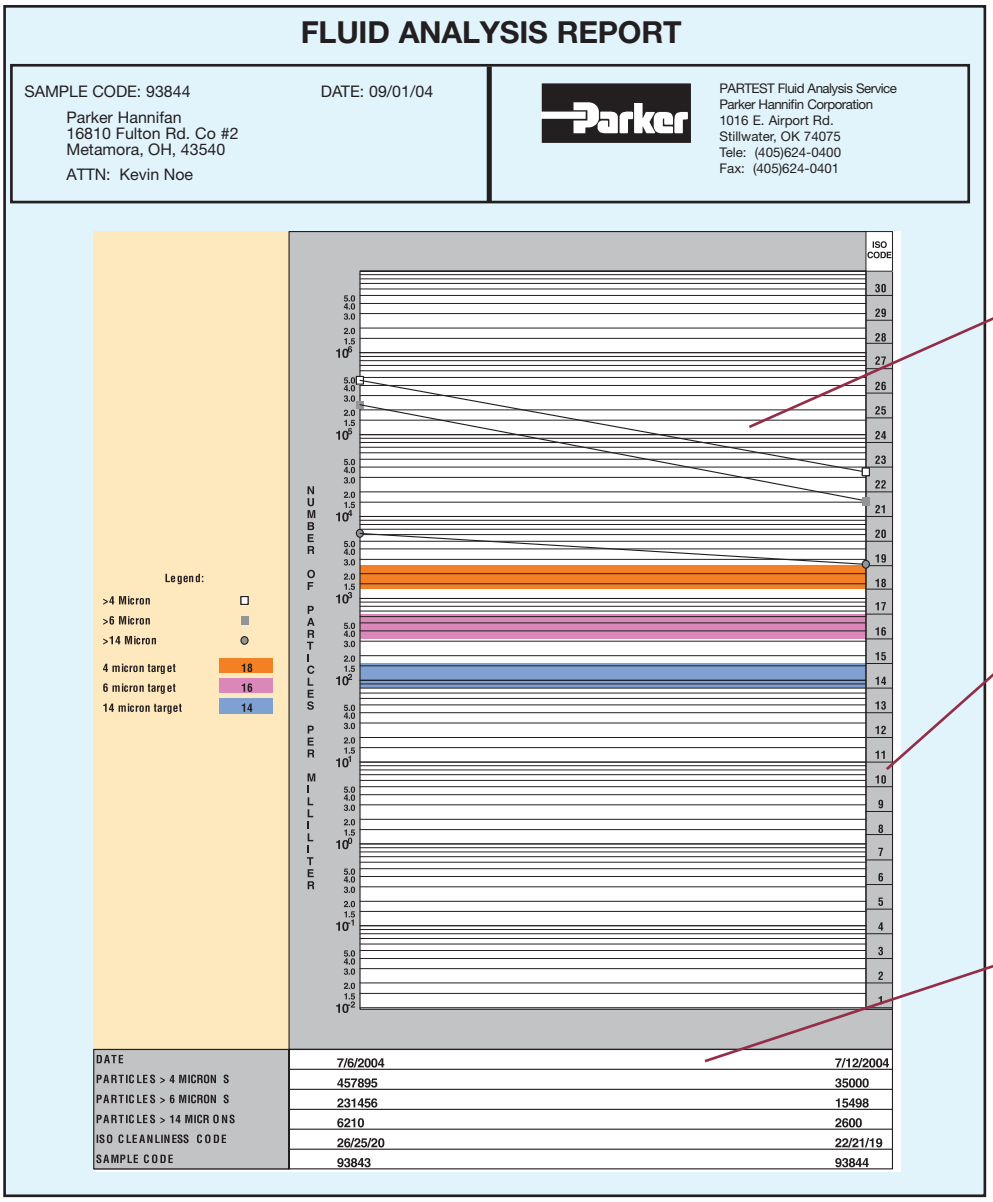
Quick statements or alerts about any unusual results from one of the tests reported on this page.

Spectrometric Analysis

Results obtained by Rotating Disk Electrode (ROE) Spectrometer and reported in terms of parts per million (PPM). Twenty different wear metals and additives are analyzed to help determine the condition of the fluid. The spectrometric test is limited to identifying particles below 5-7 micron in size. Base line (new) fluid samples should be sent in for each different fluid to be analyzed. This will be used to determine the status.

Fluid Analysis

Par-Test™



For our Par-Test™ customers, the analysis report is available online for your ease and convenience. Historical data is also available. Visit www.partestlab.com

Parker

Trend Analysis

Graphical history for up to 5 samples plotted for 2, 5 and 15 micron and greater size particles. This analysis is a valuable tool for tracking the progress of a system over a given time period.

ISO Range Code

Index Number that is associated with a range of particles. Below is a list of the range numbers and the corresponding particle quantities.

Sample Code

Assigned to the test kit form for a ready reference. This code can be used to track the sample from start to finish.

NUMBER OF PARTICLES PER ML

Range Code	More than	Up to and including	Range Code	More than	Up to and including
30	5,000,000	10,000,000	18	1,300	2,500
29	2,500,000	5,000,000	17	640	1,300
28	1,300,000	2,500,000	16	320	640
27	640,000	1,300,000	15	160	320
26	320,000	640,000	14	80	160
25	160,000	320,000	13	40	80
24	80,000	160,000	12	20	40
23	40,000	80,000	11	10	20
22	20,000	40,000	10	5	10
21	10,000	20,000	9	2.5	5
20	5,000	10,000	8	1.3	2.5
19	2,500	5,000	7	.64	1.3
			6	.32	.64

Fluid Analysis

Par-Test™

SAMPLING PROCEDURE

Obtaining a fluid sample for analysis involves important steps to make sure you are getting a representative sample. Often erroneous sampling procedures will disguise the true nature of system cleanliness levels. Use one of the following methods to obtain a representative system sample.

I. For systems with a sampling valve

A. Operate system for at least 1/2 hour.

B. With the system operating, open the sample valve allowing 200 ml to 500 ml (7 to 16 ounces) of fluid to flush the sampling port. (The sample valve design should provide turbulent flow through the sampling port.)

C. Using a wide mouth, pre-cleaned sampling bottle, remove the bottle cap and place in the stream of flow from the sampling valve. Do NOT "rinse" out the bottle with initial sample.

D. Close the sample bottle immediately. Next, close the sampling valve. (Make prior provision to "catch" the fluid while removing the bottle from the stream.)

E. Tag the sample bottle with pertinent data; include date, machine number, fluid supplier, fluid number code, fluid type, and time elapsed since last sample (if any).

II. Systems without a sampling valve

There are two locations to obtain a sample in a system without a sampling valve: in-tank and in the line. The procedure for both follows:

A. In the Tank Sampling

1. Operate the system for at least 1/2 hour.
2. Use a small hand-held vacuum pump to extract sample. Insert sampling device into the tank to one half of the fluid height. You will probably have to weight the end of the sampling tube. Your objective is to obtain a sample in the middle portion of the tank. Avoid the top or bottom of the tank. Do not let the syringe or tubing came in contact with the side of the tank.
3. Put extracted fluid into an approved, pre-cleaned sample bottle as described in the previous sampling valve method.
4. Cap immediately.
5. Tag with information as described in sampling valve method.

B. In-line Sampling

1. Operate the system for at least 1/2 hour.
2. Locate a suitable valve in the system where turbulent flow can be obtained (ball valve is preferred). If no such valve exists, locate a fitting which can be easily opened to provide turbulent flow (tee or elbow).
3. Flush the valve or fitting sample point with a filtered solvent. Open valve or fitting and allow adequate flushing. (Take care to allow for this step. Direct sample back to tank or into a large container. It is not necessary to discard this fluid.)
4. Place in an approved, pre-cleaned sample bottle under the stream of flow per sampling valve methods.
5. Cap sample bottle immediately.
6. Tag with important information per the sampling valve method.
   Note: Select a valve or fitting where the pressure is limited to 200 PSIG (14 bar) or less.

ON-SITE FLUID ANALYSIS PRODUCT

DIGI Field Kit

The DIGI Field Test Kit gives fast, accurate results for water in oil, total base number, total acid number, insolubles (soot), and comparitive viscosity.

Total Acid Number (TAN)
Testing for TAN is essential to maintain and protect your equipment, preventing damage in advance.

Both the weak organic and strong inorganic acids present within an oil can be measured with the TAN test. A rise in TAN is indicative of oil oxidation due to time or operating temperature.

- Test kit is supplied with up to fifty tests, enabling monitoring of TAN level trends.
- Simple to use drop test - the result is shown by a color change, providing easy to interpret results, suitable for use by non-technical personnel.

Viscosity
The Viscostick gives a simple “go/no-go” result. Typically it will detect 5-10% distillate fuel dilution of an SAE 30 to 40 engine oil as well as increases in viscosity due to oil contamination.

Insolubles (soot)
Monitor combustion related debris and oxidation products.

High insolubles will cause varnish formation on hot surfaces, sticking of piston rings, and wear of cylinder liner and bearing surfaces. The detergent property of the oil will also decrease, speeding further deterioration.

- Detect insolubles from diesel engine combustion products such as fuel ash, carbon, partially oxidized fuel, oil oxidation products and spent lubricant additive.
- Simple and quick to use, the insolubles tests provide accurate results, helping prevent engine damage.

Reagents, Spares and Consumables
Test kits for individual parameters contain reagents, consumables and full instructions for multiple tests.

- Replacement reagents can be ordered at short notice.
- Kits contain all necessary equipment for instant test results in the field.

Reagents are packed in accordance with IATA/IMDG/IRD Air/Marine/Road Transportation codes and can be delivered to major ports world-wide.

Water in Oil
Maintain and protect your equipment, while eliminating damage caused by water in oil.

- Prevent corrosion, cavitation or failure of your machinery by detecting water in oil, before any damage occurs.
- Minimize instability of additive packages and damaging microbe growth by monitoring your oil.
- Fully portable for use on-board or in the field, test cells are extremely robust, durable and easy to use.

Total Base Number (TBN)
The DIGI TBN Test Kit provides state of the art, digital analysis and gives fast, accurate results for in-depth monitoring of trends.

The TBN Test Kit gives a rapid indication of TBN depletion in lubricants.

- Avoid fouling within the engine and corrosion of engine components by monitoring the Total Base Number (TBN) of lubricating oils.
- Simple, economical monitoring of lubricants.

Specifications

Test	Description
Combined Water in Oil/TBN Cell	0.02-1%, 200-10000 ppm, 0-10%, 0-20%/0-80 TBN
Insolubles	Qualitative
Viscostick	Go/no-go
TAN	0-3 range +/- 0.3

Ordering Information

Part Number	Description
FGK1108PA	DIGI Field Kit
FG24743PA	TAN Drop Test Kit
FGK2002PA	TBN Reagent Pack (50)
FGK1006PA	Insolubles Kit

icountOS

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

icountOS

How It Works

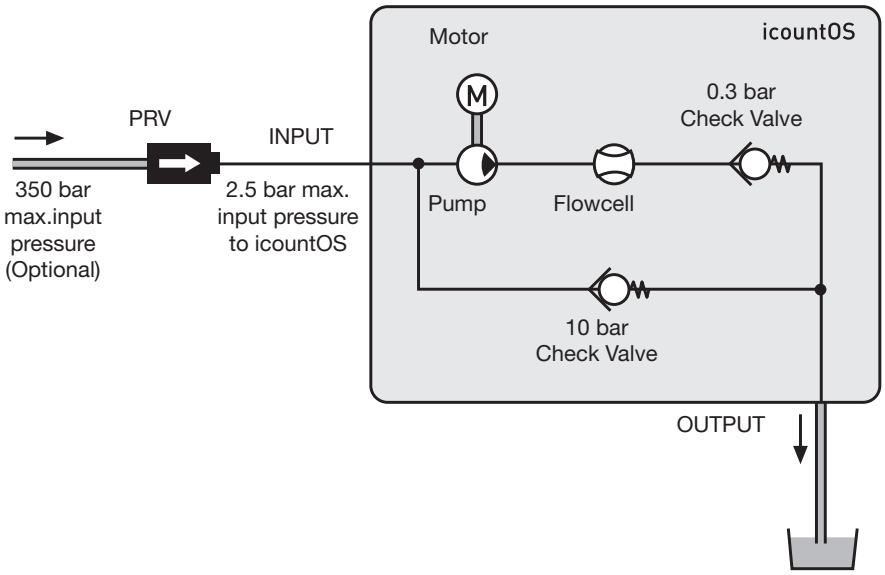
The IOS quality condition monitor for hydraulic oils and hydrocarbon fuels uses advanced technology to produce extremely repeatable results.

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.

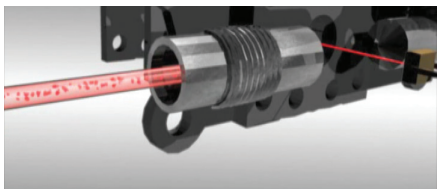


Fig 1. In simple terms a controlled column of contaminated fluid enters the laser optical scanner chamber. This design maintains contamination distribution within the fluid.

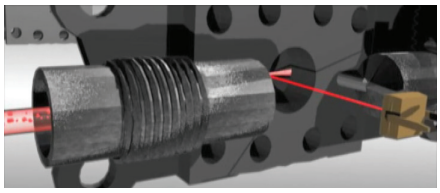


Fig 2. On reaching the photo diode cell, the highly accurate laser light is applied and projected through that oil column. The laser diode projects an image of the sample onto a photo diode cell.

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

icountOS

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

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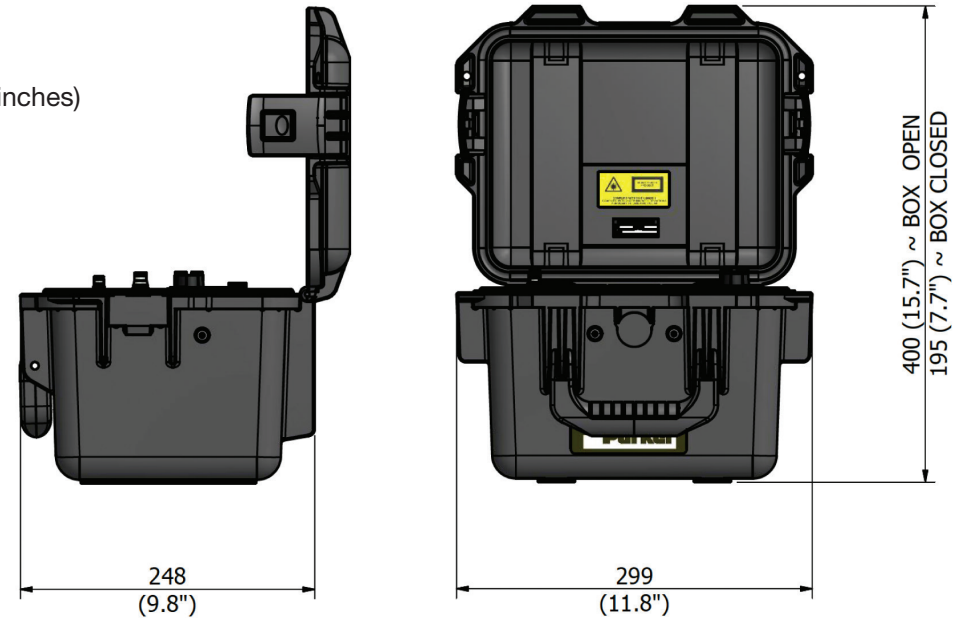
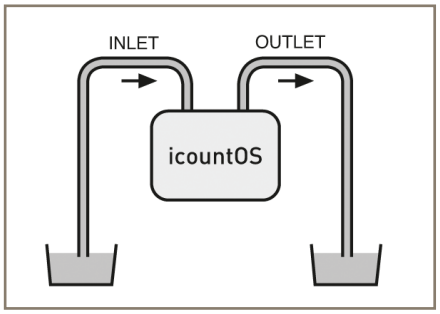
dimensions are in mm (inches)

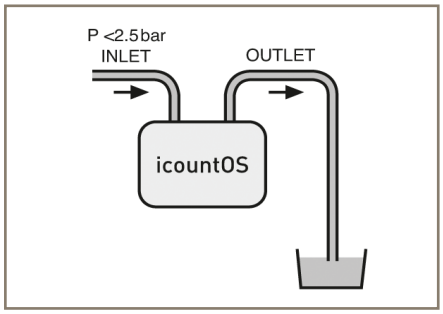


Low Pressure Connection Setup

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.



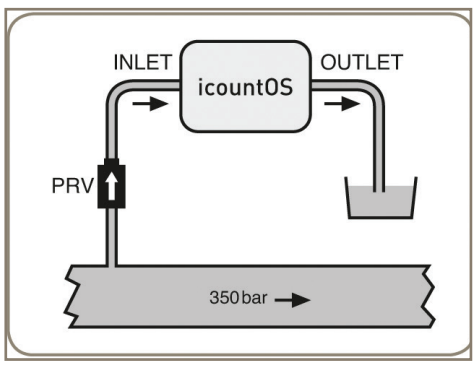
Option 1

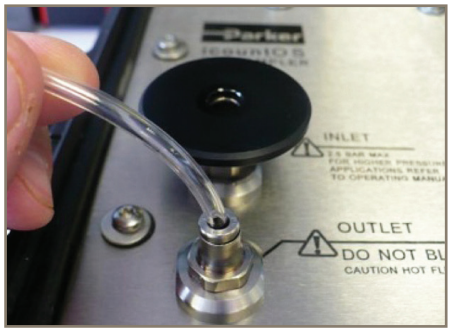


Option 2

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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Specifications

Feature	Specification
Product start-up time	10 seconds minimum
Measurement period	Default 30 seconds run time; 15 seconds data logging time
Reporting interval	Onboard data storage every second. Output via RJ45 connection
Principle of operation	Laser diode optical detection of actual particulates
International codes range	Up to ISO 22 (+/- 1 ISO code) NAS 0-12
Calibration	Calibration by recognized online methods confirmed by the relevant ISO procedures. MTD – via a certified primary ISO 11171 automatic particle detector using ISO 11943 principles. Particle distribution reporting to ISO 4406:1999
Recalibration and Servicing	Recommended every 12 months
Working pressure	35-5000 psi (2.5–350 bar) Pressures above 35 psi require the use of a Parker Pressure Reducing Valve (PRV) – ACC6NN027
Working viscosity	1-300 cSt
Flow range through IOS	40–140ml/minute; controlled at 60ml/min by IOS's internal pump
Fluid connection interface	INLET: .236 inch (6mm) push-fit. DRAIN: .157 inch (4mm) push-fit
Ambient storage temperature for unit	–40°C to +80°C; –40°F to +176°F
Operating temperature for unit	–30°C to +80°C; –22°F to +176°F
Operating humidity range	5%RH to 100%RH
Fluid operating temperature (Oil)	+5°C to +80°C; +41°F to +176°F
Fluid operating temperature (Fuel)	–20°C to +70°C; –4°F to +158°F
Moisture sensor	Linear scale within the range 5%RH to 100%RH
Computer compatibility	IP68-rated RJ45 connection that may be connected to a laptop computer's RJ45 LAN port using the 2m cable supplied
Power requirement	Regulated power supply supplied with the unit
Certification	IP54 rating (unit open) IP67 rating (unit closed) EC Declaration of Conformity Machinery Directive EMC EN61000-6-3:2001 EMC EN61000-6-2:2001 EMC EN61010-1:2001 CE Certified

What is included?	
Offline IOS 1210 EUR/UK/US	Online IOS 1220 EUR/UK/US
1x IOS Oil Sampler Unit	1x IOS Oil Sampler Unit
+ 1x Power Supply	+ 1x Power Supply
+ 1x RJ45 LAN Cable	+ 1x RJ45 LAN Cable
+ Low Pressure Hoses	+ 1x Low Pressure Hose
	+ 1x PRV
	+ 1x High Pressure Hose

icountOS
Web Interface

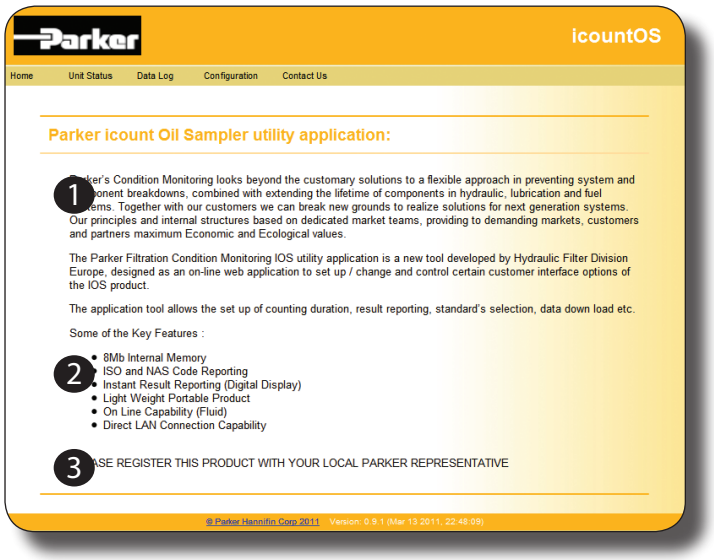
The IOS is a unique product in that it has its own web page generator which means that the stored data can be downloaded or viewed on any PC or laptop.

Utilizing a computer's Internet Explorer utility, simply plug in the supplied network cable, open Explorer and enter the IOS's unique IP/MAC address.

Home Page

Key

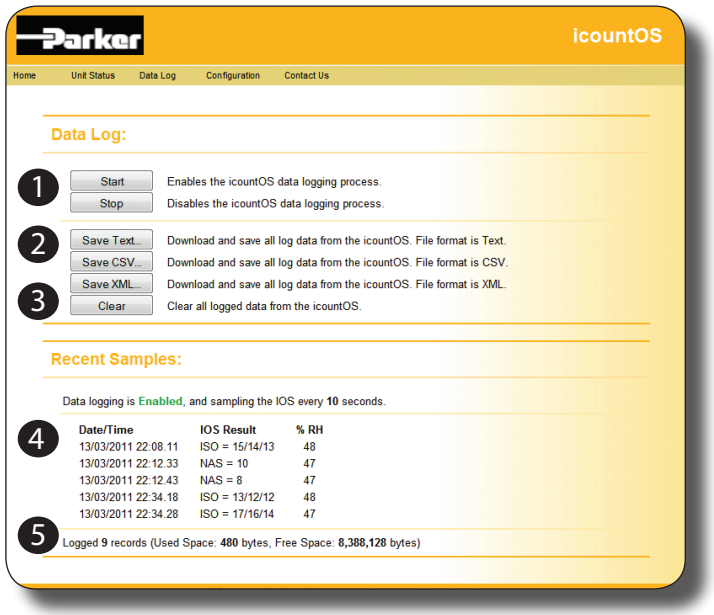
1. Product description
2. Key features
3. Register the product at www.parker.com/unlock



Data Log Page

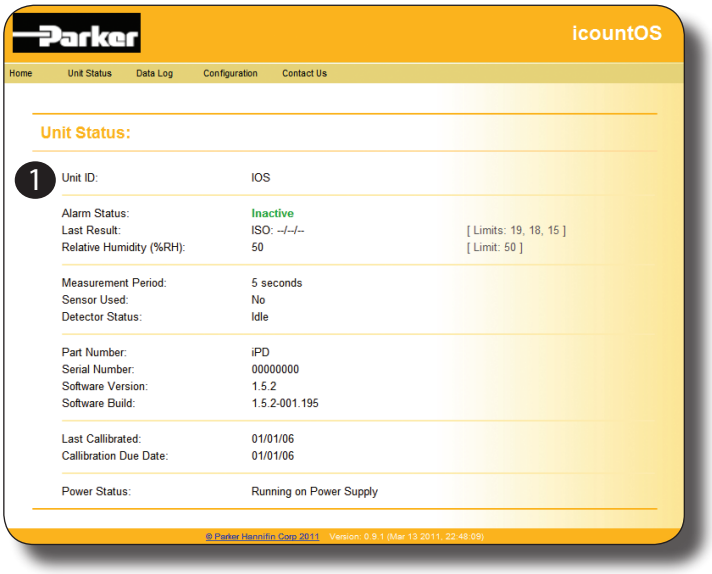
Key

1. Start and Stop data logging
2. Save data in one of three date formats:
   - TXT format
   - CSV (Comma Separated Variables)
   - XML (eXtended Markup Language)
3. Clear data logging memory
4. List of the five last samples taken
5. Memory usage



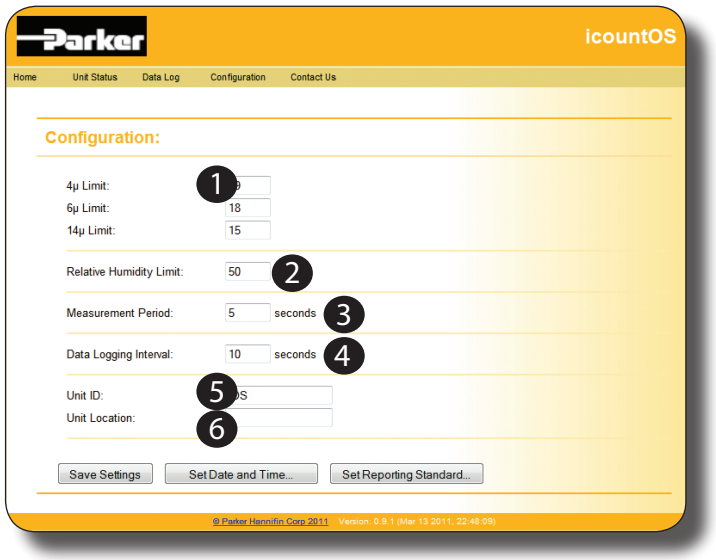
icountOS
Web Interface

Unit Status Page



Key

1. The Unit Status page is a list of current values for various parameters for the connected IOS unit.



Configuration Page

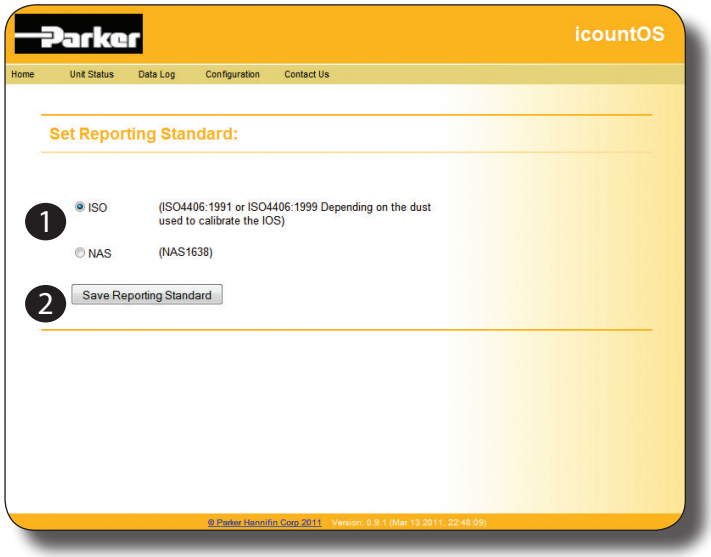
Key

1. Alarm limit settings for:
   - 4µm channel
   - 6µm channel
   - 14µm channel
2. Alarm limit setting for Relative Humidity
3. Measurement period
4. Data logging interval
5. Unit name
6. Unit location

Configuration:
Set Report Standard Page

Key

1. Select either the ISO4406:1999 or NAS1638 standard.
2. Confirm the selected standard.



icountOS

How To Order

Key	Fluid Type	Calibration	Connection	Options
IOS1220EUR	Mineral	MTD	Online	No options
IOS1210EUR	Mineral	MTD	Offline	No options

Key		Fluid Type		Calibration		Connection		Options	Region
IOS	1	**Mineral**	2	MTD	1	Offline	**0**	**No options**	**UK**
	3	Aviation fuel (4 channels*)			2	**Online**	1	**WiFi**	**EUR**
									USA

*Fluid Type 3: Contact Parker Hannifin

Accessory Part Numbers

Description	Part number
Hose Kit Bag (includes one power pack, RJ45 patch cable and low pressure hose connectors) 	ACC6NN029UK ACC6NN029EUR ACC6NN029US
Pressure Reducing Valve (PRV) 	ACC6NN027 (Standard with IOS 1220)
Power Pack (UK 2m cable) 	ACC6NN040
Power Pack (EUR 2m cable) 	ACC6NN041
Power Pack (US 2m cable) 	ACC6NN042

Description	Part number
RJ45 LAN Connector Cable 	ACC6NN028
Carry Strap 	ACC6NN030 The Carry Strap option MUST be selected at the time of placing the IOS order.
Low Pressure Hoses (4mm and 6mm) 	ACC6NN031
High Pressure Hose Assembly 	ACC6NN034 (Standard with IOS 1220)
Verification Fluid 	SER.MISC.067

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