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## iCountBS - Bottle Sampler

The portable solution to fluid contamination  
bottle sampling

iCount		Parker
Bottle ID	Date	
Bottle-063	26/09/2008 09:35	
Bottle-062	26/09/2008 09:25	
Bottle-061	22/09/2008 14:10	
Bottle-060	12/09/2008 10:26	
Bottle-079	12/09/2008 09:59	
Bottle-078	11/09/2008 11:16	
Bottle-077	10/09/2008 14:33	
Bottle-076	10/10/2008 14:15	
Bottle-075	10/10/2008 14:07	
Bottle-074	10/10/2008 13:05	
Bottle-073	10/10/2008 13:32	
<input type="button" value="Select All"/>	<input type="button" value="Clear Selection"/>	
<input type="button" value="Display Standard"/>	<input type="button" value="As Tested"/>	
<input type="button" value="Home"/>	<input type="button" value="New"/>	<input type="button" value="Export"/>
<input type="button" value="Print"/>	<input type="button" value="Search"/>	<input type="button" value="Help"/>



ENGINEERING YOUR SUCCESS.

# The complete solution - industrial design combined with state of the art technology

**The icountBS - Bottle Sampler from Parker with its innovative industrial design has been developed for customers looking for state of the art technology, attention to detail and the compactness of a permanent laboratory particle analysis model.**

Combine this with on-board, laser based, leading edge technology to bring to all industries a truly revolutionary Particle Counter. The icountBS is a product from the next generation of Parker's fluid particle analysis and monitoring innovations.

The IBS features an easy to use interactive touch screen, environmentally controlled pressurized bottle chamber for air bubble suppression via an internal compressor pump, with automated door locking mechanism, sample tube cleaning sleeve minimizing contamination cross over, and an internal printer.

The icountBS benefits from Parkers knowledge and experience of providing bottle analysis equipment to the market over the last 15 years.

This experience comes from selling market leading innovative solutions and by having front line condition monitoring products for all sectors of fluid analysis opportunities. The unit was at every stage developed with the customers voice in mind.





## iCountBS - Bottle Sampler Features & Benefits

- Quick sample bottle analysis with variable test time options from 15 second and volume capacities from 10ml.
- Repeatable and re-producible result performance to ISO4406:1999 and NAS1638 particle count distributions. For other calibration standards consult Parker CMC.
- On-board compressor and 'shop' air capability.
- Design concept allowing for portability. DC and rechargeable battery pack power options built in.
- Cost-effective and economical alternative solution to external laboratory services.
- 6 fixed channel size analysis.
- Fluid resistant touch type screen panel.
- Sample tube self cleaning sleeve minimizing contamination cross over.
- Internal thermal printer.

# Analysing the test results

## Once the automatic oil sample test has been completed, what next?

Solid contaminants in fluid power systems vary in size, shape, form and quantity. The most harmful contaminants are normally between 6 microns and 14 microns. The ISO code is the preferred method of reporting quantity of contaminants. The ISO code number corresponds to contamination levels relating to three sizes.

The first scale number represents the number of particles larger than 4 $\mu\text{m}(\text{c})$  per 100 milliliters of fluid,

the second number for particles larger than 6  $\mu\text{m}(\text{c})$  per 100 milliliters of fluid and the third number for particles larger than 14  $\mu\text{m}(\text{c})$  per 100 milliliters of fluid.

**For example:** An ISO code 20/18/14 indicates that there are between 500,000 and 1,000,000 particles larger than 4 $\mu\text{m}(\text{c})$ , and between 130,000 and 250,000 particles larger than 6  $\mu\text{m}(\text{c})$ , and between 4,000 and 8,000 particles larger than 14 $\mu\text{m}(\text{c})$ .

## icountBS reporting and data

In addition to the 'raw data' printout of ISO compliant data from the icountBS's on-board printer, icount Mini-lab described on page 7 offers the user the advantage of a 2-page report template providing hard copy data on ISO and NAS individual counts and average contamination results.



## Component Cleanliness Guide

Suggested acceptable contamination levels for various hydraulic systems

Target contamination class to ISO 4406: 1999			Suggested maximum particle level			Sensitivity	Type of system	Typical components
4 $\mu\text{m}(\text{c})$	6 $\mu\text{m}(\text{c})$	14 $\mu\text{m}(\text{c})$	4 $\mu\text{m}(\text{c})$	6 $\mu\text{m}(\text{c})$	14 $\mu\text{m}(\text{c})$			
15	13	9	16,000	4,000	250	Super critical	Silt-sensitive control systems with very high reliability. Laboratory or aerospace	High performance servo valves
17	15	11	64,000	16,000	1,000	Critical	High performance servo and high pressure long life systems, e.g. aircraft, machine tools etc.	Industrial servo valves
18	16	13	130,000	32,000	4,000	Very important	High quality reliable systems. General machine requirements	Piston pumps, proportional valves, compensated flow controls
20	18	14	500,000	130,000	8,000	Important	General machinery and mobile systems. Medium pressure, medium capacity	Vane pumps, spool valves
21	19	15	1,000,000	250,000	16,000	Average	Low pressure heavy industrial systems, or applications where long life is not critical	Gear pumps, manual and poppet valves, cylinders
23	21	17	4,000,000	1,000,000	64,000	Main protection	Low pressure systems with large clearances	Ram pumps

## Notes:

Tables have been generated by organisations in various industries.

Some of the tables are defined in cumulative counts, e.g. '>6 $\mu\text{m}$ ' and others are represented as differential counts e.g. '6-14 $\mu\text{m}$ '.

All  $\mu\text{m}(\text{c})$  refer to MTD distributions. All  $\mu\text{m}$  references will refer to ACFTD distributions.

All standards are in counts per 100ml and provide easy methods for converting particle counts into limits that are simple to interpret. By noting the requirements of the standard, particle counts can be accurately converted to contamination levels.

# icount BS Product Specification

<b>Principle of Operation</b>	Laser based light obscuration
<b>Calibration Dust</b>	MTD or ACFTD
<b>Dimensions</b>	H=530 x W=190 (210 Door) x D=410 (mm)
<b>Weight</b>	18Kg
<b>Mechanical Composition</b>	Stainless steel 316, plated mild steel and aluminium
<b>Plastics Composition</b>	Precision polyurethane RIM mouldings and ABS plastic
<b>Environmental Operating Temperature (Tested)</b>	+5°C to + 60°C
<b>Operating RH range</b>	20 – 85% (Tested at 30°C, no condensation)
<b>Storage Temperature</b>	-40°C to + 90°C
<b>Storage RH range</b>	10 – 90% (Tested at 30°C, no condensation)
<b>Channel Sizes</b>	MTD - >4µ(c),>6µ(c),>14µ(c),>21µ(c),>38µ(c), >70µ(c) ACFTD - >2µ,>5µ,>15µ,>25µ,>50µ,>100µ
<b>Analysis Range</b>	ISO 7 to 21, NAS 0 to 12
<b>Contamination Standards</b>	MTD - ISO 4406:1999 & NAS 1638 ACFTD - ISO 4406:1987, ISO 4406:1991 & NAS 1638 For further contamination standards consult Parker CMC
<b>Calibration Standard</b>	ISO MTD and ACFTD calibration to traceable ISO Standards. (Contact Parker CMC for further details).
<b>Fluid Management</b>	Maximum single sample = 100ml Minimum single sample = 10ml
<b>Possible Test Configurations</b>	User selectable from single test up to 5 tests per run (eg.1x100ml up to 5 x50ml per run)
<b>Pre-Test Flush Volume</b>	Minimum = 10ml, Maximum = 100ml
<b>Viscosity Range</b>	5 to 400 cSt
<b>Fluid Compatibility</b>	Mineral oils, petroleum and hydrocarbon based fluids (consult manufacturer) and some esters (consult manufacturer).
<b>Sample Bottle Size</b>	No specific bottle required. Maximum size = 75 (Dia) x 150 (H) mm. Maximum Volume = 250ml
<b>Memory Storage</b>	500 Tests (capacity warning after 450 tests)
<b>Output Display</b>	Backlight 256 Colour STN Transmissive
<b>Output Display Resolution</b>	320 x 3(R.G.B)(H) x 240(W) dots
<b>Display Active Area</b>	115(H) x 86(W) mm
<b>Data Input</b>	Via icon driven resistive touch screen
<b>Printer</b>	Thermal dot-line printing
<b>Printer Paper</b>	Ø50mm – (57mm x 25mm)
<b>Test Certification</b>	Calibration & Certificate of Conformity
<b>Power Supply</b>	DC Output – 12V@ 6.60Amps, 80 watts max. AC Input – 100 to 240V @ 1.2Amps (50 – 60 Hz)
<b>Battery Power</b>	2 Hours (recommended to be fully charged every 3 months)
<b>Battery Stand-By Time</b>	1 month (then 1 hour of operation)
<b>Battery Fuse</b>	6.3 Amps (anti-surge)
<b>Air pressure Source</b>	3.5 bar internal Mini-compressor OR 7 Bar shop air

**Order your icountBS Now!**



# icountBS – Bottle Sampler Ordering Information

Key	Fluid Type		Calibration		Future Option		Future Option	Future Option	Future Option	Transportation Case		Power Supply Region	
IBS	1	Mineral	1	ACFTD	0	Lab Unit	0	0	1	0	None	0	UK
			2	MTD	1#	Mini-lab Package				1#	Case	1	USA
#	Contact Parker for further details											2	Europe

Key	Fluid Type	Calibration	Future Option	Future Option	Future Option	Future Option	Transportation Case	Power Supply Region
IBS	1	2	0	0	0	1	0	0
IBS	1	2	0	0	0	1	0	1
IBS	1	2	0	0	0	1	0	2

Accessories	Part Number
250ml Sample Bottle	ACC6NW001
Sample Bottle Pack (50)	ACC6NW002
Vapour/Waste Bottle	ACC6NW003
Waste Bottle Folder	ACC6NW004
Printer Paper Reel (x1)	ACC6NW005
UK Power Supply	ACC6NW006
USA Power Supply	ACC6NW007
European Power	ACC6NW008
Transit Case	Contact Parker
1m Waste Tube (Clear)	ACC6NW009
1m Vapour Hose (Blue)	ACC6NW010
USB Memory Stick	ACC6NW011
icountBS CD Manual	ACC6NW012



## WARNING – USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

- This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.
- The user, through its own analysis and testing is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalogue and in any other materials provided by Parker or its subsidiaries or authorized distributors.
- To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

### Offer of sale

Please contact your Parker representation for a detailed 'offer of sale'.



# Introducing the NEW icount 'Mini-lab' – The effective way of utilising your icountBS

## How clean is your hydraulic system?

Contamination Control is only an oil sample away with our easy, 3-Step fluid analysis service.

**Step 1**

Obtain your sample  
of hydraulic oil.

**Step 2**

Take the 2 minute off-line  
oil sample test.

**Step 3**

View your results and run  
a report immediately.



**Kit comprises:** icountBS. Flat-pack trolley. 30 sample bottles. Optional Laptop/software/printer and cables

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