



Sampling Equipment Specialists



International Edition
Air Sampling Catalog
2013-2014
The Professionals Choice



What is "KNOW THE DIFFERENCE"?



Customer Service

Zefon is a traditional 'brick and mortar' business formed in 1990. Our friendly customer service personnel are just a phone call away to help you with your ordering needs.



Fast Delivery

Zefon maintains a large inventory of product to ensure timely delivery. 98% of all orders placed leave our warehouse within 24 hours, and most often the same day.



Technical Support

In today's world, it is too easy for companies to sell you a product and forget about you later. *Zefon* is a specialist in sampling equipment and maintains a staff of fully trained sales and technical personnel to assist you after the sale.



Product Development & Engineering

Zefon knows sampling equipment, and focuses on new innovation – not product imitation. You can rest assured that the engineering staff at *Zefon* is always hard at work behind the scenes working on the latest in product designs or manufacturing process improvement.



State-of-the-Art Manufacturing

From our 50,000 square foot manufacturing facility in Ocala, Florida, *Zefon* operates one of the most state-of-the-art facilities in the industry. Automated processes with built-in, 100% quality inspections ensure our product is on a level our competitors just can't touch.



Customer Satisfaction & Feedback

Feedback from customers is encouraged at *Zefon* and is the lifeblood of our continuous improvement model. You can be assured that all comments or suggestions are heard – both positive and negative. In fact, many times your feedback results in product improvements and operational changes to improve your customer service and product usage experience.

Zefon International and its employees are committed to performing work in a manner that:

- Promotes defect free product
- Is on time to our customers and our fellow employees
- Complies with regulatory requirements

Our goal is to attain customer satisfaction by continually improving the effectiveness of our Quality Management System.

Greetings and welcome to the **2013-2014** Air Sampling Catalog

We have been very busy here at *Zefon* the last couple of years. Changes related to products you may have already seen, however there have been many others are behind-the-scenes changes as well. In 2012 we completed a much needed facility expansion. This is allowing us to streamline product flow and storage in the facility, along with bringing together numerous office functions which were previously segregated. Ultimately the end result is we are positioned now more than ever to provide the best service you have been accustomed to for a very long time to come.

This year holds numerous product changes as well. I will highlight a few of these:

Gas Sampling Bag Chamber

Zefon is introducing a couple of different varieties of gas sampling bag chambers. These devices are used to fill Tedlar bags with sample air without having the air pass through the air sample pump. It does this using a sealed chamber with negative pressure applied. While this concept is not new – these types of products have been on the market for years – we feel we have improved on the quality of construction compared to other products. Our product offering is also unique in that we offer chambers both with and without an integrated air sampling pump.

Inhalable Sampler Calibration Adapter

Until now there have been few choices in the market for calibration of inhalable samples other than using a calibration jar. *Zefon* has now designed a specific adapter to facilitate true in-line calibration of inhalable samplers.

Improved Escort Sampling Pumps

Zefon continues to look at ways to improve the Escort pump line and has recently upgraded these products to use NiMH battery technology. This upgrade has resulted in a substantial increase in the available run time between charges. Users can expect to achieve minimum run times of 12 hours, and in many cases much more. Actual running time is dependent on the flow rate and sample load. An updated users manual stating this information will be posted at www.zefon.com when available.

Pump Repair Service Changes

With this catalog release we are also formally changing all of our repair services to a flat-rate system. Previously we repaired some product as flat rate and others as base rate + materials. After gaining experience from both systems and receiving customer feedback, the flat-rate system is by far and away the preferred choice. This system benefits our customers in many ways including improved turn-around time, better planning and budgeting of repair expenses and elimination of repairs holding for approval of additional expenses.

I would like to personally thank all of you, our customers, for helping bring *Zefon* to where it is today. We enjoy manufacturing and supplying great products to you.

Sincerely,

Jeffrey Mantz
Vice President



Easy Ordering



Contact Customer Service
Toll Free: 800-282-0073
Hours: 8:30AM-5:30PM EST
zefoncs@zefon.com



Orders of in-stock items are normally shipped the same day if received by 2:00PM EST. If any of the items you ordered are not in-stock, we will contact you with an expected availability date.

YOU are the final judge of our products and your satisfaction is important to us. If you are unhappy with your order for any reason - even if you simply changed your mind - you may return it to us within 30 days of the invoice date for an exchange, credit or refund of the full value of the item, minus any shipping charges. Please see our Terms and Conditions for full details.

Disclaimer

Zefon makes every effort to ensure the most accurate information available at publication time is listed. While we take extra care, mistakes do happen and Zefon cannot be held responsible for typographical or photographic errors. We reserve the right to make adjustments or corrections due to changing market conditions, product discontinuations or typographical or photographic errors in advertisements or product descriptions. Policies, item availability and prices are subject to change without notice.

Zefon shall have no liability to you or any third party under any legal theory for special, incidental, indirect, exemplary or consequential damages arising from shipping delays or errors, downtime or any economic loss, damage or expense arising out of or relating to the placement or fulfillment of your order, or the use of or inability to use the products for any reason, and in all cases our liability is limited strictly to replacement, or repair or the value of the products purchased.

Zefon

INTERNATIONAL

Manufacturer and
Authorized Distributors
for the industries best.

3M

BUCK

A.P. BUCK, INC.

Bios

BWF

Technologies
by Honeywell



Met One Instruments

INEXTTEQ



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**If you are happy with our products and services, please tell everyone.
If you are unhappy with our products and services, please tell us.**

COMPLETE AIR SAMPLING SOLUTIONS



Only Zefon brings you a complete family of air sampling cassette products

Air-O-Cell sets the standard for particle capture and optical analysis. Via-Cell provides you the ability to capture, transport and culture viable air sampling particles.

Zefon's Air-O-Cell CSI sampling cassette brings the advantages and precision of SEM particle analysis and x-ray chemical analysis to indoor air quality investigations.

For more information about Zefon International Inc., or our Air Sampling products, please visit www.zefon.com



Follow us:    

Sampling Equipment Specialists

Air-O-Cell® Bioaerosol Cassette



The Air-O-Cell® is a unique sampling cassette designed for the rapid collection of a wide range of both viable and non-viable aero-allergens including mold spores, pollen, insect parts, skin cells, fibers and inorganic particulate.

Features:

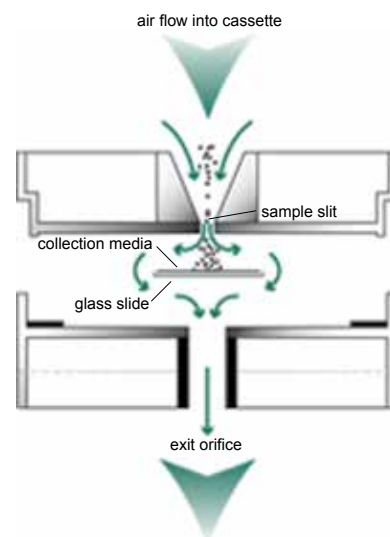
- Industry proven & accepted
- Independently validated
- Laboratory preferred, easy to analyze
- Proven results
- No sample loss during shipping & handling
- Pre-loaded, no slides to prepare



The Air-O-Cell® operates upon the principle of inertial impaction. Particulate laden air is accelerated as it is drawn through the cassette's tapered inlet slit and directed towards a small slide containing the collection media, where the particles become impacted, and the air flow continues out the exit orifice. The adhesive nature of the collection media prevents the collected particulate from blurring or washing off during the staining process, and eliminates sample loss from vibration during handling and shipment.

After sampling is completed, the cassettes are sent to a laboratory, where the slides are removed and direct microscopic analysis can be immediately performed. The collection media is compatible with a wide range of biological stains and refractive index oils, allowing direct qualitative and quantitative analysis of organic and inorganic particulate.

Air-O-Cell® can be used with any standard off-the-shelf sampling pump capable of drawing 15 LPM open flow, including the *Zefon* Bio-Pump® Plus, a convenient battery powered hand-held pump for ease of sampling.



Examples of Particulate Collected with Air-O-Cell®



| PRODUCT | DESCRIPTION |
|---------|---|
| AOC050 | Air-O-Cell® Air Sampling Cassettes, 50/bx |
| AOC010 | Air-O-Cell® Air Sampling Cassettes, 10/bx |
| AOC-CAL | Air-O-Cell® In-Line Calibration Adapter, each |

Note: Air-O-Cell® cassettes have a limited shelf life

Air-O-Cell® Sampling Starter Kits

Starter kits are an easy, convenient way to get everything you need to begin sampling for mold. Each kit comes in a convenient toolbox-style carrying case and includes basic set-up and use instructions.



Ultimate Kit Shown
Carrying case style
and color may vary.

| | BASIC KIT | DELUXE KIT | ULTIMATE KIT |
|-----------------------|---|---|---|
| BASE KIT | Z-Lite IAQ Pump (Includes Integrated combination flow meter/regulator valve) Tubing Sampling Stand Bioisolation Filter Toolbox Style Carrying Case Instructional CD-ROM | Z-Lite IAQ Pump (Includes Integrated combination flow meter/regulator valve) Tubing Sampling Stand Bioisolation Filter Toolbox Style Carrying Case Instructional CD-ROM | Z-Lite IAQ Pump (Includes Integrated combination flow meter/regulator valve) Tubing Sampling Stand Bioisolation Filter Toolbox Style Carrying Case Instructional CD-ROM |
| SAMPLING MEDIA | 10 Air-O-Cell® Cassettes | 20 Air-O-Cell® Cassettes 25 Bio-Tape™ Slides 10 Mold Swabs | 50 Air-O-Cell® Cassettes 50 Bio-Tape™ Slides 50 Mold Swabs 10 Inner Wall Attachments |
| PRODUCT NUMBER 120V | Z-LITE-BMKIT | Z-LITE-DMKIT | Z-LITE-UMKIT |
| PRODUCT NUMBER 230V | Z-LITE-BMKIT230 | Z-LITE-DMKIT230 | Z-LITE-UMKIT230 |



Don't forget to attend training classes for the proper use of this equipment and testing of mold. Our starter kits provide everything you need to begin testing along with general instructions on using the equipment. This is not intended to replace formal instruction, nor is it intended to teach how to perform an inspection. If you need help in locating a reputable training company, contact our sales department and tell them your needs. They can guide you in the right direction for upcoming training classes by various organizations.



Air-O-Cell[®] CSI Bioaerosol Sampling Cassette

The Air-O-Cell[®] Collector for SEM Identification (CSI) is a unique sampling cassette specifically designed for the rapid collection and quantitative and elemental analysis of a wide range of airborne aerosols. With the Air-O-Cell[®] CSI you can use optical and scanning electron microscopy and x-ray analysis on the exact same air sample. The Air-O-Cell[®] CSI collects both viable and non-viable particulate such as mold spores, pollen, insect parts, skin cell fragments, fibers (asbestos, fiberglass, cellulose, etc.) and inorganic particles.

Air-O-Cell[®] CSI Advantages

- The sample collected in the Air-O-Cell[®] CSI cassette can be examined and re-examined by both optical and electron microscopy in any order without significant particle loss or complex sample preparation.
- Provides excellent detection limits over conventional filter sampling utilizing 25mm or 37mm diameter filter cassettes.
- Eliminates sample loss to cassette walls known to occur with filter samples from vibration or static charge during sampling and shipment.
- Eliminates the need for direct handling or preparation of collection media or microscope slides in the field.
- Eliminates potential cross-contamination between samples and during shipping that may occur with other devices.
- The unique low carbon x-ray background is specifically designed to enable the differentiation of common carbon containing indoor air quality particles (soot, rubber particles, fibers, etc.) in addition to inorganic contaminants.
- The high chemical stability, clarity, and ultra-smooth surface of the collection media enable a wide range of chemical, microbiological, and elemental analysis techniques.
- The Air-O-Cell[®] CSI will work with virtually any kind of sampling pump capable of pulling a 15LPM (vacuum) air flow.
- The collection efficiency of the Air-O-Cell[®] CSI cassette has proven to have stable performance at temperatures down to 0°F (depending on humidity).

Applications

INDOOR AIR QUALITY: Mold spores, pollen, insect parts, dust mites, skin cell fragments, plant fragments, dust, fibers, combustion emissions, etc.

HOME INSPECTION: Mold contamination before or after real estate transactions.

FLOOD RESTORATION: Evaluation of mold spore contamination before, during, and after remediation.

STACK EMISSIONS: Fly ash, inorganic dust, etc.

ALLERGY TESTING: Mold spores, pollen, insect parts, dust mites.

CLEAN ROOM MONITORING: Evaluation of low airborne dust and contaminants from personnel (skin cells, clothing fibers, cosmetics, etc.)

FIBER ANALYSIS: Asbestos, fiberglass, cellulose, ceramics, etc.

| PRODUCT | DESCRIPTION |
|---------|---|
| CSI002 | Air-O-Cell [®] CSI Air Sampling Cassettes, 2/bx |
| CSI010 | Air-O-Cell [®] CSI Air Sampling Cassettes, 10/bx |

Note: Air-O-Cell[®] CSI cassettes have a limited shelf life

**Twin Pack
Now Available**

Go Beyond Optical

Optical, SEM & X-Ray Analysis with Air-O-Cell CSI for Air Sampling or Bio-Tape™ for Surface Sampling

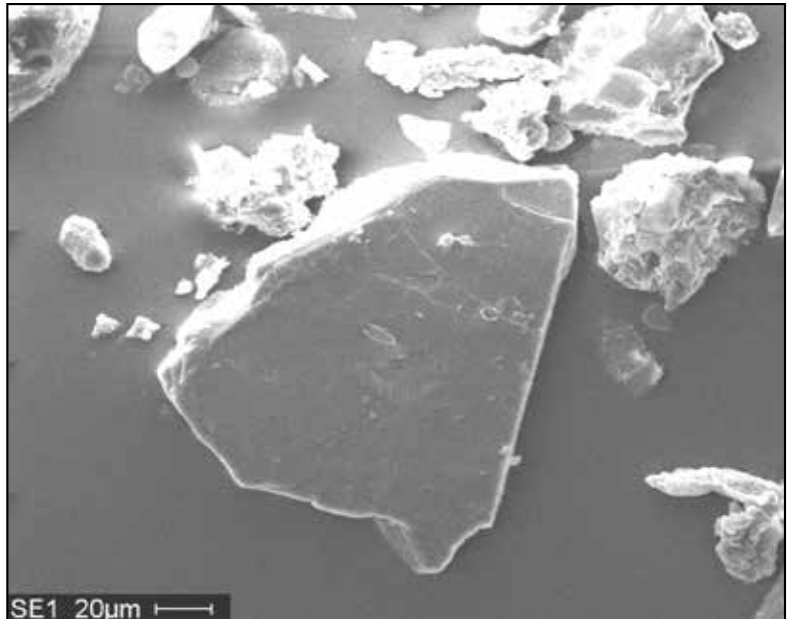
Get unmatched precision by going beyond optical

Get unmatched precision and a complete analysis of air or surface particulate by going farther than simple optical analysis. Now, *Zefon's* Air-O-Cell® CSI and Bio-Tape's unique 3-way analysis capability brings a new level of accuracy that results in more thorough investigations and a higher level of customer satisfaction.

With Air-O-Cell® CSI and Bio-Tape your trained laboratory personnel can examine and re-examine the same sample using optical, scanning electron microscopy (SEM) and x-ray analysis in any order without significant particle loss or complex sample preparation.

The clarity and low interference of the adhesive combine to provide high quality, high resolution SEM imaging and the ability to perform elemental analysis of the particulate of your sample.

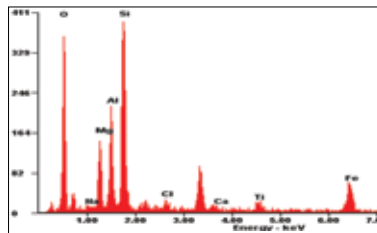
To take your investigations beyond optical contact *Zefon* International or your *Zefon* distributor and ask for Bio-Tape or Air-O-Cell® CSI.



SE1 20um

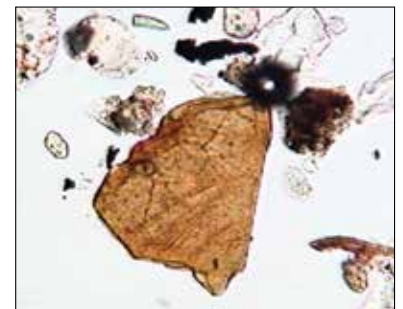
SEM ~2510X

Reveals presence of soot-like opaque particles and confirms high concentrations of mineral dust and clay material.



X-Ray Analysis

Elemental composition can assist in deriving the source and type of particle.



Optical Microscopy ~400X

Sample reveals fire-soot opaque particles and lofted soil dust.



MoldSNAP™ Sampler

A cost effective first-line mold screening tool that efficiently and reliably collects mold and allows for simple lab analysis.

MoldSNAP™ is designed as a first-line mold screening tool that can be easily used by home inspectors to get preliminary information on whether a mold problem may exist and further investigation is warranted. MoldSNAP™ is a type of “spore trap” impactor that uses slit impaction as the collection mechanism. This is important as slit impaction is not only the most reliable collection method, it is an industry recognized method that allows superior mold spore collection.

Features:

- 5 Liters x 5 minute sampling
- Quick, low volume sample
- Industry proven collection & analysis method
- Easy for labs to analyze
- Pre-loaded, no media to prep in the field



Currently using the Micro5™ product for mold sampling?

Upgrading to MoldSNAP™ is not only easy, but provides many benefits. It is easy because all of your current pump equipment is compatible with MoldSnap™. The benefits include lower cost and an industry standard collection method that is universally recognized.

| PRODUCT | DESCRIPTION |
|---------|--------------------------|
| MS050 | MoldSNAP™ Sampler, 50/bx |

Note: Limited shelf life

Inner Wall Sampling Attachments

Zefon Inner Wall Attachments are used in conjunction with Air-O-Cell®, MoldSNAP™, or Via-Cell® cassettes to non-destructively access microbial contamination in a wall cavity.

To use, simply drill a 3/8" hole (preferably by hand). Connect the tubing attachment to the cassette and insert the tube into the wall.



AOCWS10-KIT

| PRODUCT | DESCRIPTION |
|--------------|---|
| AOCWS10-KIT | Air-O-Cell® Wall Sampling Adapter Starter Kit, Includes 10 adapters and a plunger rod |
| AOC-WS10 | Air-O-Cell® Wall Sampling Adapters Only, 10/pk |
| SNAPWS10-KIT | MoldSNAP™ Wall Sampling Adapter Starter Kit Includes 10 adapters and a plunger rod |
| SNAP-WS10 | MoldSNAP™ Wall Sampling Adapters Only, 10/pk |



The sampling of wall cavities requires the use of different sampling times and techniques than for the ambient air. There are also many differentiations to the sampling methodologies used and the way data is interpreted. Please be sure to carefully review the provided instructions of use with the inner wall attachments and discuss inner wall sampling with your laboratory.



Bioaerosol Sampling Cassette



Viable Sampling Simplified!

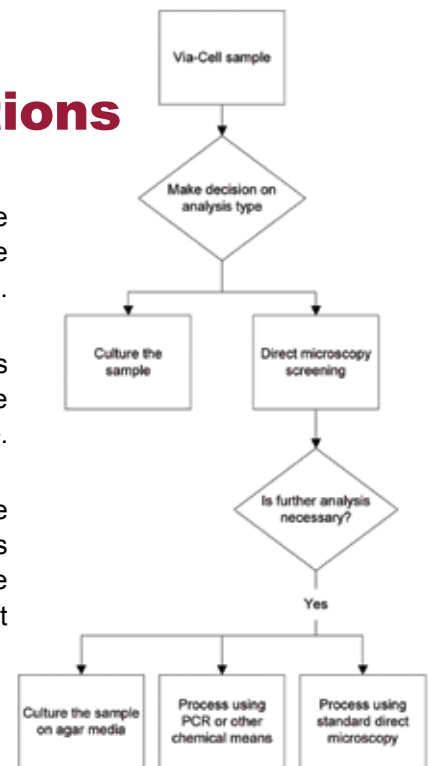
The Via-Cell® bioaerosol sampling cassette is designed to collect both viable and non-viable bioaerosols, maintain viability of the viable mold spores and prevent growth during transport to the laboratory. Sampling with the Via-Cell® is very similar to its sister product Air-O-Cell®. Simply connect it to any pump calibrated to 15LPM and run your sample. The key to the Via-Cell® is that the media used for collection maintains viability of spores and allows several analysis options.

One Sample, Multiple Analysis Options

Culturable Sampling: The Via-Cell® sampler is the perfect tool for collecting viable organisms and culturing them on agar plates. Simply dilute the media in sterile water and transfer to a culture plate.

PCR Analysis: The Via-Cell® utilizes a water soluble collection media which is ideal for PCR and other chemical types of analysis. Once the sample is diluted in water, it can be transferred most anywhere.

Direct Microscopy: Samples collected using the Via-Cell® sampler may be “pre-screened” using direct microscopy methods, which allows the analyst to decide if additional analysis techniques are needed, which may include culturing or standard direct microscopy analysis.



| PRODUCT | DESCRIPTION |
|---------|---|
| VIA010 | Via-Cell® Air Sampling Cassettes, 10/bx |

Note: Limited shelf life

BioCulture™ Microbial Air Sampler



APB-7080ZZ

The Bio-Culture™ air sampler is the smallest, most cost effective and easiest to use sampler available for microbial air sampling. The Bio-Culture™ air sampler features a selectable, continuous, constant sample flowrate and is simple to operate. No tools are required. Its quiet operation allows unobtrusive sampling in a variety of applications.

Features:

- Flow rate - 30-120LPM (user adjustable)
- Uses standard 90mm x 15mm petri dishes
- Sampling head design of 380 1mm diameter holes
- Battery powered - runs for 6-8 hours (depending on flow rate, battery maintenance and backpressure)
- Tripod mounting threads on bottom of unit - allows 90 degree sampling
- Sampling head may be sterilized by autoclave or gas torch
- Built-in timers of 1, 2, 5, and 10 minutes
- Optional calibration head allows field calibration of flow rate with a NIST traceable calibrator

(Note: A calibration head is required to calibrate the Bio-Culture™ pump, however it can be used to calibrate multiple pumps)

| PRODUCT | DESCRIPTION |
|----------------|---|
| APB-7080ZZ | Bio-Culture™ Pump, 120V Includes pump, standard 120V charger, pencil torch, carrying case and manual |
| APB-708200 | Bio-Culture™ Pump, 230V Includes pump, standard 230V charger, pencil torch, carrying case and manual |
| APB-7080ZZ-KIT | Bio-Culture™ Pump and Calibration Kit, 120V Includes pump, calibration head, standard 120V charger, pencil torch, carrying case and manual |
| APB-7082ZZ-KIT | Bio-Culture™ Pump and Calibration Kit, 230V Includes pump, calibration head, standard 230V charger, pencil torch, carrying case and manual |

BioCulture™ Calibration Head



The Bio-Culture™ calibration head is a NIST traceable venturi calibrator with 1% accuracy that allows users to calibrate the flow of the Bio-Culture pump themselves without having to send the pump out for service or calibration.

Features:

- Allows flow calibration at flow rates between 30-120LPM
- Designed for use with impeller fan type pumps like the Bio-Culture, which require calibration devices with very little backpressure resistance
- Provided with a certificate of calibration traceable to NIST standards

| PRODUCT | DESCRIPTION |
|------------|------------------------------|
| APB-708500 | BioCulture™ Calibration Head |

Zefon A6 Impaction Sampler

The *Zefon* A6 Impactor Sampler is an exact replica of the popular Andersen N-6 single stage impactor*. The A6 impactor is an aluminum device consisting of a top inlet "cone", a sampling head impactor stage which contains 400 precision drilled holes and a base section, which holds the agar media. The sampler is held together by three spring clamps and sealed with two o-ring gaskets. When air is drawn through the sampler, multiple jets of air direct any airborne particles toward the surface of the agar collection media surface where the particles are impacted and collected. The agar collection media is then sent to a laboratory for analysis.

* Performance tests indicate that there is no statistical difference between the Andersen N-6 impactor and the *Zefon* A6 impactor.

Features:

- Proven technology for viable sampling
- Identical to other single stage samplers, at a lower cost
- Uses 100mm x 15mm petri dishes
- Meets NIOSH Method 0800 and 0801 requirements



Z-A6

Specifications:

- Flow Rate: 28.3 LPM (1 ACFM)
- Particle Size Cut Point: .65 µm
- Sampler Size: 4.25" diameter; 2.87" height; weight 1.23 lbs
- Material: Aircraft grade Aluminum

Kit Contents:

- *Zefon* A6 Impaction Sampler
- Pump capable of pulling 28.3 LPM
- Pump flow meter
- ¼" ID Tubing
- Tripod stand
- Carrying case



ZHV00-A6-KIT

| PRODUCT | DESCRIPTION |
|--------------|---|
| Z-A6 | <i>Zefon</i> A6 Impactor |
| ZHV00-A6-KIT | <i>Zefon</i> A6 Impactor Kit Includes impactor, pump, flow meter, tubing, tripod and carrying case |
| ZA0043 | Tripod Impactor Stand |
| Z-A6-CAL | Adapter for in-line impactor calibration |



Accurate results when using an A6 Impactor depend on proper measurement of flow through the impactor inlet. This can be best measured using a bubble or dry piston primary standard (such as a Bios Defender or Gilian Gilibrator) set up with the A6 impactor "in-line". To connect your impactor "in-line", be sure to order the Z-A6-CAL adapter, which fits over the impactor inlet and allows tubing to be connected to it.



Bio-Tape™ - Standardized Method for Surface Sampling

Bio-Tape™ provides a standardized surface sampling method used for the determination of possible microbial, bioaerosol, and inorganic dust contamination. It provides the ability to quickly take a sample and measure the relative degree of contamination. It is especially useful when sampling valuable or non-transportable materials and is very effective on smooth areas of concern.

The properties of the media and the slide material of the Bio-Tape™ make the product ideal for Scanning Electron Microscopy (SEM). Now surface samples can be taken with the lift method using *Zefon* Bio-Tape™ and yield significant analysis results for material composition.



Features:

- Provides sample consistency
- Individually serialized for traceability
- Prevents cross contamination
- Requires less laboratory prep time
- Eliminates problems of placing tape in a zip bag, or broken glass slides
- Samples may be archived by the laboratory for later review

| PRODUCT | DESCRIPTION |
|---------|-------------------------|
| BT0025 | Bio-Tape™ Slides, 25/bx |
| BT0050 | Bio-Tape™ Slides, 50/bx |

Note: Limited shelf life

Sterile Surface Swabs

Sterile surface swabs are an easy way to sample suspect areas for mold contamination. Simply swab the suspect area and submit to a laboratory where the sample will be cultured and the type of mold identified. Each swab comes in an easy to use container for sampling, transport and storage. Swab kits include 10 swabs and 10 sterile 10cm x 5cm templates.



| PRODUCT | DESCRIPTION |
|---------|--|
| ZA0020 | Mold Swab Kit - Includes 10 swabs and 10 templates |
| ZA0023 | Mold Swabs Only, 50/pk |

Note: Limited shelf life

Carpet Sampling Cassettes

Zefon Micro-Vac Carpet/Dust sampling cassettes are designed to be used with a vacuum pump to collect fibers and particulate from carpets and other dusty areas. For ease of collection, there is a special inlet with a 45° angle and all come preloaded with a filter and support pad. Cassettes are available as single cassettes or as part of a carpet sampling kit.



7345PCCC



Z045CC

| PRODUCT | DESCRIPTION |
|--------------|--|
| Z045CC | 25mm Micro-Vac Cassette, 3pc Static Conductive Cowl, 0.45µ MCE filter |
| Z045CC-KIT | 25mm Micro-Vac Carpet Kit Includes: (10) Z045CC cassettes, (10) 10cm x 10cm sampling templates and 10 zip style sample bags |
| 7345CC | 37mm Micro-Vac Kit with 0.45um MCE filter |
| 7345PCCC | 37mm Micro-Vac Kit with 0.4um Polycarbonate filter |
| 7345PCCC-KIT | 37mm Micro-Vac Carpet Kit Includes: (10) 7345PCCC cassettes, (10) 10cm x 10cm sampling templates and 10 zip style sample bags |

Zefon Carpet and Dust Vacuum Collection Nozzle



Sample collection simplified! All that is needed is a household vacuum cleaner with hose attachment. This unique dust collector fits directly onto the end of the vacuum hose. When you vacuum carpets and bare floors, the nozzle collects dust into its internal filter chamber. When finished, remove the collection nozzle, replug, and send the entire piece to the laboratory for analysis.

Fits most standard household vacuum cleaners.

| PRODUCT | DESCRIPTION |
|---------|---|
| ZA0059 | <i>Zefon</i> Carpet and Dust Vacuum Collection Nozzle |

Transport Vials



Transport vials are ideal for sample collection, storage, and safety. Made from virgin polypropylene. Available Sterile or Non Sterile.

Features:

- Screw cap that has a molded-in sealing ring for a leakproof fit
- Conical tubes with freestanding units
- Tubes are autoclavable
- Graduation marks provide accurate references
- Write-on area on side

| PRODUCT | DESCRIPTION |
|---------|---|
| SS-3261 | Transport Vials, 50ml, Blue caps, non sterile, 500/cs |
| SS-3262 | Transport Vials, 50ml, Blue caps, sterile, 500/cs |

Centrifuge Tubes

Premium quality general purpose centrifuge tubes with molded in graduations.

Features:

- Easy to read with molded in graduations
- Superior clarity and durability
- 50ml: Made from premium Polypropylene copolymer for excellent chemical resistance; withstands temperature extremes of -40°C to 125°C; high centrifugation of 6000 RCF
- 15ml: Made from Polypropylene which has excellent chemical resistance and can withstand 6400 RCF
- Leakproof Seal: Molded in seal-ring ensures a leakproof seal without the contamination problems associated with cap liners.



| PRODUCT | DESCRIPTION |
|---------|---|
| SS-3216 | Centrifuge Tubes, 15ml Polypropylene, Sterile 50/tray, 500/cs |
| SS-3220 | Centrifuge Tubes, 15ml Polypropylene, Non Sterile, Bag of 500 |
| SS-3250 | Centrifuge Tubes, 50ml Co-Polymer, Sterile, 25/tray, 500/cs |
| SS-3253 | Centrifuge Tubes, 50ml Co-Polymer, Non Sterile, 25/tray, 500/cs |



3M Swab Test Kits

3M Swab test kits are self contained test units which provide rapid, easy to use, specific test for specific chemicals on any surface. Simply rub the swab on any surface, if it turns color a hazardous level of the specified chemical is present.

EPA recognized for use on drywall and plaster.

Features:

- Simple, easy to use
- Immediate results
- Works on any surface
- Cost effective



| PRODUCT | DESCRIPTION |
|------------|---------------------------|
| 3M-LC8S20C | LeadCheck Swabs, 8/pk |
| 3M-CC8S | ChromateCheck Swabs, 8/pk |

Lead Surface Wipes

Zefon lead wipes are used for the collection and sampling of lead in settled dust. Our formulation does not contain lanolin, aloe, or other interfering oils which may alter lab test results. The rayon substrate is easily digested in nitric acid.

Features:

- Actual size: 5" W x 8" H
- Date of Manufacture Lot # stamped on back
- Meets ASTM E1792-96 requirements for lead dust sampling wipes
- Listed in the AIHA policy on sampling materials for lead in surface dust








| PRODUCT | DESCRIPTION |
|--------------|---------------------|
| AR-LWIPE100 | Lead Wipes, 100/pk |
| AR-LWIPE1000 | Lead Wipes, 1000/pk |

25mm Asbestos Sampling Cassettes

Zefon offers a complete line of PCM and TEM 25mm static conductive air sampling cassettes designed and manufactured to meet all applicable NIOSH, AHERA, OSHA, and EPA standards. The cassette housings are manufactured in-house from high quality polypropylene and are individually assembled and preloaded under stringent quality control standards. Once assembled, each cassette is individually tested prior to packaging for shipment. Random lot sample testing is performed daily by an independent laboratory to ensure compliance with asbestos regulations. Laboratory results are available upon request. Each cassette is banded and marked with a serial number and bar code.

Features:

- 2" Static Conductive Extension Cowl
- 3 Piece Housing
- Meets regulatory requirements
- Each cassette comes with a unique serial number

| CASSETTE TYPE | PCM | TEM | | | |
|----------------|--|--|--|--|--|
| |  |  |  |  |  |
| FILTER TYPE | MCE | MCE | MCE w/ Black Grid | MCE w/ Green Grid | MCE |
| PORE SIZE | 0.8µ | 0.45µ + 5.0µ | 0.8µ | 0.8µ | 1.2µ |
| HOUSING STYLE | 25mm W/ Static Conductive Cowl | 25mm W/ Static Conductive Cowl | 25mm W/ Static Conductive Cowl | 25mm W/ Static Conductive Cowl | 25mm W/ Static Conductive Cowl and White Shrink Band |
| COLOR CODE | BLUE | GREEN | -- | -- | -- |
| APPLICATIONS | Asbestos | Asbestos | Asbestos | Asbestos | Asbestos |
| STANDARDS | NIOSH 7400 OSHA ID 160 | NIOSH 7402 AHERA | MDHS 39/4 NOHSC 3003:(2005) | MDHS 39/4 NOHSC 3003:(2005) | -- |
| PACK SIZE | 50/box | 50/box | 50/box | 50/box | 50/box |
| PRODUCT NUMBER | Z008BA | Z045BA | Z008GA | Z008GGA | Z012BS |



Each *Zefon* 25mm cassette undergoes stringent quality control that includes a 100% inspection for the correct filter/pad combination and a 100% inspection to ensure no filter parchment paper is present. Then each lot of cassettes has numerous sample blanks verified by an independent laboratory to have acceptable background fiber counts as per NIOSH requirements.

Zefon Asbestos Bulk Sampling System

Zefon 3" Steel Sampling Modules (cutter sleeves) for asbestos bulk sampling. Extremely strong and durable. More robust than similar modules manufactured from copper. Compatible with the *Zefon* solid aluminum T handle or the EMS T handle.



| PRODUCT | DESCRIPTION |
|---------|--|
| ZA0070 | <i>Zefon</i> Asbestos Bulk Sampling Modules, 3" Length, 100/case |
| ZA0071 | <i>Zefon</i> T-Handle, Solid Aluminum |

Asbestos Bulk Sampling Equipment

Wonder Makers Asbestos Bulk Sampling is the safest, most efficient way to collect bulk samples and project a professional image. It makes the way inspectors have been taking samples obsolete. This small compact device uses individual cutter sleeves in airtight transport containers for maximum safety and accuracy.

Features:

- Compact, lightweight design
- Eliminates cross contamination
- Is easy to use
- Encourages full-depth samples
- Removable cutter eliminates field decontamination and cross contamination problems
- Complies with OSHA asbestos regulations
- Cutter sleeves packed in see-through slim vials with a write on surface and tight fitting cap
- Small bore reduces fiber release during sampling
- Double length cutters available for extra deep samples
- Complete with rugged carrying case and detailed instructions



| PRODUCT | DESCRIPTION |
|-----------|---|
| WM10 | Bulk Sampling Starter Set Includes 2 handles, 2 plungers, 100 cutter sleeves, 100 slim vials and carrying case |
| WM11 | Double Length Bulk Sampling Starter Set Includes 2 handles, 2 double length plungers & 100 6 3/4" cutter sleeves in slim vials |
| WM100 | 100 Cutter Sleeves in slim vials |
| WM110-100 | 100 Double Length Cutter Sleeves in slim vials |
| WM102 | Handle |
| WM105 | Handle and Plunger |
| WM103 | Plunger |
| WM111 | Plunger for double length cutter sleeves |
| WM104 | Slim Plunger |
| WM12 | Mini Sampling Pack, includes: pouch with assorted cutter sleeves, handle and filter |
| WM13 | Wonder Fill Insulation Repair Kit Fill insulation core holes using a 16oz squeeze bottle (approx. 250 repairs) |
| WM15 | Power Driver - attach cutter sleeve to power driver and cordless drill |
| WM16 | Coring Arm - attach a cutter sleeve to a 3' rod for sampling from a distance |
| WM17 | Additional 5' sections for coring arm |

Preloaded Air Sampling Filter Cassettes



25 MM



37 MM

Zefon offers a complete line of 37mm air sampling cassettes manufactured to meet all applicable NIOSH, OSHA, and EPA standards. All 37mm cassette housings are manufactured in-house from polystyrene or polypropylene and are available in two or three piece configurations. All 37mm cassettes are individually assembled and preloaded under stringent quality assurance standards with only the finest quality membrane and support pads.

Features:

- 2 or 3 piece Housing Styles
- Preloaded, Ready to Use
- Leak free construction eliminates sample loss
- Configurations available to conform with most NIOSH standards that require filter cassettes

Standard Configurations

| FILTER TYPE | PORE SIZE | DIAMETER | HOUSING STYLE | U/M | PRODUCT NUMBER |
|---------------------------------------|--------------|----------|----------------------------------|--------|----------------|
| MCE | 0.8μ | 25MM | 2-Piece, Styrene | 50/box | 528MCE |
| | 0.8μ | 37MM | 2-Piece, Styrene | 50/box | 728MCE |
| | 0.8μ | 37MM | 2-Piece, Banded, Styrene | 50/box | 729MCE |
| | 0.8μ | 25MM | 3-Piece, Styrene | 50/box | 538MCE |
| | 0.8μ | 37MM | 3-Piece, Styrene | 50/box | 738MCE |
| | 0.8μ | 37MM | 3-Piece, Banded, Styrene | 50/box | 739MCE |
| | 0.8μ | 37MM | 3-Piece, Conductive, PP | 50/box | 738MCECF |
| | 0.45μ | 37MM | 3-Piece, Styrene | 50/box | 7345MCE |
| | 0.45μ | 37MM | 3-Piece, Conductive, PP | 50/box | 734MCECF |
| | 0.45μ + 5.0μ | 37MM | 3-Piece, Conductive, PP | 50/box | 7345MCECF |
| PVC (Pure Homopolymer) | 5.0μ | 25MM | 2-Piece, Styrene | 50/box | 525PVC |
| | 5.0μ | 25MM | 3-Piece, Styrene | 50/box | 535PVC |
| | 5.0μ | 37MM | 2-Piece, Styrene | 50/box | 725PVC |
| | 5.0μ | 37MM | 3-Piece, Styrene | 50/box | 735PVC |
| POLYCARBONATE | 0.4μ | 37MM | 2-Piece, Styrene | 50/box | 7245PC |
| | 0.4μ | 37MM | 3-Piece, Styrene | 50/box | 7345PC |
| | 0.8μ | 37MM | 2-Piece, Styrene | 50/box | 728PC |
| | 0.8μ | 37MM | 3-Piece, Styrene | 50/box | 738PC |
| GLASS FIBER | 1.0μ | 37MM | 2-Piece, Styrene | 50/box | 721GF |
| | 1.0μ | 37MM | 3-Piece, Styrene | 50/box | 731GF |
| PTFE (with PP support) | 1.0μ | 37MM | 2-Piece, Styrene | 50/box | 721TF |
| | 1.0μ | 37MM | 3-Piece, Styrene | 50/box | 731TF |
| | 0.45μ | 37MM | 3-Piece, Styrene | 50/box | 7345TF |
| | 0.45μ | 37MM | 3-Piece Solvent Resistant, PP | 50/box | 7345TF-PP** |
| PTFE (Zefluor) (with PTFE support) | 1.0μ | 25MM | 2-Piece, Conductive PP ASB Style | 50/box | 521PTFE |
| | 1.0μ | 25MM | 2-Piece, Conductive PP ASB Style | 50/box | 521PTFE-PE*** |
| | 2.0μ | 37MM | 2-Piece, Styrene | 50/box | 722PTPT |
| | 2.0μ | 37MM | 3-Piece, Styrene | 50/box | 732PTPT |
| | 2.0μ | 37MM | 2-Piece Opaque, Styrene | 50/box | 722PTPT-OP* |
| PTFE (pure, unsupported) | 5.0μ | 37MM | 3-Piece, Styrene | 50/box | 735PTU |
| QUARTZ | 0.45μ | 37MM | 3-Piece, Styrene | 50/box | 734TQ |

* Product #722PTPT-OP comes in an opaque colored styrene housing and also uses a cellulose support ring as specified in the NIOSH 5506/5515 standard.

** Uses a polypropylene housing that is solvent resistant.

*** Uses PE Support Pad

Endotoxin-Free Cassettes

Endotoxins are associated with Gram-negative bacteria and more commonly Gram-negative Bacilli bacteria. Gram-negative bacteria is found almost anywhere in nature. Their toxins are found within the outer layer membrane of the gram-negative bacteria. They do not have to be living, therefore both viable and non-viable gram-negative bacteria have similar effects.

The most common routes to endotoxin exposure are through inhalation and through intestinal tract absorption through food or water. The health effect of endotoxins vary depending on the individual, dosage and route of exposure.

Zefon Sterile Endotoxin-Free Cassettes are specially manufactured to ensure there is no background interference when sampling endotoxins. Each lot is carefully checked and verified by independent laboratories for endotoxins before product is released for shipment.



| PRODUCT | DESCRIPTION |
|-------------|--|
| PS7345PCEF | <i>Zefon</i> Endotoxin Free Cassette, 37mm 3pc 0.4µ Polycarbonate, sterile, 50/box |
| PS7345PCEFB | <i>Zefon</i> Endotoxin Free Cassette, 37mm 3pc 0.4µ Polycarbonate, sterile, 10/box |

Sterile 37mm Filter Cassettes

Zefon sterile 37mm filter cassettes are suitable for a wide range of microbiological sampling and analysis including fungi collection, water supply testing and beverage monitoring. Each cassette is carefully assembled in a clean room and then sterilized with gamma radiation.

Features:

- For sampling both fluids and aerosols for particulates and contamination
- Sterility allows microbiological analysis of the sample



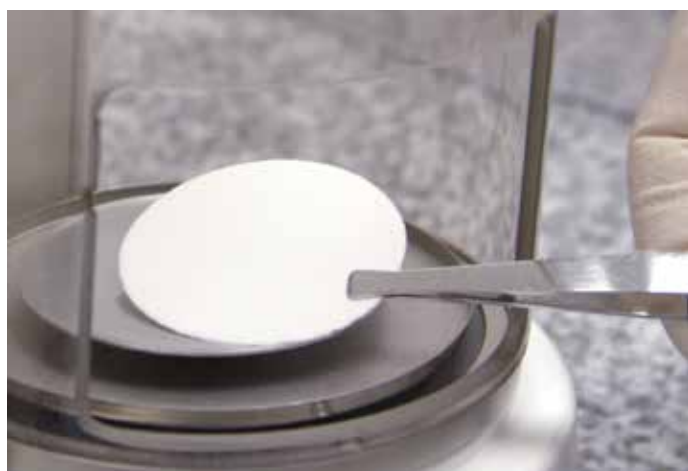
| PRODUCT | DESCRIPTION | FILTER SURFACE |
|------------|--|----------------|
| PS738MCE | Sterile 37mm 3pc Cassette, 0.8µ MCE, 50/bx | ○ |
| PS738GMCE | Sterile 37mm 3pc Cassette, 0.8µ Gridded MCE, 50/bx | ⊗ |
| PS7345MCE | Sterile 37mm 3pc Cassette, 0.45µ MCE, 50/bx | ○ |
| PS7345GMCE | Sterile 37mm 3pc Cassette, 0.45µ Gridded MCE, 50/bx | ⊗ |
| PS7302PC | Sterile 37mm 3pc Cassette, 0.2µ Polycarbonate, 50/bx | ○ |
| PS7345PC | Sterile 37mm 3pc Cassette, 0.4µ Polycarbonate, 50/bx | ○ |

Gravimetric Pre-Weighed Cassettes

Gravimetric analysis samples require filters to be weighed both before and after sampling to determine the amount of contaminate collected. *Zefon* pre-weighed cassettes eliminate the inconvenience of pre-weighing filters by providing the filter weight on each cassette prior to sampling.

Zefon begins the process of manufacturing pre-weighed cassettes by letting each filter equilibrate to the environmental conditions of 68° F and 50% relative humidity. Filters are then weighed using advanced microbalance equipment which records the weight. After reading the weight, filters are removed, placed into cassettes and sealed with a label bearing the weight and a unique serial number.

| FILTER TYPE | PURE HOMOPOLYMER PVC | |
|------------------|--|----------|
| |  | |
| PORE SIZE | 5.0μ | 5.0μ |
| HOUSING STYLE | 3PC 37MM | 2PC 37MM |
| WEIGHT TOLERANCE | 10μg | 10μg |
| COLOR CODE | RED | RED |
| PACK SIZE | 50/BOX | 50/BOX |
| PRODUCT NUMBER | 7P53P | 7P52P |



Features:

- Each cassette labeled with serial number
- Color coded to indicate filter type
- 5 Decimal weight accuracy (.00001g)
- Use of pure homopolymer PVC filters provides excellent weight stability
- PVC filters specially designed with no silica and low ash properties



Using *Zefon* pre-weighed cassettes does not comply with OSHA directives which require both the "tare weight" and "secondary weight" to be performed on the same microbalance and environmental conditions. If complying with this directive is a concern, match-weighed cassettes are a good alternative way to save time and still comply with the directive.

Environmental conditions can have a significant effect on filter weight readings. When using *Zefon* pre-weighed cassettes, it is important that the post sample weighing is performed under the same environmental conditions used at the *Zefon* factory. Those conditions are set at a temperature of 68° F (± 1.0°F) and a relative humidity of 50% (± 1%).

Gravimetric Match-Weighed Cassettes

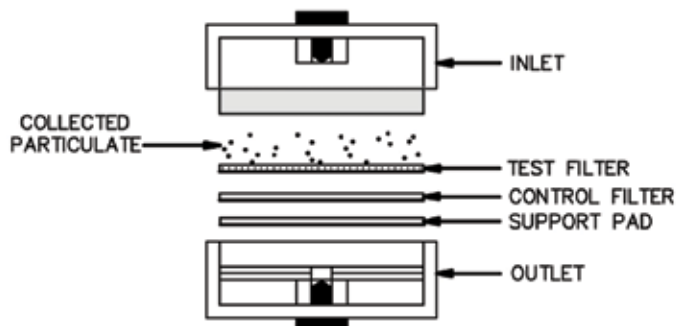
Gravimetric analysis samples require filters to be weighed both before and after sampling to determine the amount of contaminate collected. *Zefon* match-weighted cassettes eliminate the need of weighing filters before sampling by providing 2 filters which are matched in weight. The top filter collects particulate and the bottom filter serves as a control. After sampling, both filters are weighed and the difference in weight equals the amount of contaminate collected.







Zefon uses the most advanced microbalance equipment and technology available to produce a premium quality weighed cassettes. Our process includes manufacturing under strict environmental controls to ensure weight reproducibility and numerous quality checks to ensure consistent weights. The end result is a quality product at a competitive price.

Features:

- Each cassette labeled with serial number
- Color coded to indicate filter type
- Preloaded - ready to use

Matched Weighed Configuration



| FILTER TYPE | MCE | | | PURE HOMOPOLYMER PVC | | |
|------------------|--|--|--|---|--|--|
| |  |  |  |  |  |  |
| PORE SIZE | 0.8µ | 0.8µ | 0.8µ | 5.0µ | 5.0µ | 5.0µ |
| HOUSING STYLE | 2PC 37MM | 3PC 37MM | 37MM FILTERS ONLY | 3PC 37MM | 2PC 37MM | 37MM FILTERS ONLY |
| WEIGHT TOLERANCE | 50µg | 50µg | 50µg | 20µg | 20µg | 20µg |
| COLOR CODE | BLUE | BLUE | NONE | RED | RED | NONE |
| PACK SIZE | 50/BOX | 50/BOX | 50 PAIRS/BOX | 50/BOX | 50/BOX | 50 PAIRS/BOX |
| PRODUCT NUMBER | 7M92M | 7M93M | FMCE837-MW50 | 7M53P | 7M52P | FPVC537-MW20 |

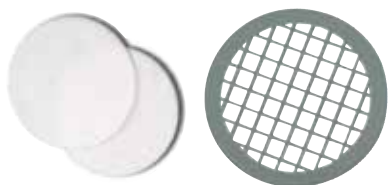
The weight tolerance of match weighed filters references the maximum difference in weight from the test (top) filter and the control (bottom) filter. A stated tolerance of 50µg means that the control filter may differ in weight no more than 50µg from the test filter. This is important to know during post sample weighing as the weight tolerance of the 2 filters needs to be considered when calculating results.

During manufacture, filters with matched weights (within the given tolerance) are inserted into the cassette in random order. Thus, it is possible for the control filter to weigh more than the test filter before sampling (within the given tolerance). If the control filter still weighs more after sampling, a sample likely was not collected. Please check your equipment for proper operation and pump flow.



Filter Support Pads

These filter supports are used behind filter membranes to support them from collapsing while still allowing free air flow through them.



They are available in 3 different styles:

- Cellulose pads are made up of 100% pure cellulose and the most common support used in filter cassettes.
- Porous plastic supports work well when sampling chemicals that are not compatible with cellulose.
- Stainless steel grids can be used in a wide range of filter holders and can easily be cleaned and re-used.

| DIAMETER | MATERIAL | PACK SIZE | PRODUCT NUMBER |
|----------|------------------------------------|-----------|----------------|
| 25MM | Cellulose | 100/pk | FSP25 |
| 37MM | Cellulose | 100/pk | FSP37 |
| 37MM | Cellulose Support Ring | 100/pk | FSP37R* |
| 25MM | Porous Plastic | 100/pk | PFSP25 |
| 37MM | Porous Plastic | 100/pk | PFSP37 |
| 25MM | Filter Support, SS, Wide Mesh Grid | Each | ZA0014 |
| 37MM | Filter Support, SS, Wide Mesh Grid | Each | ZA0015 |
| 47MM | Filter Support, SS, Wide Mesh Grid | Each | ZA0016 |

*For use with NIOSH 5506/5515/5044



MCE Membrane Filters

Mixed Cellulose Ester (MCE) Filter Membrane Discs are manufactured from a mixture of cellulose acetate and cellulose nitrate. MCE membrane filters are one of the most widely used filters in both air monitoring and analytical applications.

| DIAMETER | PORE SIZE | FILTER SURFACE | PACK SIZE | PADS INCLUDED | PRODUCT NUMBER |
|----------|-----------|----------------|-----------|---------------|----------------|
| 25MM | 0.2μ | Plain White ○ | 100/pk | No | FMCE0225 |
| 25MM | 0.45μ | Plain White ○ | 100/pk | No | FMCE425 |
| 25MM | 0.45μ | Black Grids ● | 100/pk | No | FGMCE425 |
| 25MM | 0.8μ | Plain White ○ | 100/pk | No | FMCE825 |
| 25MM | 0.8μ | Black Grid ● | 100/pk | No | FGMCE825 |
| 25MM | 0.8μ | Green Grid ● | 100/pk | No | FGGMCE825 |
| 25MM | 1.2μ | Plain White ○ | 100/pk | No | FMCE125 |
| 25MM | 1.2μ | Black Grid ● | 100/pk | No | FGMCE125 |
| 25MM | 5.0μ | Plain White ○ | 100/pk | No | FMCE525 |
| 37MM | 0.2μ | Plain White ○ | 100/pk | No | FMCE0237 |
| 37MM | 0.45μ | Plain White ○ | 100/pk | No | FMCE4537 |
| 37MM | 0.45μ | Black Grid ● | 100/pk | No | FGMCE4537 |
| 37MM | 0.65μ | Plain White ○ | 100/pk | No | FMCE6537 |
| 37MM | 0.8μ | Plain White ○ | 100/pk | No | FMCE837 |
| 37MM | 0.8μ | Black Grids ● | 100/pk | No | FGMCE837 |
| 37MM | 1.2μ | Plain White ○ | 100/pk | No | FMCE137 |
| 37MM | 1.2μ | Black Grid ● | 100/pk | No | FGMCE137 |
| 37MM | 5.0μ | Plain White ○ | 100/pk | No | FMCE537 |
| 47MM | 0.2μ | Plain White ○ | 100/pk | No | FMCE0247 |
| 47MM | 0.45μ | Plain White ○ | 100/pk | No | FMCE4547 |
| 47MM | 0.45μ | Black Grid ● | 100/pk | No | FGMCE4547 |
| 47MM | 0.65μ | Plain White ○ | 100/pk | No | FMCE6547 |
| 47MM | 0.8μ | Plain White ○ | 100/pk | No | FMCE847 |
| 47MM | 0.8μ | Black Grid ● | 100/pk | No | FGMCE847 |
| 47MM | 1.2μ | Black Grid ● | 100/pk | No | FGMCE147 |
| 47MM | 1.2μ | Plain White ○ | 100/pk | No | FMCE147 |
| 47MM | 5.0μ | Plain White ○ | 100/pk | No | FMCE5047 |

PVC Membrane Filters



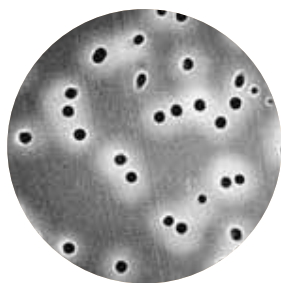
Polyvinyl Chloride (PVC) Membrane Filters (GLA-5000) are excellent membrane filters for sampling airborne metals, silica, and dust. Comprised of inherently low ash pure homopolymer PVC, these filters are particularly suited to provided interference-free silica determinations. Low moisture pick-up and low tare weight assure gravimetric stability.

Features:

- Specified for use in numerous NIOSH and OSHA methods
- Suitable for gravimetric analysis and respirable dust sampling

| DIAMETER | PORE SIZE | TYPE | PACK SIZE | PADS INCLUDED | PRODUCT NUMBER |
|----------|-----------|------|-----------|---------------|----------------|
| 25MM | 5.0μ | PVC | 100/pk | No | FPVC525 |
| 37MM | 5.0μ | PVC | 100/pk | No | FPVC537 |
| 47MM | 5.0μ | PVC | 100/pk | No | FPVC547 |

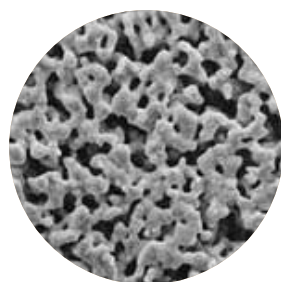
Polycarbonate Membrane Filters



Polycarbonate track-etch (PCTE) membrane filters are manufactured from polycarbonate films. They feature a smooth flat surface, exhibit well-controlled pore size and shape, and have very low levels of extractables. Naturally hydrophobic.

| DIAMETER | PORE SIZE | TYPE | PACK SIZE | PADS INCLUDED | PRODUCT NUMBER |
|----------|-----------|---------------|-----------|---------------|----------------|
| 25MM | 0.2μ | Polycarbonate | 100/pk | No | FPC225 |
| 25MM | 0.4μ | Polycarbonate | 100/pk | No | FPC4525 |
| 25MM | 0.8μ | Polycarbonate | 100/pk | No | FPC825 |
| 25MM | 5.0μ | Polycarbonate | 100/pk | No | FPC525 |
| 37MM | 0.2μ | Polycarbonate | 100/pk | No | FPC0237 |
| 37MM | 0.4μ | Polycarbonate | 100/pk | No | FPC4537 |
| 37MM | 0.8μ | Polycarbonate | 100/pk | No | FPC837 |
| 47MM | 0.4μ | Polycarbonate | 100/pk | No | FPC447 |

Silver Membrane Filters



Silver Metal Filter Membranes are pure metallic silver (99.97% pure silver) and are available with particle retention ratings of 0.45 or 0.8 microns. Silver metal membranes are used in a variety of filtration applications, and their ability to withstand extreme chemical and thermal stress makes them ideal for applications involving aggressive fluids and/or high temperatures.

Features:

- 99.97% pure silver
- High temperature and chemical resistance
- Economical - can be cleaned & reused
- Smooth surface for particle capture and easy observation

| DIAMETER | PORE SIZE | TYPE | PACK SIZE | PADS INCLUDED | PRODUCT NUMBER |
|----------|-----------|--------|-----------|---------------|----------------|
| 25MM | 0.45μ | Silver | 50/pk | No | FS2545 |
| 25MM | 0.8μ | Silver | 50/pk | No | FS258 |
| 37MM | 0.8μ | Silver | 25/pk | No | FS378 |



PTFE Membrane Filters

PTFE membrane filters provide excellent chemical resistance and are suitable for use in the most aggressive sampling environments.

Features:

- Strong, chemically resistant membrane
- Naturally hydrophobic
- Suitable for gravimetric sampling
- Compatible with autoclave or ETO sterilization

PTFE with a Laminated PTFE Support Layer (Zefluor)

A unique PTFE membrane with a laminated PTFE support layer provides improved handling combined with the superior chemical resistance pure PTFE provides. Suitable for use in particulate and gravimetric sampling. The 2.0 μ pore size is suitable for use sampling Polynuclear aromatic hydrocarbons in the NIOSH 5506 and 5515 analytical methods.

| DIAMETER | PORE SIZE | TYPE | PACK SIZE | PADS INCLUDED | PRODUCT NUMBER |
|----------|-----------|----------------|-----------|---------------|----------------|
| 25MM | 0.5 μ | Laminated PTFE | 100/pk | No | FPTPT525 |
| 25MM | 1.0 μ | Laminated PTFE | 100/pk | No | FPTPT125 |
| 25MM | 2.0 μ | Laminated PTFE | 100/pk | No | FPTPT225 |
| 37MM | 1.0 μ | Laminated PTFE | 50/pk | No | FPTPT137 |
| 37MM | 2.0 μ | Laminated PTFE | 50/pk | No | FPTPT237 |
| 47MM | 0.5 μ | Laminated PTFE | 50/pk | No | FPTPT0547 |
| 47MM | 1.0 μ | Laminated PTFE | 50/pk | No | FPTPT147 |
| 47MM | 2.0 μ | Laminated PTFE | 50/pk | No | FPTPT247 |

PTFE with a Laminated Polypropylene Support Layer

These PTFE filters have a polypropylene backing laminated onto them to improve durability and ease of handling.

| DIAMETER | PORE SIZE | TYPE | PACK SIZE | PADS INCLUDED | PRODUCT NUMBER |
|----------|------------|--------------|-----------|---------------|----------------|
| 37MM | 0.45 μ | Laminated PP | 100/pk | No | FFTP4537 |
| 37MM | 1.0 μ | Laminated PP | 100/pk | No | FFTP137 |

PTFE with a PMP (polymethylpentene) Support Ring (Teflo)

Featuring a polymethylpentene (PMP) support ring bonded to the base PTFE material. Suitable for use in PM 10 and PM 2.5 dichotomous and other air sampling techniques.

| DIAMETER | PORE SIZE | TYPE | PACK SIZE | PADS INCLUDED | PRODUCT NUMBER |
|----------|-----------|--------------------|-----------|---------------|----------------|
| 25MM | 3.0 μ | Laminated PMP Ring | 50/pk | No | FPTPMP325 |
| 37MM | 2.0 μ | Laminated PMP Ring | 50/pk | No | FPTPMP237 |
| 47MM | 2.0 μ | Laminated PMP Ring | 50/pk | No | FPTPMP247 |

PTFE with no support layer (pure PTFE)

Pure unsupported porous PTFE membranes demonstrate exceptional chemical resistance. Suitable for use with NIOSH method 5013.

| DIAMETER | PORE SIZE | TYPE | PACK SIZE | PADS INCLUDED | PRODUCT NUMBER |
|----------|-----------|-------------|-----------|---------------|----------------|
| 37MM | 5.0 μ | Unlaminated | 100/pk | No | FPTU537 |
| 47MM | 5.0 μ | Unlaminated | 50/pk | No | FPTU547 |

Glass Fiber Filters



Zefon glass microfiber filters are produced from 100% borosilicate glass microfiber without the use of binders or strengthening agents. The fibers used to manufacture these depth filters are smooth and uniform. This permits their characteristically high flow rates while allowing retention of exceptionally small particles and high load capacity. These characteristics are particularly important in applications involving high concentrations of particulate.

Grade A-E

Grade A-E is the most popular grade used in air monitoring. Made from binderless borosilicate glass microfiber, it features a fine porosity and fast flow rate, with a 1.0µm size particle retention. DOP efficiency is 99.98%.

| SIZE | PACK SIZE | PRODUCT |
|-----------------|-----------|-----------|
| 25MM Discs | 100/pack | IW-AE2500 |
| 37MM Discs | 100/pack | IW-AE3700 |
| 47MM Discs | 100/pack | IW-AE4700 |
| 8" x 10" Sheets | 100/pack | IW-AES810 |

QUARTZ A

Fine porosity with a 99.999% efficiency in air filtration for the retention of 0.6µm particles in air at a flow rate of 5cm/second. Primarily used in air pollution monitoring, atomic absorption spectroscopy, flame emission spectrometry and other applications where an extremely critical analysis is needed. Effective temperature range of up to 1000 °C. Binderless quartz micro fiber.

| SIZE | PACK SIZE | PRODUCT |
|------------|-----------|----------|
| 25MM Discs | 100/pack | IW-Q2500 |
| 37MM Discs | 100/pack | IW-Q3700 |
| 47MM Discs | 100/pack | IW-Q4700 |

Grade 934-AH®

Grade 934-AH® is the standard for sampling suspended solids content and related measurements (Standard Methods 2540D and EPA Method 160.2). Made from a binderless borosilicate glass microfiber that enables use up to 550° C while featuring a fine porosity, fast flow rate, and a 1.5µm size particle retention.

| SIZE | PACK SIZE | PRODUCT |
|-----------------|-----------|-----------|
| 25MM Discs | 100/pack | IW-AH2500 |
| 37MM Discs | 100/pack | IW-AH3700 |
| 47MM Discs | 100/pack | IW-AH4700 |
| 8" x 10" Sheets | 100/pack | IW-AHS810 |

The trademark 934-AH® is owned by Whatman Inc. & used under license.

Tissuquartz Filters

Tissuquartz are uniquely designed for air monitoring in high temperature and aggressive atmospheres. Heat treated for reduction of trace organics and superior chemical purity. High temperature use for analysis of acidic gases and stack sampling aerosols. High flow rate and filtration efficiency. Ultra-pure soft water processing to reduce residual ion content.

| SIZE | PACK SIZE | PRODUCT |
|------------|-----------|---------|
| 25MM Discs | 100/pk | FTQ25 |
| 37MM Discs | 25/pk | FTQ37 |

Cassette Sealing Shrink Bands

25mm Cassette Bands

| PRODUCT | SIZE | COLOR | PACK SIZE |
|---------|------|-------|-----------|
| ZA0034 | 25MM | Clear | 100/jar |
| ZA0036 | 25MM | Clear | 1000/jar |
| ZA0008 | 25MM | White | 100/jar |
| ZA0032 | 25MM | Red | 100/jar |

37mm Cassette Bands

| PRODUCT | SIZE | COLOR | PACK SIZE |
|---------|------|--------|-----------|
| ZA0035 | 37MM | Clear | 100/jar |
| ZA0037 | 37MM | Clear | 1000/jar |
| ZA0007 | 37MM | White | 100/jar |
| ZA0033 | 37MM | White | 1000/jar |
| ZA0031 | 37MM | Red | 100/jar |
| ZA0039 | 37MM | Red | 1000/jar |
| ZA0030 | 37MM | Yellow | 100/jar |
| ZA0038 | 37MM | Yellow | 1000/jar |
| ZA0090 | 37MM | Blue | 1000/jar |
| ZA0091 | 37MM | Orange | 1000/jar |



Cassette Sealing Shrink Bands are a unique way to seal a cassette. They are stored in a liquid-filled plastic jar, then removed and placed around the cassette. As the band dries, it shrinks and forms a seal.



Dr. Z's Cassette Sealing Band Tips

The easiest way to use shrink bands is to simply take a handful of bands out of the jar and place on some paper towels. Remove all excess liquid by patting them dry. Then, place around the cassette. The bands will then begin to dry and in a few hours will dry and form a tight seal.

Accessories



Cassette/Cyclone Holder
ZA0061



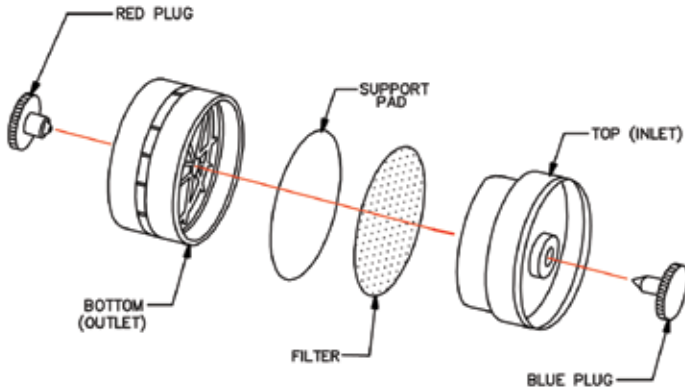
Cassette Opener
ZA0046



Filter Transport Case
ZA0010

| PRODUCT | DESCRIPTION |
|---------|--|
| ZA0046 | Cassette Opener for 25mm, 37mm and Air-O-Cell® Cassettes |
| ZA0061 | Cassette/Cyclone Holder |
| ZA0010 | Filter Transport Case, 25mm, Conductive |

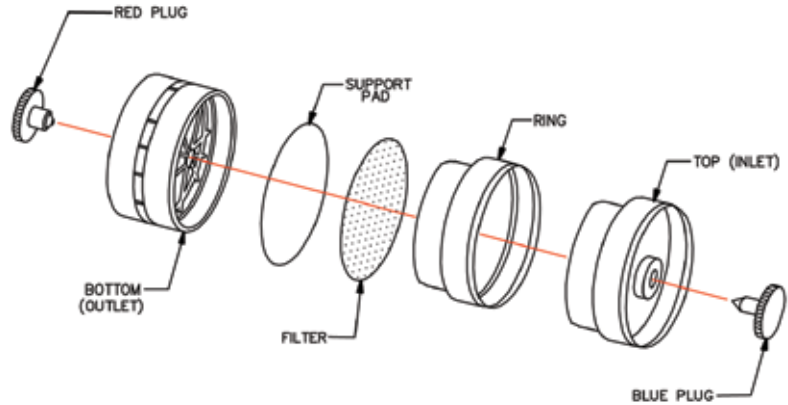
2-piece Standard Style Cassette Configuration



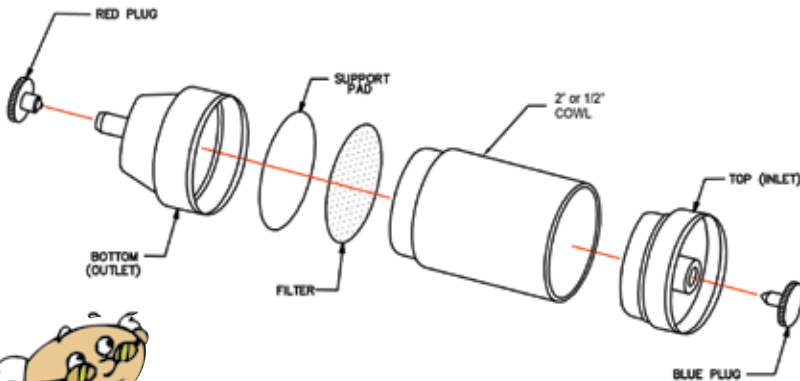
2-piece cassettes are advantageous when only “closed faced” sampling is required. This is because during sampling, contaminants will cling to the walls of the cassette from electrostatic forces. With approximately 35% less surface area in a 2-piece cassette vs. a 3-piece cassette, there is less surface area for contaminants to cling to and thus more contaminant where it should be — on the filter membrane.

3-piece Standard Style Cassette Configuration

3-piece cassettes provide flexibility because they can be used for both “open face” and “closed face” sampling as well as connect to cyclones. The main disadvantage would be that 3-piece cassettes have more static charge than 2-piece cassettes, resulting in more potential for sample loss.



3-piece Asbestos Style Cassette Configuration



3-piece asbestos style cassettes feature a 2” (50mm) or 1/2” long cowl and can be used for both “open face” and “closed face” sampling. These housings are available with a static conductive cowl or in a clear styrene material.



The term “closed faced” sampling refers to using a 37mm cassette with the inlet in place and only the plugs removed. Alternatively, “open faced” sampling refers to using a 3-piece cassette and removing the inlet piece, thus creating an “open face”.

Standard Cassette Housings

Just like our preloaded cassettes, these unassembled cassette housings feature a leak free design and are manufactured in-house to stringent quality standards.







Standard Style Housings

| PRODUCT | SIZE | TYPE | HOUSING STYLE & MATERIAL | PACK SIZE |
|------------|------|---------|--|-----------|
| 25MMH-2 | 25MM | 2-Piece | Standard Style Clear Styrene | 50/box |
| 37MMH-2 | 37MM | 2-Piece | Standard Style Clear Styrene | 50/box |
| 25MMH-3 | 25MM | 3-Piece | Standard Style Clear Styrene | 50/box |
| 37MMH-3 | 37MM | 3-Piece | Standard Style Clear Styrene | 50/box |
| 37MMH-4 | 37MM | 4-Piece | Standard Style Clear SAN | 50/box |
| 37MMH-2-OP | 37MM | 2-Piece | Standard Style Opaque Colored Styrene | 50/box |
| 37MMH-3-OP | 37MM | 3-Piece | Standard Style Opaque Colored Styrene | 50/box |
| 37MMH-2-PP | 37MM | 2-Piece | Standard Style Solvent Resistant PP | 50/box |
| 37MMH-3-PP | 37MM | 3-Piece | Standard Style Solvent Resistant PP | 50/box |
| 37MMH-2-CF | 37MM | 2-Piece | Standard Style Static Conductive Black | 50/box |
| 37MMH-3-CF | 37MM | 3-Piece | Standard Style Static Conductive Black | 50/box |
| 37MMH-4-CF | 37MM | 4-Piece | Standard Style Static Conductive Black | 50/box |
| 37MMH-1 | 37MM | Ring | 1/2" Spacer Ring Only, Clear Styrene | 50/box |
| 37MMH-1-CF | 37MM | Ring | 1/2" Spacer Ring Only, Static Conductive Black | 50/box |

Illustrations of the different styles of housing can be found on page 31.

Material Explanations

| Clear Styrene | Opaque Styrene | Polypropylene (Solvent Resistant) | Conductive Black Polypropylene |
|--|---|--|--|
|  |  |  |  |
| The most common material, a crystal clear styrene that provide excellent visibility inside the cassette housing. | Manufactured of the same styrene the clear one is, except it is an opaque brown color to prevent transmission of light into the cassette. | A natural polypropylene with a cloudy looking color. Material is resistant to a wide range of chemicals. | Manufactured using a polypropylene that is carbon filled making it static conductive when grounded properly. |

Asbestos Style (Cone Outlet) Cassette Housings

Just like our preloaded cassettes, these unassembled cassette housings feature a leak free design and are manufactured in-house to stringent quality standards.



Asbestos Style Housings

| PRODUCT | SIZE | TYPE | HOUSING STYLE & MATERIAL | PACK SIZE |
|--------------|------|---------|---|-----------|
| 25MMH | 25MM | 3-Piece | Asbestos Style w/50mm Static Conductive Cowl | 50/box |
| 25MMH-SAN | 25MM | 3-Piece | Asbestos Style made from Clear Styrene | 50/box |
| 25MMH-2A | 25MM | 2-Piece | Asbestos Style, Clear Styrene | 50/box |
| 25MMH-3A | 25MM | 3-Piece | Asbestos Style w/1/2" spacer, Clear Styrene | 50/box |
| 25MMH-2A-CF | 25MM | 2-Piece | Asbestos Style, Conductive PP | 50/box |
| 25MMH-3A-CF | 25MM | 3-Piece | Asbestos Style w/1/2" spacer, Conductive PP | 50/box |
| 25MMH-2A-PP | 25MM | 2-Piece | Asbestos Style, Polypropylene | 50/box |
| 25MMH-3A-PP | 25MM | 3-Piece | Asbestos Style w/1/2" spacer, Polypropylene | 50/box |
| 25MMH-3A-LIP | 25MM | 3-Piece | Asbestos Style w/50mm Cowl & extra Lip to support additional filter & pad on inlet side, conductive PP. For use with NIOSH method 6011. | 50/box |

Cassette Plugs

Fits Zefon 25mm and 37mm standard and asbestos style housing.

| PRODUCT | DESCRIPTION | PACK SIZE |
|---------|---------------------|-----------|
| ZA0012 | Red Cassette Plugs | 100/pk |
| ZA0013 | Blue Cassette Plugs | 100/pk |



Dr. Z's Cassette Leakage Tips

Zefon takes steps to assure its filter cassettes have a good seal. As part of our standard quality assurance program, random samples of cassettes are tested for leakage. Our 37mm cassettes for example are placed under a constant vacuum of 24 inches of mercury. To pass, there must not be more than 1 inch of mercury

lost over a period of 30 seconds. Using cassettes that are not sealed properly can result in air leaking through the plastic seams or air that goes around and bypasses the filter. This may result in erroneous results or an underestimated sample size.

Coal Dust Sampling Cassettes



711361

Zefon's Preweighed Coal Dust Sampling Cassettes consist of a sealed outer plastic capsule and an inner pre-weighed filter capsule. The inner capsule contains a 5 micron PVC filter, and stainless steel supports. Each filter cassette is supplied with a mine data card.

| PRODUCT | DESCRIPTION |
|---------|--|
| 711361 | Coal Dust Sampling Cassettes, Non-Regulated, General Purpose Use |

Note: Coal Dust Sampling Cassettes are not returnable and Zefon's normal 30 day return policy does not apply to this product.

Zefon Heavy Duty 10mm Dorr-Oliver Cyclone

Zefon's 10mm Nylon Cyclone is designed to separate respirable dust particles from non-respirable particles and allow the respirable particles to be collected on a filter cassette.

Applications:

- Specified for coal mine dust sampling per 30 CFR, Part 74 (model #456243)
- Designed to fit all standard 37mm Industrial Hygiene (IH) Cassettes (model #10044015)
- Specified in NIOSH method 0600 for Particulates Not Otherwise Regulated, Respirable
- Specified in NIOSH method 7500, 7501, 7601, 7602 for Silica dust

Features

- Meets ACGIH/ISO/CEN respirable curve with a 4.0µm cut point at 1.7LPM
- Heavy Duty design withstands harsh environments
 1. Stainless steel protective sleeve fit over the cyclone body for protection
 2. Strong collar clip with spike will not come off under even the harshest conditions
 3. Cyclone and holder are designed to orient the cyclone in the proper position for sampling
 4. Separate couplers for mining cassettes and IH cassettes prevent mixups between the wrong cassette and cyclone and allow easy identification



| PRODUCT | DESCRIPTION |
|--|--|
| For use with Zefon Mining Cassettes: | |
| 456243 | 10mm Nylon Respirable Dust Cyclone for use with <i>Zefon</i> Mining Cassettes Only |
| 457391 | Replacement Plastic Cyclone Coupler for Mining Cassette |
| For use with Standard Industrial Hygiene Cassettes: | |
| 10044015 | 10mm Nylon Respirable Dust Cyclone for use with standard 37mm IH Cassettes |
| 457392 | Replacement SS Cyclone Coupler for 37mm IH Cassettes |

Zefon 10mm Static Conductive Nylon Cyclone

A static conductive replica of the 10mm “Dorr-Oliver” Nylon Cyclone.



A cassette/cyclone holder is required for use. The cyclone is compatible with *Zefon* cassette/cyclone holder #ZA0061 or the SKC holder #225-1.

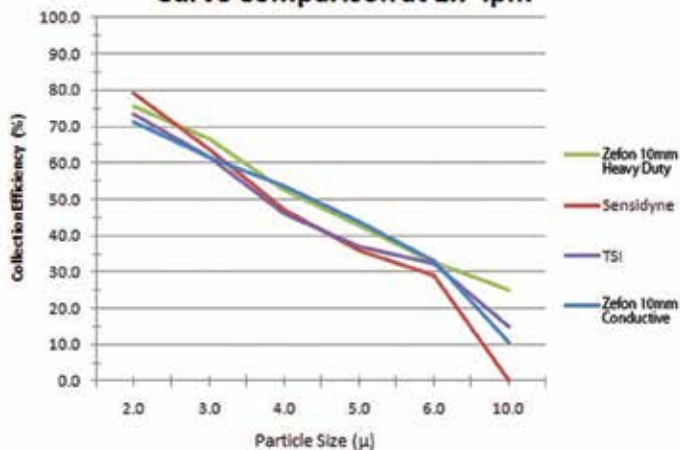
The *Zefon* 10mm Conductive Nylon Cyclone (Dorr-Oliver style) is used in conjunction with 37mm filter cassettes to separate dust particles by size with the respirable particles being collected on the filter and larger particles being removed. The collection efficiency curve meets the standards set forth by ACGIH/ISO/CEN for a respirable curve with a median 50% cut point of 4 μ when operated at a flow rate of 1.7 LPM. The *Zefon* 10mm Conductive Nylon Cyclone has been designed to precisely match the internal workings of the Dorr-Oliver 10mm nylon cyclones currently on the market. This results in performance characteristics which are identical*, but also provides the added benefit of being static conductive. The external characteristics of the *Zefon* 10mm Nylon Conductive Cyclone have been designed for ease of use and is one of the lightest cyclones users to wear.

| Flow Rate (l/min) | Application | Nominal Particle Diameter (μ m) |
|-------------------|--------------------------|--------------------------------------|
| 1.7 | ISO/ACGIH/CEN Convention | 4.0 |
| 2.0 | Other Applications | 3.5 |

Features:

- Meets NIOSH requirements for 10mm nylon cyclones as specified in 0600 for nuisance dust and 7500, 7501, 7601 and 7602 for silica dust
- **Static Conductive** – Eliminates any possible bias in sampling results from static charging
- **Lightweight design** – Only 3.6oz (104g) for the complete assembly including cassette and holder
- Compatible with the *Zefon* universal cassette/cyclone holder

10mm Nylon Cyclone Collection Efficiency Curve Comparison at 1.7 lpm



| PRODUCT | DESCRIPTION |
|---------|---|
| ZA0080 | <i>Zefon</i> 10mm Conductive Nylon Cyclone |
| ZA0081 | <i>Zefon</i> 10mm Conductive Nylon Cyclone with Cassette/Cyclone Holder |
| ZA0082 | Replacement Grit Pots, Pack of 25 |

Zefon Aluminum Cyclone for Respirable Dust

The *Zefon* Respirable Dust Aluminum Cyclone is used in conjunction with 25mm or 37mm 3 piece filter cassettes to separate and remove larger particles from the respirable particles collected on the cassette's filter. This *Zefon* cyclone is a replica of the SKC Aluminum Cyclone*. The inner workings have been precisely machined to exactly match that of the SKC Cyclone with only slight cosmetic changes to the exterior.

As a result, the collection efficiency curve meets the standards set forth by ACGIH/ISO/CEN for a respirable curve with a median 50% cut point of 4 micron at 2.5 LPM flowrate.

A cyclone holder and 25mm or 37mm 3 piece filter cassette are required for use of the *Zefon* Aluminum Cyclone. Both the *Zefon* Cassette Cyclone holder (#ZA0061) and the SKC holder (#225-1) are compatible with the *Zefon* Aluminum Cyclone.



ZA0060

ZA0075

Features:

- Aluminum construction is static conductive, eliminating interference
- Lightweight – 30 grams
- Fully interchangeable with SKC Cyclone
- Specified in NIOSH procedure 0600 for Respirable Particulates, and NIOSH 7500 for Silica, Crystalline

| PRODUCT | DESCRIPTION |
|---------|--|
| ZA0060 | <i>Zefon</i> 37mm Aluminum Cyclone for Respirable Dust |
| ZA0075 | <i>Zefon</i> 25mm Aluminum Cyclone for Respirable Dust |
| ZA0062 | <i>Zefon</i> 37mm Aluminum Cyclone for Respirable Dust with Holder |
| ZA0076 | <i>Zefon</i> 25mm Aluminum Cyclone for Respirable Dust with Holder |
| ZA0061 | <i>Zefon</i> Universal Cassette and/or Cyclone Holder only |
| ZA0066 | Replacement Grit Pots for Aluminum Cyclone |
| ZA0067 | Replacement O-Rings for Aluminum Cyclone |

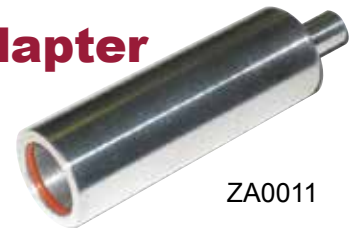


Shown with cassette installed in holder.

*Performance tests indicate no statistical difference between the SKC Aluminum Cyclone and the *Zefon* Aluminum Cyclone.

Aluminum Cyclone Calibration Adapter

A chamber specifically designed to fit over the *Zefon* aluminum cyclone and connect 1/4" ID tubing for flow calibration. This provides the best calibration option by taking an actual measurement as close to the cyclone inlet as possible. Chamber fits both *Zefon* brand and SKC brand 37mm and 25mm aluminum cyclones.



ZA0011

| PRODUCT | DESCRIPTION |
|---------|---|
| ZA0011 | <i>Zefon</i> Aluminum Cyclone Calibration Adapter |

Calibration Jar

The *Zefon* Cyclone Calibration Jar is a container with all the proper fittings and connections to calibrate Personal Sampling Pumps with the *Zefon*, SKC, or Dorr-Oliver Cyclones, and inhalable dust samplers.

Features:

- Compatible with both *Zefon* and SKC Aluminum Cyclones
- Complete with all fittings and Tygon® tubing for connecting the sampling pump



ZA0063

| PRODUCT | DESCRIPTION |
|---------|---|
| ZA0063 | <i>Zefon</i> 1 Liter Cyclone Calibration Jar (Aluminum Cyclone & <i>Zefon</i> Conductive Nylon Cyclone) |
| ZA0085 | <i>Zefon</i> 2 Liter Cyclone Calibration Jar (Sensidyne & MSA/ <i>Zefon</i> Dorr-Oliver Cyclone) |

Sorbent Tubes

Zefon Sorbent Tubes are high quality glass tubes that are packed with accurately weighed, high-purity sorbents. They are designed to absorb vapors and gases passed over them when used with low flow sampling pumps and fit a variety of tube holders, including the *Zefon* Gemini Twin Port Sorbent Tube Sampler.

Many *Zefon* sorbent tubes are divided into sections, with two absorbent sections being most common. The first section is twice the size of the back section and collects the compounds of interest. The second section is a backup section to determine if airborne contaminants breakthrough occurred on the front section.

Features:

- Highest sorbent material purity for contamination-free samples
- Accurate sorbent weight for uniform testing results
- Uniform pressure drop to assure repeatable sampling results
- Designed to comply with all NIOSH specifications for tube dimensions, sorbent quality, particle size, divider composition and pore size
- Physical dimensions to assure proper fit in tube holder systems



| PRODUCT | SORBENT | SIZE (mm) OD X L | Sections | SORBENT (mg) | TUBE ENDS | Separator* | SKC Equivalent | U/M |
|----------|-----------------------------------|---------------------|----------|-----------------|--------------|------------|-------------------|---------|
| ZST-001 | Coconut Charcoal | 6 x 70 | 2 | 100/50 | GS | F/F/W | 226-01 | 50/bx |
| ZST-001B | Coconut Charcoal | 6 x 70 | 2 | 100/50 | GS | F/F/W | 226-01B | 1000/bx |
| ZST-002 | Coconut Charcoal | 8 x 110 | 2 | 400/200 | GS | F/F/W | 226-09 | 50/bx |
| ZST-002B | Coconut Charcoal | 8 x 110 | 2 | 400/200 | GS | F/F/W | 226-09B | 1000/bx |
| ZST-003 | Coconut Charcoal | 10 x 110 | 2 | 800/200 | GS | F/W/W | 226-16 | 50/bx |
| ZST-020 | Chromosorb | 8 x 110 | 2 | 100/50 | GS | W/W/W | 226-107 | 50/bx |
| ZST-040 | Microlite* | 6 X 70 | 1 | 200 | GS | W/W | 226-17-1A | 50/bx |
| ZST-050 | Silica Gel | 6 X 70 | 2 | 150/75 | GS | F/W/W | 226-10 | 50/bx |
| ZST-051 | Silica Gel | 6 X 70 | 2 | 100/50 | GS | F/W/W | 226-51 | 50/bx |
| ZST-054 | Silica Gel | 8 x 110 | 2 | 520/360 | GS | W/W/W | 226-10-04 | 50/bx |
| ZST-058 | Silica Gel | 10 X 110 | 2 | 1040/260 | GS | F/W/W | 226-22 | 50/bx |
| ZST-060 | Silica Gel (specially cleaned) | 7 X 110 | 2 | 400/200 | GS | W/W/G/W | 226-10-03 | 50/bx |
| ZST-070 | Tenax | 6 x 70 | 2 | 30/15 | GS | F/W/W | 226-35 | 50/bx |
| ZST-074 | Tenax | 8 x 110 | 2 | 100/50 | GS | W/W/W | 226-35-03 | 50/bx |
| ZST-080 | XAD-2 | 8 x 110 | 2 | 100/50 | GS | W/W/W | 226-30-04 | 50/bx |
| ZST-090 | XAD-7 | 6 X 110 | 2 | 100/50 | GS | W/W/W | 226-95 | 50/bx |

* *Microlite sorbent is equivalent to Hydrar, Carulite and the SKC Anasorb C300.*

Separator Codes

W: Glass Wool
G: Glass Fiber Filter
F: Polyurethane Foam

Tube Ends

GS: Glass sealed
GO: Glass open

| DESCRIPTION | PRODUCT |
|------------------------|---------|
| Tube Tip Breaker, Each | ZST-900 |

Gemini® Twin Port Sorbent Tube Sampler

Zefon's Gemini Twin-Port Sorbent Tube Sampler can be used with the Escort ELF, or just about any other sampling pump able to pull a flow rate of 1.5LPM at 25" of water backpressure. It offers increased flexibility and control in gathering samples through sorbent tubes. If air is being sampled for two or more contaminants, the Gemini can draw samples at independent flow rates through tubes containing different sorbents. In situations where a single contaminant is being sampled, sampling on two tubes of the same type can be done simultaneously at different flow

rates. This type of sampling protects against breakthrough which occurs when a tube's sampling capacity is exceeded because the concentration of a contaminant is higher than anticipated. Duplicate sampling at the same flow rate can also be done to achieve better results.

Features:

- Valved mechanism allows flow control down to .001 lpm
- Control the flow rate of each port independently
- Includes tube covers to fit both large and small tube sizes



| DESCRIPTION | PRODUCT |
|---|---------|
| Gemini® Twin Port Sampling Kit Includes: Gemini Sampler, tube protectors, Y-connectors, clips and carrying case. | 497697 |

Low Flow Sorbent Tube Holders

Available both with and without flow adjustment. Use non-adjustable when using a sampling pump designed specifically for low flow sampling without adapters. Use adjustable flow to use with standard sampling pumps in constant pressure mode. Tube holder come setup for 6mm x 70mm tubes. Additional size tube covers may be purchase separately.

| PRODUCT | DESCRIPTION |
|------------|---|
| APB-109032 | Single Tube Holder with Non-Adjustable Flow |
| APB-109033 | Single Tube Holder with Adjustable Flow (5-100cc) |
| APB-109030 | Single Tube Holder with Adjustable Flow (5-800cc) |
| APB-109022 | Tube Covers, 6mm x 70mm |
| APB-109024 | Tube Covers, 6mm x 110mm |
| APB-109026 | Tube Covers, 10mm x 150mm |
| APB-109028 | Tube Covers, 10mm x 220mm |

Sorbent Tube Holder
#APB-109030



EconoGrab™ Tedlar® Gas Sampling Bags

Zefon EconoGrab™ gas sampling bags are excellent quality, low cost tedlar gas sampling bags that feature a single polypropylene fittings and eyelet.

Features:

- Chemically inert Tedlar® film
- Reusable if purged with nitrogen
- Easy storage and handling
- Low cost combined with high quality



Polypropylene Valve Fitting
Combines the valve and septum into one easy to use fitting.



Stainless Steel Valve Fitting
Combines the valve and septum into one easy to use fitting.



| CAPACITY | INTERNAL SIZE | BAG MATERIAL | FITTING TYPE | PRODUCT | QTY |
|-----------|-------------------------------|---------------|-----------------|-----------|-----|
| 0.5 liter | 8.0" x 4.5" (20.3cm x 11.4cm) | Clear Tedlar® | Polypropylene | EG-PP-05 | 1 |
| | | | Stainless Steel | EG-SS-05 | 1 |
| 1 liter | 8.0" x 6.0" (20.3cm x 15.2cm) | Clear Tedlar® | Polypropylene | EG-PP-1 | 1 |
| | | | Stainless Steel | EG-SS-1 | 1 |
| 3 liter | 9" x 11.5" (22.9cm x 29.2cm) | Clear Tedlar® | Polypropylene | EG-PP-3 | 1 |
| | | | Stainless Steel | EG-SS-3 | 1 |
| 5 liter | 9" x 15.5" (22.9cm x 39.4cm) | Clear Tedlar® | Polypropylene | EG-PP-5 | 1 |
| | | | Stainless Steel | EG-SS-5 | 1 |
| 10 liter | 16" x 15" (40.6cm x 38.1cm) | Clear Tedlar® | Polypropylene | EG-PP-10 | 1 |
| | | | Stainless Steel | EG-SS-10 | 1 |
| 25 liter | 17" x 25" (43.1cm x 63.5cm) | Clear Tedlar® | Polypropylene | EG-PP-25 | 1 |
| | | | Stainless Steel | EG-SS-25 | 1 |
| 50 liter | 34" x 19" (86.4cm x 48.3cm) | Clear Tedlar® | Polypropylene | EG-PP-50 | 1 |
| | | | Stainless Steel | EG-SS-50 | 1 |
| 100 liter | 34" x 30" (86.4cm x 76.2cm) | Clear Tedlar® | Polypropylene | EG-PP-100 | 1 |
| | | | Stainless Steel | EG-SS-100 | 1 |

Gas Sampling Vacuum Chamber

Zefon gas sampling vacuum chambers are sealed boxes designed to allow Tedlar bags to be directly filled without the sample passing through the air sampling pump or the vacuum source.

| PRODUCT | DESCRIPTION |
|---------|---|
| ZA0321 | Small Gas Sampling Chamber Designed for bags up to 1 liter in size |
| ZA0325 | Large Gas Sampling Chamber Designed for bags up to 5 liters in size All inlet connections made from stainless steel |



Deluxe All-in-One Bag Sampling Chamber



A complete all-in-one bag sampling chamber that includes internal pump and battery.

Features:

- Fully integrated internal pump -- no separate pump to buy or connect
- Battery powered (take up to 100 samples on a full charge)
- Fills bag without sample passing through pump
- Overfill cut off switch prevents bag overfilling
- Fits bags sized 0.5L to 1.0L
- Clear lid makes it easy to watch
- Flexible, high purity Tygon® connection tubing
- Purge function to flush bag



| PRODUCT | DESCRIPTION |
|---------|--|
| ZA0320 | Deluxe All-in-One Bag Sampling Chamber |

Impingers/Bubblers

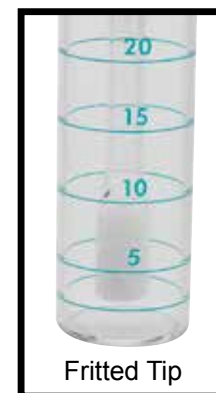
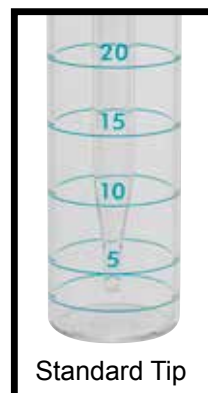


For collecting various airborne gases, vapors and particulates using a high flow personal sampling pump.

Impingers are special glass tubes designed to collect airborne contaminants by bubbling the sampled air at a high flow rate through a method specific absorbing liquid inside. The liquid used can then be analyzed to determine airborne contaminate levels.

Features:

- Fully encircling graduation marks every 5 ml
- 7mm inlet and outlet openings compatible with 1/4" ID tubing



| IMPINGER | SIZE | DESCRIPTION | PRODUCT |
|--------------------------|------|--------------------------------------|---------|
| Standard Midget | 25ml | Standard, 2pc, glass, 5ml increments | ZA0095 |
| Fritted Midget (bubbler) | 25ml | Fritted, 2pc, glass, 5ml increments | ZA0096 |

Zefon Inhalable Dust Sampler

The *Zefon* Inhalable Dust sampler is a reusable filter cassette with a sampling head designed to measure the worker's exposure to inhalable particulates and respirable dust. When sampling at the recommended flow rate of 2 LPM, it collects a particle size distribution that includes particles of 100 micron and smaller. This meets the definition set forth by ACGIH for inhalable particulate.

The sampler is comprised of two main parts. The main sampling head, and a removable filter cassette assembly. This allows easy transport of the filter cassettes for analysis while the sampling head can then be reloaded with a new cassette and sampling may continue.

The physical design of the *Zefon* Inhalable Dust Sampler is a replica of the sampling head developed by the Institute of Occupational Medicine (IOM) in Scotland during the 1980's and which is currently marketed under license from the IOM by SKC. As a result the *Zefon* Inhalable Dust Sampler features identical performance and part interchangeability with the samplers marketed by SKC.



ZA0301



ZA0304



ZA0300

| Particle Aerodynamic Diameter (μm) | Inhalable Particle Matter Fraction Collected (%) |
|---|--|
| 0 | 100 |
| 1 | 97 |
| 2 | 94 |
| 5 | 87 |
| 10 | 77 |
| 20 | 65 |
| 30 | 58 |
| 40 | 54.5 |
| 50 | 52.5 |
| 100 | 50 |

Features:

- 50% cut point at 100 microns when used at 2 LPM
- Conductive plastic cassette or stainless steel
- Small (128 x 33 x 25 mm) including label clip
- Light Weight (<1 ounce or about 25 grams)
- Sampling Head and Cassette parts are interchangeable with the SKC IOM Sampling Head and cassette
- Complies with or meets the requirements of the following standards:
 - ACGIH definition of inhalable particulate matter
 - NIOSH Method 5700 for particulate formaldehyde
 - NIOSH Method 5525 for Isocyanates (stainless steel cassette only)
 - British Method MDHS 14/3 for inhalable dust in air
 - British Method MDHS 25/3 for organic isocyanates in air
 - British Method MDHS 6/3 for lead in air

| PRODUCT | DESCRIPTION |
|---------|--|
| ZA0300 | <i>Zefon</i> Inhalable Dust Sampler with Conductive Plastic Cassette |
| ZA0303 | <i>Zefon</i> Inhalable Dust Sampler with Stainless Steel Cassette |
| ZA0301 | Inhalable Sampling Cassette with transport clip, plastic |
| ZA0304 | Inhalable Sampling Cassette with transport clip, stainless steel |
| ZA0305 | O Rings for Inhalable Sampler, 3/pk |
| ZA0307 | Calibration Adapter for Inhalable Sampler |

Each *Zefon* Inhalable Dust Sampler comes with the sampling head, 1 cassette assembly and a cassette transport clip. **Filter membrane for the inhalable sampler can be found on pages 26-27.**



Sampling Pumps & Calibrators



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Zefon Bio-Pump® Plus

The *Zefon* Bio-Pump® Plus is the smallest, lightest and easiest to use portable, battery-powered IAQ pumps designed for exclusive use with Air-O-Cell® and Via-Cell® cassettes at a flow rate of 15 LPM.



**Over 40% smaller
and lighter than the
original Bio-Pump!**



ZBP-200-CKIT

Features:

- Battery Powered
- Quiet Operation
- Real Time Display Showing Actual Run Time
- Programmable Sample Time (allows unattended operation)
- "Sample Complete" Audible & Visual Indicators
- 'Quick Sample' Operation
- Long Lasting NiMH Battery provides approx 8 hours continuous run time or approx 100 5 minute samples
- Battery Recharge Time of only 3 Hours
- Small Size: 4.375"(w) x 2.75"(h) x 8"(d)
11.1 cm (w) x 6.8 cm (h) x 20.3cm (d)
- Light Weight: Only 1.6 lbs (0.72kg)

| PRODUCT | DESCRIPTION |
|--------------|--|
| ZBP-200 | <i>Zefon</i> Bio-Pump® Plus with 110-230v Charger w/ North American Plug |
| ZBP-200-CKIT | <i>Zefon</i> Bio-Pump® Plus with TSI 4046 Calibrator Kit |



Each Bio-Pump® Plus comes with an Air-O-Cell® & Via-Cell® flow indicator, battery charger, carrying case, instruction manual and 10 FREE Air-O-Cell® cassettes.

The *Zefon* Bio-Pump® Plus is not only the most advanced, user friendly pump designed for IAQ, but they are a great value. Each pump includes extra items such as 10 FREE Air-O-Cell® cassettes, a carrying case and fast battery charging as standard items. This amounts to over \$100 that other pump manufacturers charge for.

Sampling Pumps & Calibrators

Bio-Pump® & Bio-Pump® Plus Accessories



Bio-Pump® with Bioisolation filter



Bio-Pump® with remote extension tube



Bio-Pump® on Tripod Stand

| PRODUCT | DESCRIPTION |
|---------|--|
| ZBP-300 | Replacement Battery for Bio-Pump® and Bio-Pump® Plus |
| ZBP-304 | Bio-Pump® & Bio-Pump® Plus Charger |
| ZBP-310 | Bio-Pump® & Bio-Pump® Plus Remote Extension Tube |
| ZA0047 | Bio-Pump® & Bio-Pump® Plus Bioisolation Filter |
| ZA0043 | Tripod Stand - Heavy Duty |

Bio-Pump® & Bio-Pump® Plus Calibration Options

Primary Calibrators

For primary calibration, *Zefon* offers a TSI primary flow calibrator with all connectors and tools needed for proper calibration. This electronic flow calibrator is designed to work correctly with backpressure sensitive pumps such as the Bio-Pump® Plus.

Secondary Calibrator

Each Bio-Pump® Plus includes a flow indicator for use as secondary calibration. Simply place the flow indicator on the pump, enter calibration mode and adjust the flow rate until the indicator ball lines up with the black 15 LPM line. That's it!



ZBP-302 Secondary Calibrator



Bio-Pump® connected to a TSI Primary Flow Calibrator

| PRODUCT | DESCRIPTION |
|-------------|--|
| ZBP-302 | Air-O-Cell® Flow Indicator |
| ZBP-305 | Via-Cell®/Air-O-Cell® CSI Flow Indicator |
| ZBP-200-CAL | TSI 4046 Primary Flow Calibrator kit for <i>Zefon</i> Bio-Pump® Plus |

Zefon Z-Lite IAQ DC Powered Sampling Pump

The *Zefon* Z-Lite IAQ DC Powered Sampling Pump is a battery powered portable pump designed for IAQ sampling with low backpressure sampling devices such as spore traps at flow rates from 2-20 LPM.

Features:

- Easy to use built-in timer
- Built-in adjustable flow meter
- Quick reset to 5 minute Run Time
- Flow Range:
 - 5-20 LPM (low backpressure spore traps, such as Air-O-Cell®)
 - 2-8 LPM (carpet sampling cassettes)
- Suitable for use on low backpressure sampling devices such as spore traps and for carpet sampling.
- Runs approximately 2.5-3 hours per battery charge
- Charger may be used to run the pump on AC Power
- HEPA Filtered Exhaust
- Low Battery Indicator
- 36" Telescoping sampling stand can be removed and stored inside the case.

- Quick disconnect on tubing
- Housing Dimensions - 15" L x 9" W x 10.5" H
38cm x 23cm x 27cm
- Weight - 18.8lbs (8.5kg)
(including charger and sampling stand)
- One year warranty

NOTE:
Not suitable for filter cassette sampling.



| PRODUCT | DESCRIPTION |
|--------------|--|
| Z-LITE-IAQDC | <i>Zefon</i> Z-Lite IAQ DC Powered Sampling Pump |
| 03270 | Replacement Male Quick Disconnect |
| 03265 | Replacement Battery for Z-LITE-IAQ-DC |
| 03883 | Replacement Battery Charger for Z-LITE-IAQ-DC |

Available only with 120v charger & North American Plug



Zefon Z-Lite IAQ Sampling Pump

The *Zefon* Z-Lite IAQ linear pump is a small lightweight pump capable of flows up to 30 Liters per minute. Suitable for use with carpet samplers, Air-O-Cell®, Via-Cell® and all viable impactors (e.g. Andersen style impactor).

Pump comes complete with flowrate indicator, flow control valve, on/off switch and tubing.

***NOTE:** *Not suitable for filter cassette sampling.*

| PRODUCT | DESCRIPTION |
|----------------|---|
| Z-LITE-IAQ | <i>Zefon</i> Z-Lite IAQ High Volume Linear Pump, 120v |
| Z-LITE-IAQ230V | <i>Zefon</i> Z-Lite IAQ High Volume Linear Pump, 230v |

Libra Plus 5-20LPM IAQ Sampling Pump

The Libra Plus LP-20 is versatile 5-20 LPM sampling pump that can be used for a wide range of applications. The easy to read LCD display, built-in countdown timer, quiet operation and long run time of 40 hours (continuous) make this pump a serious contender for even the most demanding sampling professionals.



Features:

- Compact, Rugged and Quiet
- Flow Range of 5-20 LPM
- Displays: elapsed time, accumulated volume and flow rate
- Count down timer up to 40 hours, turns off pump
- No tools required to change flow rates
- Stainless steel belt clip with built-in tripod connector
- Rechargeable NiMH battery pack
- High impact Lexan case, antistatic and RFI shielded
- Flow Compensation for filter plugging and battery voltage
- Accuracy +/- 5% of display reading or pump Flow Faults
- Key pad lock system
- Suitable for Air-O-Cell® and Via-Cell® sampling, 25mm AND 37mm 0.8 micron MCE Filter Cassettes, and 37mm 5.0 micron PVC filter cassettes
- One year warranty

BUCK
A.P. BUCK, INC.

| PRODUCT | DESCRIPTION |
|------------|--|
| APB-906700 | Libra Plus LP-20 Sampling Pump, 120v Includes pump, charger, hose/clip assembly with 3' of tubing, and manual |

IAQ Pump Bioisolation Filters



ZA0045



ZA0047

Reduce cross contamination concerns!

No longer will you ever have to ponder the "what if" scenario of cross contamination from one job to the next. *Zefon* bioisolation filters are designed to prevent pump contamination during sampling from particles not collected by spore trap or agar impactors. Each filter may be used over and over until it has collected enough debris to affect pump performance or becomes visibly contaminated.

| PRODUCT | DESCRIPTION |
|---------|---|
| ZA0045 | Bioisolation filter for diaphragm, linear and rotary vane pumps 99.99% efficient in reducing cross-contamination |
| ZA0047 | Bioisolation filter for the <i>Zefon</i> Bio-Pump® and Bio-Pump® Plus 99.9999% efficient in reducing cross-contamination |

Also available in 230V.

AIR ONE Abatement Sampling Pump



The AIR ONE Personal Air Sampling Pump is a rugged pump designed to last in the harsh environmental conditions of asbestos and lead abatement.

Features:

- Heavy gauge reinforced polycarbonate housing
- Watertight construction (can be immersed while running!)
- Flow Rate - 0.5 to 3.0 LPM
- Compact (only 4.25" x 3.75" x 2.75")
- Lightweight (1lb 7oz)
- One year warranty

| PRODUCT | DESCRIPTION |
|------------|---|
| TI-004 | AIR ONE Sampling Pump, 120v Includes pump, charger, tubing, screwdriver and manual. |
| TI-004-KIT | AIR ONE 5 Pack Pump Kit, 120v Includes 5 pumps, 5 chargers, 5 tubing sets, 5 screwdrivers and 5 manuals. |
| TI-CHAR | Battery Charger for AIR ONE Pump, 120v |



LIBRA Abatement Sampling Pump

The Buck LIBRA™ is a low cost, high performance, CONSTANT FLOW personal sampling pump. Suitable for use in asbestos abatement, lead sampling and industrial hygiene sampling. Designed for use with asbestos and lead abatement, the LIBRA provides full constant flow compensation using 25mm and 37mm cassettes.

Features:

- Flow rates - 0.8-4 LPM
- Constant Flow
- Rechargeable NiMH battery
- Built-in washable stainless steel filter
- Compact, lightweight & quiet
- Full one-year warranty



| PRODUCT | DESCRIPTION |
|------------|---|
| APB-926000 | Buck Libra Sampling Pump, 120v Includes pump, 120v charger, luer adapter, 36" tubing, shirt/hose clip and manual |
| APB-9426ZZ | Buck Libra Sampling Pump 5 Pack Kit, 120v Includes 5 each pumps, 5 luer adapters, 5 36" tubing sets, 5 shirt/hose clips, five manuals, five standard 120VAC overnight chargers and toolbox style carrying case |
| APB-942600 | Buck Libra Sampling Pump 5 Pack Kit, 120v/230v Includes 5 each pumps, 5 luer adapters, 5 36" tubing sets, 5 shirt/hose clips, five manuals, five standard Quick 5 Charger and toolbox style carrying case |

| PRODUCT | DESCRIPTION |
|------------|---|
| APB-926020 | Buck Libra Sampling Pump, 230v Includes pump, 230v charger, luer adapter, 36" tubing, shirt/hose clip and manual |
| APB-942620 | Buck Libra Sampling Pump 5 Pack Kit, 230v Includes 5 each pumps, 5 luer adapters, 5 36" tubing sets, 5 shirt/hose clips, five manuals, five standard 230VAC overnight chargers and toolbox style carrying case |

Accessories including the low flow tube holders and fast charging option are listed on pages 54 & 55.






Sampling Pumps & Calibrators



Personal Sampling Pumps for Industrial Hygiene

Personal Sampling Pumps are worn by workers during the work shift to determine exposure to ambient particulates, gases or vapors. They draw a carefully controlled volume of air and contaminants through collection media over a period of time. Media is then sent out to a laboratory for analysis, resulting in a calculated level of exposure.

Each of the pumps listed in the chart below represent the ultimate in reliability, quality and value. This is why *Zefon* is a trusted supply source for many industrial hygienists and safety professionals.

| PUMP | FLOW RANGE | PROGRAM-MABLE | OVERVIEW | WEIGHT | DIMENSIONS | APPROVALS | PAGE |
|--|--|---------------|--|--------|------------------------|--|-----------|
|  ESCORT ELF | 0.5 - 3 LPM (500-3,000cc min) | No | Patented Laminar Flow Control. | 19 oz | 3 7/8" W x 4" H x 2" D | NIOSH Coal Mine, MSHA Underground mine, Intrinsic Safety UL, CE/Atex (select models) | 52 |
|  ESCORT LC | 0.5 - 3 LPM (500-3,000cc min) | No | An economical intrinsically safe pump that is easy to operate. | 18 oz | 3 7/8" W x 4" H x 2" D | Intrinsic Safety UL | 53 |
|  BUCK LIBRA LP5 | 5-6000cc/min (5-800cc requires a low flow tube adapter) | No | The lowest cost constant flow pump available. | 16 oz | 4"W x 4.5"H x 2"D | CE | 58 |
|  BUCK ELITE 5 | 5-6000cc/min (5-800cc requires a low flow tube adapter) | Yes | A fully programmable, timer-controlled, datalogging personal pump. | 19 oz | 4.5"H x 4"W x 2"D | CE | 58 |
|  BUCK LIBRA 12 | 3-12 LPM | No | High flow rates with constant flow at an affordable cost. | 30 oz | 6.75"H x 4"H x 2"D | CE | 59 |

Escort® ELF Sampling Pump

- New NiMH Battery Pack provides approximately 20% more operating time between charges
- Flow Range: .5-3.0 LPM
- Patented “Laminar Flow” control permits the best accuracy in the business
- Internal secondary standard calibrates the pump continuously, maintaining OSHA compliance
- Check against a primary standard only once a month (every 200 hours for MSHA coal mine dust sampling)
- Inlet filter traps moisture and particular matter
- Stainless steel-filled plastic case provides EMI/RFI
- “Key Pad” design allows adjustment of flow rates without tools or a potentiometer
- Rated IP66 for resistance to water and dust ingress
- Lightweight – only 19oz
- Exceptionally quiet operation
- Flow-Fault Indicator shows any sample inlet blockage
- Run/Hold feature allows “time out” during sampling process
- Elapsed time readout and low-battery warning
- Low flow and dual tube sampling available with Gemini Twin-Port Sampler
- Resolution display is .1 lpm in standard mode, .01 lpm in calibration mode
- Tamper-resistant door restricts access to adjustment keys



New NiMH Battery Packs!



Shown with Optional Protective Leather Holster/Case with Belt Loop (# 811741)



805563

Single Pump Kits

| PRODUCT | DESCRIPTION |
|-----------------|---|
| 805558 | Escort ELF Pump with sampling line. No charger. |
| 805560 | Escort ELF Pump with 120v charger and sampling line. |
| PI-ELFI-2-1-0-0 | Escort ELF Pump with 230v charger and sampling line. |
| 805559 | Escort ELF Pump with 120v charger, Gemini® Twin Port Sampler. |
| PI-ELFI-2-3-0-0 | Escort ELF Pump with 230v charger, Gemini® Twin Port Sampler. |

Approvals

Escort ELF Sampling Pumps are UL approved as intrinsically safe for use in hazardous locations – Class I, Groups A, B, C, D; Class II, Groups E, F, and G; and Class III, Division I locations. NIOSH certified for coal mine dust sampling (TC-74-030). MSHA certified as intrinsically safe for underground use (Approval No. 2G-3924-1). Pennsylvania DEP, BFE6-11. ATEX Approved Models Available.

5-Pack Pump Kits

| PRODUCT | DESCRIPTION |
|---------|---|
| 805563 | Escort ELF Pump with 5 station 120/240v, 50/60Hz charger and sampling line. |
| 711396 | Escort ELF Pump with 5 station 120/240v, 50/50Hz charger and Gemini® Twin Port Sampler. |

Sampling Pumps & Calibrators

Escort® LC Sampling Pump

- Flow Range: .5-3.0 LPM
- New NiMH Battery Pack provides approximately 20% more operating time between charges
- Watertight case for occasional water sprays
- Inlet filter traps particulate matter; optional filter to trap moisture
- Stainless steel-filled ABS plastic case for RFI/EMI
- One-way valve allows pump exhaust to vent and to prevent water entry
- Weighs only 18 ounces
- Minimum 12 hours of operation before charging is necessary
- Two controls - an ON/OFF key and a flow-rate potentiometer behind tamper-resistant cover helps to prevent unauthorized access to control functions
- Separate LEDs indicate pump operation and low battery
- Charging jack port is located on the battery pack allowing it to be charged while both attached and detached from pump
- Exceptionally quiet operation
- Intrinsically safe



Approvals and Standards

Escort LC Sampling Pumps are classified by UL as intrinsically safe for use in hazardous locations – Class I, Groups A, B, C and D; Class II, Groups E, F and G; and Class III, Division I locations.

Single Pump Kits

| PRODUCT | DESCRIPTION |
|-----------------|---|
| P1-ESLC-0-1-0-0 | Escort LC Pump with sampling line. No charger. |
| 711400 | Escort LC Pump with 120v charger and sampling line. |

5-Pack Pump Kits

| PRODUCT | DESCRIPTION |
|-----------------|--|
| P5-ESLC-1-1-0-0 | Escort LC Pump with 5 station 120/240v, 50/60Hz charger and sampling line. |

Escort ELF and LC Accessories

| PRODUCT | DESCRIPTION |
|----------|-------------------------------------|
| 456226 | Sampling Line, 36" Length |
| 10087242 | Battery Pack, NiMH |
| 811741 | Protective Leather Holster/Case |
| 494716 | Single Battery Charger, 120V |
| 495965 | Single Battery Charger, 230V |
| 801759 | Five Pump Battery Charger, 120/240V |
| 802897 | Replacement Inlet Water Stop Filter |
| 808935 | Inlet Dust Filters, Pack of 5 |
| 456243 | Cyclone for Mining Cassettes |
| 10044015 | Cyclone for 37mm IH Cassettes |
| 497697 | Gemini Sorbent Tube Sampler |

230V charger option available.

LIBRA Plus-5 Personal Sampling Pump



Features:

- Flow Range: 0.8-5 LPM; 5-800cc/min with optional low flow holder
- Flow Compensation for filter plugging and battery voltage
- Compact, Rugged and quiet
- No tools required to change flow rates
- Battery pack rechargeable while attached or separately
- Stainless steel belt clip with built-in tripod connector
- One-hour rechargeable batteries and optional run triple packs
- High impact Lexan case, antistatic and RFI shielded
- Auto-restart" within one minute of a flow fault
- Flows up to 5 LPM for special cyclone requirements
- Built in washable stainless steel 100 micron filter
- Displays: elapsed time, accumulated volume and flow rate
- Accuracy +/- 5% of display reading
- Count down timer up to 40 hours, turns off pump
- Key pad lock system
- One year warranty
- CE Approved

BUCK
A.P. BUCK, INC.

| PRODUCT | DESCRIPTION |
|------------|---|
| APB-906200 | Buck Libra Plus LP-5 120V pump Kit Includes pump, 120v Charger, tubing/clip assembly, 3' of tubing & manual |
| APB-906220 | Buck Libra Plus LP-5 230V pump Kit Includes pump, 120v Charger, tubing/clip assembly, 3' of tubing & manual |
| APB-9462ZZ | Libra Plus Sampling Pump 5 Pack Kit Includes 5 pumps, 5 chargers, 5 tubing/clip assemblies, 5 tubing sets, 5 manuals and toolbox style carrying case. |
| APB-946200 | Libra Plus Sampling Pump 5 Pack Kit Includes 5 pumps, Quick 5 charger, 5 tubing/clip assemblies, 5 tubing sets, 5 manuals and toolbox style carrying case. |

Buck ELITE5™ Personal Sampling Pump



Features:

- Flow Range: 0.8-6 LPM; 5-800cc/min with optional low flow holder
- Key sampling data is logged and stored for download
- Programmable for Start/Stop and Duration Sampling
- High back pressure compensation, up to 50" of water @2LPM
- Accuracy: ± 5% of compensation range
- Standard Flow range 800 mL/min to 6LPM. Low flow range available with optional adapter/ tube holder
- Flow compensation for filter plugging and battery voltage
- Compatible with impingers, cyclones, and sorbent tubes
- Auto-restart" within one minute of a flow fault
- NiMH battery pack rechargeable while attached to or separated from pump
- One-hour recharge time for single pack batteries
- Compact, rugged, and quiet
- Stainless steel belt clip with built-in tripod connector
- Keypad lockout system
- One year warranty
- CE Approved

BUCK
A.P. BUCK, INC.

| PRODUCT | DESCRIPTION |
|------------|---|
| APB-908000 | Buck Elite5 Single Pump Kit, 120V Includes Pump with single pack NiMH battery, standard 120VAC battery charger, Luer hose adapter, shirt/hose clip, 3 feet of vinyl hose and operating manual. |
| APB-908020 | Buck Elite5 Single Pump Kit, 230V Includes Pump with single pack NiMH battery, standard 120VAC battery charger, Luer hose adapter, shirt/hose clip, 3 feet of vinyl hose and operating manual. |
| APB-947200 | Buck Elite5 Five Pack Pump Kit |

Accessories including the low flow tube holders and fast charging option are listed on pages 54 & 55.

Buck Libra Plus-12 Personal Sampling Pump

This Personal Air Sampler consists of a pump contained in a high impact RF/EMI shielded case, exclusive electronic circuit board (patent pending) for constant flow control, an LCD display with 2 lines of 16 characters, a single diaphragm pump mechanism and a rechargeable nickel metal hydride battery pack.

Applications of this air sampling pump is to draw air contaminants in through a sampling media such as 37 and 47 mm filter cassettes, gauging personnel exposure to gases, vapors, particulates, aerosols, etc.

Features:

- Flow Range: 3-12 LPM
- Flow Compensation for filter plugging and battery voltage
- Compact, Rugged and quiet
- No tools required to change flow rates.
- Battery pack rechargeable while attached or separately
- Stainless steel belt clip with built-in tripod connector
- Six-hour rechargeable batteries packs
- High impact Lexan case, antistatic and RFI shielded
- "Auto-restart" within one minute of a flow fault
- Flows of 5 LPM for special cyclone requirements
- External washable stainless steel 100 micron filter
- Displays: elapsed time, accumulated volume and flow rate
- Accuracy +/- 5% of display reading or pump Flow Faults
- Count down timer up to 40 hours, turns off pump.
- Key pad lock system
- One year warranty

BUCK
A.P. BUCK, INC.



| PRODUCT | DESCRIPTION |
|------------|---|
| APB-906250 | Buck Libra Plus LP-12 120V Pump Kit Includes pump, 120v Charger, tubing/clip assembly, 3' of tubing & manual |
| APB-906260 | Buck Libra Plus LP-12 230V Pump Kit Includes pump, 230v Charger, tubing/clip assembly, 3' of tubing & manual |

Buck ELITE12™ Personal Sampling Pump

The BUCK Elite™ is a data logging, programmable personal air sampler consists of a pump contained in a high impact steel fiber filled Lexan, antistatic, and RF/EMI-shielded case, exclusive electronic circuit board for constant flow control (patent pending), an LCD display with 2 lines of 16 characters, a single diaphragm pump mechanism, and a rechargeable NiMH battery pack.

Features:

- Capable for Data logging and programmable for multiple Start/Stop runs with upto ten different ON/OFF durations
- 50 Hours of Run time at 3LPM (0.8µm 37mm MCE filter)
- High back pressure compensation, up to 40" of water @4LPM
- Accuracy: ± 5% of compensation range
- Flow range 3 to 12LPM. Low flow of 50-800 cc/min with Universal low flow adaper
- Flow compensation for filter plugging and battery voltage
- "Auto-restart" within one minute of a flow fault
- Battery pack rechargeable while attached or separately
- Stainless steel belt clip with built-in tripod connector
- Key pad lock system
- One year warranty

BUCK
A.P. BUCK, INC.



| PRODUCT | DESCRIPTION |
|------------|---|
| APB-908300 | Buck Elite-12 Pump 3-12LPM 120V Includes pump, 120v Charger, tubing/clip assembly, 3' of tubing & manual |
| APB-908320 | Buck Elite-12 Pump 3-12LPM 230V Includes pump, 230v Charger, tubing/clip assembly, 3' of tubing & manual |

Personal Pump Accessories



Tygon® Tubing, 1/4"
ID #ZA0064



36" Sampling Line
w/ Tube Clip #456226



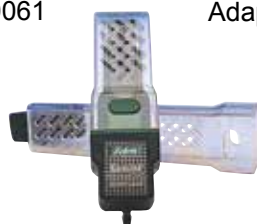
Universal Cassette or
Cyclone Holder #ZA0061



Metal Luer
Adapter #459743



37mm Cassette Tubing
Adapters #ZA0005



Gemini Twin Port Sorbent
Tube Sampler #497697



Sorbent Tube Holder
#APB-109030

Sample Tubing

| PRODUCT | DESCRIPTION |
|---------|---|
| ZA0065 | Sample Line, PVC, 1/4" ID x 3/8" OD x 36" Length |
| 456226 | Sample Line, PVC, 1/4" ID x 3/8" OD x 36" Length with Tube Clip |
| ZA0064 | Sample Line, PVC, 1/4" ID x 3/8" OD x 50' Length |

Cassette Holders & Adapters

| PRODUCT | DESCRIPTION |
|---------|--|
| ZA0061 | Universal Cassette/Cyclone Holder |
| ZA0005 | Luer Adapter, Plastic, 10/pk (attaches cassette to 1/4" ID tubing) |
| 459743 | Luer Adapter, Metal, 3/pk (attaches cassette to 1/4" ID tubing) |

Sorbent Tube Holders

| PRODUCT | DESCRIPTION |
|------------|---|
| APB-109032 | Single tube holder with non-adjustable flow |
| APB-109033 | Single tube holder with adjustable flow (5-100cc) |
| APB-109030 | Single tube holder with adjustable flow (5-800cc) |
| 497697 | Gemini Twin Port Sampler |

Personal Pump Batteries & Chargers



Escort ELF & LC
Single Battery Charger



Escort ELF & LC NiMH
Battery



Zefon 5 Station Charger



Escort ELF & LC
5 Pump Charger

| PUMP | DESCRIPTION | PRODUCT |
|-----------------------|------------------------------------|------------|
| LIBRA & LIBRA Plus | NiMH Battery | APB-109023 |
| | Single Battery Charger - Overnight | APB-603400 |
| | Single Battery Charger - 1 Hour | APB-601800 |
| | 5 Station Charger - 1 Hour | APB-605800 |
| Escort ELF & LC | NiMH Battery | 10087242 |
| | Single Battery Charger | 494716 |
| | 5 Pump Charger | 801759 |

230VAC charging options available

Zefon Diaphragm Area Sampling Pumps

Zefon diaphragm area sampling pumps are economical and reliable workhorses. Each pump comes with a locking flow control valve, hose barb, tubing and on/off switch. Suitable for use with PCM, TEM, Air-O-Cell® and Via-Cell® cassettes.



Best Value!



| PRODUCT | DESCRIPTION |
|-----------------|---|
| ZTHV01 | <i>Zefon</i> High Volume Diaphragm Pump 110v |
| ZTHV01-220V | <i>Zefon</i> High Volume Diaphragm Pump 220v |
| ZTHV01-KIT | <i>Zefon</i> High Volume Diaphragm 2 Pump Kit 110v Includes 2 Pumps, 2 Stands, Tubing and Case |
| ZTHV01-KIT-220V | <i>Zefon</i> High Volume Diaphragm 2 Pump Kit 220v Includes 2 Pumps, 2 Stands, Tubing and Case |

Rotary Vane Sampling Pumps

High volume rotary vane pumps are heavy duty workhorses with a 1/10 hp motor that can be used for most all sampling applications. Each pump comes complete with flow control valve, on/off switch and tubing. Suitable for use with PCM, TEM, Air-O-Cell® and Via-Cell® cassettes along with all viable impactors (e.g. Andersen style impactor).



| PRODUCT | DESCRIPTION |
|-----------|---|
| ZHV00 | Rotary Vane High Volume Pump |
| ZHV00-KIT | Rotary Vane High Volume 2 Pump Kit Includes 2 Pumps, 2 Stands, Tubing and Case |

Area Pump Replacement Parts



03113



03180



03200



9800-52



03184



03201



03179



03897

| PRODUCT | DESCRIPTION |
|---------|---|
| 03113 | Air Flow Regulator Valve, 1/8" |
| 03180 | 1/8" to 1/4" Conversion Fitting |
| 03200 | Hose Barb, 1/4" |
| 03184 | Rubber Foot for Diaphragm Pumps |
| 03201 | Rubber Foot for <i>Zefon</i> ZHV00 Pump |
| 03179 | Muffler for Diaphragm Pump |
| 03897 | Handle for Diaphragm Pump |
| AA928 | Felt Filters for ZHV00 Pump |
| 9800-52 | Exhaust Filter for ZHV00 Pump |
| ZGHV01 | Glass Muffler Jar for <i>Zefon</i> ZHV00 Pump |

Area Pump Accessories



ZA0042



ZA0064



ZA0005



459743

| PRODUCT | DESCRIPTION |
|-----------|---|
| ZA0042 | Economy Cassette Sampling Stand |
| ASB-1 | Deluxe Cassette Sampling Stand |
| ZA0064 | Tygon® Tubing, E-3603, 1/4" ID x 3/8" OD x 50' Roll |
| 3010-0252 | Tubing, PVC, 1/4" Area Pump Sampling |
| ZA0005 | Plastic Luer Adapter, 10/pk (use to attach cassette to 1/4" ID tubing) |
| 459743 | Metal Luer Adapter, 3/pk (use to attach cassette to 1/4" ID tubing) |

Pump and Equipment Cases

Pelican equipment protector cases are unbreakable, watertight to 30 feet, and corrosion proof. They are made of an incredibly light structural foam resin shell that always looks new and is unaffected by dents, scratches and corrosion.

Features:

- Watertight, crush-proof, and dust proof
- O-ring seal
- Automatic pressure equalization valve
- Comfortable rubber over-molded handle
- Stainless Steel Hardware and padlock protectors
- Pick-N-Pluck™ foam with convoluted lid foam



All Pelican cases shown above include Pick-N-Pluck foam. This foam can be easily “plucked” to provide a snug fit for your equipment or accessories.

| PRODUCT | DESCRIPTION | Inside Dimensions |
|---------|---|--------------------------|
| ZA0120 | Pelican 1200 Case, Black Uses: Personal Sampling Pump & Charger, TSI 4146 Calibrator, Bio Defender Calibrator, Gilian Challenger, Drager CMS | 9.25" x 7.12" x 4.12" |
| ZA0121 | Pelican 1300 Case, Black Uses: Personal Sampling Pump, Charger & Media or Buck Bio-Culture Pump | 9.87" x 7.00" x 6.12" |
| ZA0122 | Pelican 1400 Case, Black Uses: <i>Zefon</i> DigiCal Calibrator, <i>Zefon</i> Bio-Pump Plus or Met-One Particle Counter | 11.81" x 8.87" x 5.18" |
| ZA0124 | Pelican 1500 Case, Black Uses: 2 Rotary Vane Pumps or Buck Bio-Culture w/Calibration head | 16.75" x 11.18" x 6.12" |
| ZA0125 | Pelican 1510 Case, Black, On Wheels Uses: 5 Personal Sampling Pumps and Chargers or 3 Personal Sampling Pumps with Chargers, and Calibrator or Media | 19.75" x 11.00" x 7.60" |
| ZA0126 | Pelican 1520 Case, Black Uses: 2 Rotary Vane Pumps w/Stands or 2-3 Bios Defenders | 18.06" x 12.89" x 6.72" |
| ZA0127 | Pelican 1550 Case, Black Uses: 2 Diaphragm Pumps and Stands or 5 Personal Sampling Pumps w/Chargers, Calibrators or Cyclones and Media | 18.43" x 14.00" x 7.62" |
| ZA0131 | Pelican 1620 Case, Black, On Wheels Uses: Microscopes with accessories | 21.48" x 16.42" x 12.54" |

Rotameters - Dwyer Visi-Float Flow Meters



Dwyer Visi-Float flowmeters are precision machined from solid, clear acrylic plastic blocks. This construction not only produces an attractive finish, but permits complete visual inspection.

Features:

- Scales are easy to read — The large 4" high front scale location and white background provide excellent visibility.
- Scales are hot stamped into the plastic and will not wear off.
- Mid-range calibration is established with a master flowmeter, providing an accuracy of 3%.
- Each flowmeter is supplied with 1 hose barb, tubing, and luer connector.

| PRODUCT | DESCRIPTION |
|---------|--|
| 116116 | Rotameter Flow Meter, 0-4 LPM, non adjustable |
| 195380 | Rotameter Flow Meter, 1-20 LPM, non adjustable |
| 195505 | Rotameter Flow Meter, 3-30 LPM, non adjustable |

How do I properly calibrate my Pump?



When sampling using filter cassettes, the accuracy of your sample collection depends on an accurate amount of air passing through the filter. Filter cassettes create a high amount of backpressure in the sampling 'train'. So to calibrate the pump airflow properly the sampling 'train' must be in a certain order. Airflow must pass through the calibrator first, then through the media, and finally through the pump. An illustration of this is provided below. By configuring your calibration setup this way, you are measuring the flow rate of air as it enters the filter.

Digical Primary Calibrator

A primary calibration device, the DigiCal™ Calibrator provides instantaneous calibration for instruments like the *Zefon* Escort LC Pump or the secondary flow standard inside the Escort ELF Sampling Pumps.

Just press the plunger and the DigiCal Calibrator does the work. Its unique flow cell replaces conventional bubble tubes and makes calibration easier. The Digi-Cal Calibrator achieves extreme accuracy by utilizing a computerized flow meter that provides instantaneous flow readouts on a digital display.

Accurate measurements are possible within $\pm 0.5\%$ at any altitude. The DigiCal Calibrator can be used to calibrate the secondary flow standard inside *Zefon's* Escort ELF Sampling Pump.



Features:

- True Primary Standard
- Compact, lightweight, easy to use
- Work at any altitude without correction
- Instant readout of volumetric flow
- $\pm 0.5\%$ accuracy
- Microprocessor controlled to provide fast, accurate, repeatable measurements
- Two flow ranges to chose from:
 - 1-6000cc/min (DigiCal-5)
 - 0.1-30 LPM (DigiCal-30)

Each DigiCal Calibrator is shipped complete with calibrator, charger, soap solution, dispenser bottle and operation manual.

DigiCal shown here in an *optional* Pelican 1400 case.



| PRODUCT | DESCRIPTION |
|---------|--|
| 655101 | Digical 5 Primary Calibrator, 110V, (1-6000cc/min) |
| 655201 | Digical 5 Primary Calibrator, 230V (1-6000cc/min) |
| 655130 | Digical 30 Primary Calibrator, 110V (0.1-30LPM) |
| 655230 | Digical 30 Primary Calibrator, 230V (0.1-30LPM) |
| 655102 | Air Inlet Caps for Digical, Pk of 2 |
| 655112 | Charger/AC Adaptor for Digical, 110V |
| 655273 | Soap Bubble Solution, 8oz |
| 655169 | Battery Pack for Digical |
| ZA0122 | Pelican 1400 Carrying Case w/Pick-n-Pluck Foam |

TSI Primary Flow Pump Calibrators

The TSI Primary Calibrators are portable, battery-operated units that are lightweight, easy to use and accurate within 2% of reading. Volumetric flow rate is displayed continuously so adjustments to pump flow can be made in real-time.

Features:

- Provides continuous real-time volumetric flow rate readings, so pump adjustment and calibration is fast and easy
- Battery powered, compact and lightweight
- Field portable—use the same primary calibrator for adjustment, calibration and periodic flow checks
- 2 Flow ranges to select from:
 - **Model 4146** - 0.01-20 lpm
 - **ZBP-200-CAL** (TSI 4046)- 2.5-300 lpm
- Comes with a NIST traceable calibration certificate
- Kits come complete and are ready to use



TSI-4046



ZBP-200-CAL shown. Bio-Pump sold separately.

| PRODUCT | DESCRIPTION |
|-------------|---|
| TSI-4146 | TSI Primary Flow Calibrator 0.01-20 lpm |
| ZBP-200-CAL | TSI 4046 Primary Flow Calibrator kit for <i>Zefon</i> Bio-Pump® Plus Includes 4046 calibrator, all connection pieces required to connect to the <i>Zefon</i> Bio-Pump or Bio-Pump Plus and a Pelican hard side carrying case. |
| ZA0120 | Pelican 1200 Carrying Case w/Pick-n-Pluck Foam (Holds one model TSI 4146 Calibrator) |

Each TSI Primary Flow calibrator is shipped complete with the following: Calibrator, Battery pack including 6-AA size alkaline batteries, Tubing kit, carrying case, NIST traceable calibration certificate, and user guide.

Bios Defender Calibrator



The Bios Defender is a dry flow meter design that provides users with a primary flow standard for industrial hygiene, environmental and laboratory applications. It is a true primary flow meter design that offers low cost, light weight and ultra-compact size.

Bios Defender 510 - use to calibrate personal air samplers and other volumetric instruments.

Bios Defender 520 - A “three-in-one” to calibrate volumetric instruments, record ambient temperature and pressure conditions for your audit trail, or calibrate devices that read in mass flow. (RoHS compliant for Europe)

Bios Defender 530 - Standardized and Volumetric Primary Flow Standard

| Model Comparison | Defender 510 | Defender 520 | Defender 530 |
|-----------------------|-------------------------------|-----------------------------------|-----------------------------------|
| Volumetric Accuracy | 1% | 1% | 1% |
| Standardized Accuracy | N/A | N/A | 1.2% |
| Pressure Accuracy | N/A | ±3.5 mmHg (typical) ±7.0 mm (max) | ±3.5 mmHg (typical) ±7.0 mm (max) |
| Temperature Accuracy | N/A | ±0.8° C (typical) ±1.3° C (max) | ±0.8° C (typical) ±1.3° C (max) |
| Volumetric | mL/min, L/min, cc/min, cf/min | mL/min, L/min, cc/min, cf/min | mL/min, L/min, cc/min, cf/min |
| Standardized | N/A | N/A | smL/min, sL/min, scc/min, scf/min |
| Temperature | N/A | °C °F | °C °F |
| Pressure | N/A | mmHg, PSI, kPa | mmHg, PSI, kPa |

Defender 510 Series

| PRODUCT | DESCRIPTION |
|---------|---|
| 510-L | Defender 510 Low Flow 5 ml/min-500 ml/min, 100-240v, USA Plug |
| 510-M | Defender 510 Medium Flow 50 ml/min-5,000 ml/min, 100-240v, USA Plug |
| 510-H | Defender 510 High Flow 300 ml/min-30,000 ml/min, 100-240v, USA Plug |

Defender 520 Series

| PRODUCT | DESCRIPTION |
|---------|---|
| 520-L | Defender 520 Low Flow 5 ml/min-500 ml/min, 100-240v, USA Plug |
| 520-M | Defender 520 Medium Flow 50 ml/min-5,000 ml/min, 100-240v, USA Plug |
| 520-H | Defender 520 High Flow 300 ml/min-30,000 ml/min, 100-240v, USA Plug |

Defender 530 Series

| PRODUCT | DESCRIPTION |
|---------|---|
| 530-L | Defender 530 Low Flow 5 ml/min-500 ml/min, 100-240v, USA Plug |
| 530-M | Defender 530 Medium Flow 50 ml/min-5,000 ml/min, 100-240v, USA Plug |
| 530-H | Defender 530 High Flow 300 ml/min-30,000 ml/min, 100-240v, USA Plug |

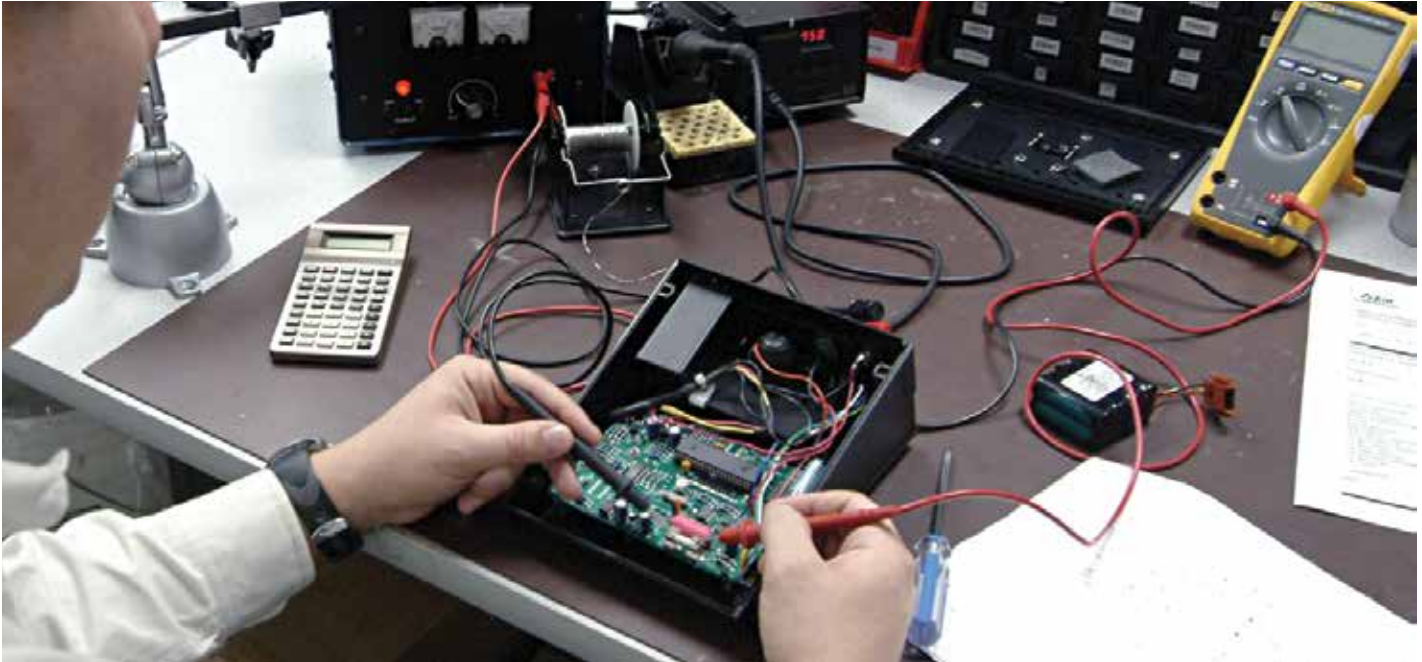
Accessories

| PRODUCT | DESCRIPTION |
|------------|----------------------------|
| BI-100-250 | Bios Defender Pelican Case |

Other plug configurations available. Each Bios Defender includes the Defender calibrator, Bios Optimizer 110 PC Serial Cable, Software CD, AC Power Adapter/Charger, Plastic Leak Test Caps (2), NIST-Traceable Calibration Certificate and Mini-Manual.

Factory Pump Repair Services

Providing expert factory repairs of *Zefon* brand pumps, including Bio-Pump, Bio-Pump Plus, Escort and IAQ DC Pump.



Comprehensive Flat Rate Repair Service

Zefon's comprehensive flat rate program is a fully comprehensive repair service that covers all the parts and labor required for the product to operate correctly within its stated specifications including:

- Complete evaluation of the pump
- Repair or replacement of any parts necessary to bring the pump back into a condition of operating within specifications
- All labor involved for testing and repair
- Calibration of internal secondary standard (Escort ELF only)
- Software upgrade (IAQ pumps only, if available and compatible)
- Full and complete run testing

Note: Comprehensive repair service includes all parts integrated into the product itself. It does not include external accessories or components of the product, such as battery chargers or flow meters.

Escort Brand Pumps

Escort ELF Repair + Calibration (includes calibration certificate)
 Escort ELF Calibration only (includes calibration certificate)
 Escort LC Repair

Zefon IAQ Pumps

Bio-Pump, Bio-Pump Plus, Mini-Pump & IAQDC Pump Repair



For repair of other brands of DC powered pumps or repair of AC powered pump, please contact us and we will provide manufacturer contact information or a qualified third party company to contact for repairs.

Please keep our health into consideration and make sure all pumps sent in for repair are free from hazardous materials. All pumps suspected to have been exposed to hazardous substances (including asbestos) should be decontaminated before sending in for repair. *Zefon* recommends that each pump be placed in a plastic bag and marked as decontaminated, so that there are no questions about the status of the pump. Pumps that appear to have hazardous substances on them and are not marked or labeled will be returned at your expense without repair.

Portable Instruments



Contents

Dust Monitors: 65-66

Optical Particle Counters: 67-70

Differential Pressure Recorders: 71

Aerocet-531 Mass Particle Counter/Dust Monitor

2-in-1 performance!



Particle Mass Profiler and Counter in a Single Handheld Unit

The Aerocet 531 is a small, handheld, battery operated, and completely portable unit. This unit provides both particle counts or mass PM measurements as stored datalogged values, real-time networked data, or printed results.

Five Mass Ranges and Two Particle Sizes

All five important mass size ranges (PM1, PM2.5, PM7, PM10, and TSP) are displayed in mass mode as well as two popular cumulative particle sizes (> 0.5 and > 5.0 microns) in particle mode.

Tailored Mass Conversion

The particle counts from eight size ranges are converted to mass using a proprietary algorithm for typical-density aerosols. Accommodation for special particulate with different densities is provided through user-programmable "K-factors."

Flexible Data Interfaces

The Aerocet 531 stores up to 4,000 records for printer output, Excel® formatted output, or networked datalogging through the included single computer software (AeroComm).

Temperature and Relative Humidity Option

A plug-and-play option that immediately adds ambient temperature and relative humidity capabilities to the displayed and logged data.



Met One Instruments

| PRODUCT | DESCRIPTION |
|----------------|---|
| MO-AEROCET-531 | Met One Aerocet 531 Mass Monitor |
| MO-9801 | Flow Meter Kit for Aerocet 531 Mass Monitor |
| MO-G3120 | Temperature and Humidity Probe for Aerocet 531 Mass Monitor |
| MO-G3115 | Portable Printer for Aerocet 531 Mass Monitor |
| MO-750509 | Portable Printer Paper (per roll) |
| MO-550067 | USB to Serial (RS-232) Converter |

Aerosol Mass Monitor - Met One Instruments

The Met One Instruments 831 Aerosol Mass Monitor simultaneously provides data of four important mass ranges in one minute. Ranges include: PM1, PM2.5, PM4 and PM10.

Features:

■ Handheld Operation

Survey the environment with this extremely portable, size selective mass monitor. This small lightweight instrument is only 28 ounces and is the perfect survey tool for a wide range of applications.

■ Four Mass Ranges (PM1, P2.5, PM4, PM10)

A mass monitor that simultaneously provides data of four important mass ranges in one minute.

■ Battery Powered

24 hours of typical intermittent operation and up to 8 hours of continuous use. Recharge time is only 2.5 hours. The included A/C charger/adaptor operates the counter even when the battery pack is discharged.

■ Simple Operation

Only two front-panel buttons accompany the multifunction rotary scroll wheel to provide simple and efficient operation. Just press and rotate to scroll thru the menu driven platform.

■ Sample History

View sample history easily on the display or export data via the USB port using the included software. Unit stores up to 2500 sample events. USB interface provides quick data download and field firmware upgrades.



Shown with optional protective boot.

MO-831



Met One Instruments

| PRODUCT | DESCRIPTION |
|----------|---|
| MO-831 | Met One Instruments 831 Aerosol Mass Monitor |
| MO-80450 | Protective Rubber Boot for Met One 831 Aerosol Mass Monitor |
| MO-8517 | Carrying Case for Met One 831 Aerosol Mass Monitor |
| MO-80846 | Zero Filter Kit for Met One 831 Aerosol Mass Monitor |
| MO-80530 | Flow Meter Kit for Met One 831 Aerosol Mass Monitor |

804 Four Channel Handheld Particle Counter

Accurate – Affordable – Reliable



Shown with optional protective boot.



Met One Instruments

Small Size—Big Performance

The 804 handheld particle counter is a 4 channel portable particle counter that counts particles 0.3 microns to 10.0 microns - giving you portability and reliability at the lowest price in the industry.

Completely Self-Contained—Selectable Particle Sizes

Don't let the size fool you—this unit is completely self-contained with its own internal battery and sample pump, and is programmable, allowing you to choose your particle sizes of interest from seven sizes: 0.3, 0.5, 0.7, 1.0, 2.5, 5.0 or 10.0 microns.

Fast Sampling

Unlike other counters that can take up to a minute to deliver results, the 804 incorporates user selectable sampling time up to 1 minute and displays counts in as little as 3 seconds. The unit will take single or continuous samples.

Simple Operation

Only two front-panel buttons and scroll wheel provide a user friendly, menu driven platform that provides ease in configuration.

Battery or AC Powered

The self-contained battery pack powers the unit for 30 hours of typical intermittent operation, and for up to 8 hours of continuous use. The included AC charger / adapter operates the counter, even when the battery pack is discharged, and recharges the depleted battery in 2.5 hours.

Flexible Data Interfaces / USB Communication

Stores up to 2500 records for output, Excel formatted output via included single computer software. USB interface provides quick data download and field firmware upgrades.

| PRODUCT | DESCRIPTION |
|----------|------------------------------------|
| MO-804 | Met One Model 804 Particle Counter |
| MO-80450 | Protective Boot for Model 804 |
| MO-80846 | Zero Filter Kit for Model 804 |
| MO-8517 | Carrying Case for Model 804 |
| MO-80530 | Flow Meter Kit for Model 804 |

GT-321 Single Channel Particle Counter

The reliability you demand at a price you won't believe!

Small Size—Big Performance

The handheld GT-321 is a portable particle counter that counts particles down to 0.3 microns—giving you portability and reliability at the lowest price in the industry.

Completely Self-Contained—Selectable Particle Sizes

Don't let the size fool you—the GT-321 is completely self-contained with its own internal battery and sample pump, and is programmable, allowing you to choose your particle size of interest from five sizes: 0.3, 0.5, 1.0, 2.0, or 5.0 microns.

Fast Sampling

Unlike other counters that can take up to a minute to deliver results, the GT-321 starts delivering volumetric concentration results in about 6 seconds! This facilitates quick multi-site sampling, tracing particle sources and site particle trending.

Simple Operation

Only two front-panel buttons control the size channels and sample cycle. The side-mounted power switch allows for convenient thumb operation.

Battery or AC Powered

The self-contained battery pack powers the unit for 8 hours of typical intermittent operation, and for up to 5 hours of continuous use. The included AC adapter operates the counter, even when the battery pack is discharged, and recharges the depleted battery overnight (16 hours) when turned off.



Met One Instruments

| PRODUCT | DESCRIPTION |
|-----------|--|
| MO-GT-321 | Met One GT-321 Particle Counter |
| MO-9801 | Flow Meter Kit for GT-321 Particle Counter |

GT-521 Two Channel or GT-526 Six Channel Particle Counters

Bench unit performance in the palm of your hand.

Big Performance, Small Size

Each unit is a full-featured, battery-operated, portable laser particle counter that provides the functionality of a bench unit with the convenience of a handheld! It can datalog particle counts continuously or send them to a network.

Programmable Particle Channels

Programmable particle channels with a range of 0.3 – 5.0 microns each show differential or cumulative particle counts in real time, with selectable count units.

Simple and Powerful Menu-Driven Command Set

A simple touch of a button sets particle sizes, sample time, alarm settings, and basic setup parameters such as date/time and communications settings. Remote operation via RS-232 or RS-485 communications ports allows extensive control, including all front-panel operations.

Flexible Data Interfaces

Stores up to 4,000 records (8,000 records for GT-526) for printer output, Excel® formatted output, or networked datalogging via the included single computer software.

Temperature and Relative Humidity Option

A plug-and-play option that immediately adds ambient temperature and relative humidity capabilities to the displayed and logged data.



Met One Instruments

| PRODUCT | DESCRIPTION |
|-----------|--|
| MO-GT-521 | Met One GT-521 Particle Counter |
| MO-GT-526 | Met One GT-526 Particle Counter |
| MO-9801 | Flow Meter Kit for GT-521 or GT-526 Particle Counter |
| MO-G3120 | Temperature and Humidity Probe for GT-521 or GT-526 |
| MO-G3115 | Portable Printer for GT-521 or GT-526 |
| MO-750509 | Portable Printer Paper (per roll) |
| MO-550067 | USB to Serial (RS-232) Converter |

Met One BT-637 Bench Top Laser Particle Counter The Portable Solution; The Tool You Need to Monitor Your Environment or Verify Your Process'

Affordable Bench Top with High End Performance

The BT-637 is a full featured unit suitable for continuous monitoring at a 0.1cfm flow rate. This unit has volumetric flow controlled and the internal temperature sensor will continually monitor and correct the flow. An audible alarm alerts the user when the flow rate varies more than $\pm 5\%$.

The battery or AC operated portable laser particle counter provides 8 hours operating time and a less than 3 hours recharge time. This is a real-time particle counter capable of logging up to 8000 records.

The Bench-Top unit has six pre-set particle channels (0.3, 0.5, 0.7, 1.0, 2.0, & 5.0) and is user customizable so two "favorite" sizes can be readily displayed to avoid screen scrolling. A large easy to read back lit LCD, combined with a loud programmable audible alarm make this a great fit for all applications.

User Friendly — Out of the Box Operation

A simple user interface and operation manual gets you up and running quickly making the training of your team a breeze.

Flexible Data Interface

Your communication needs are addressed. The unit comes standard with RS-232, RS-485, Analog (0-5V), USB interface, and a Memory Stick port. The BT-637 comes standard with user-friendly computer software.

Applications:

- Monitoring and Verifying Cleanrooms
- Medical Device Manufacturing & Packaging
- Filter Testing
- Hospital Pharmacies & Surgery Suites
- Food/Beverage Manufacturing & Packaging
- Aerospace Assembly
- Auto & Appliance Paint Booths
- Clean Room Laundries
- Cosmetic Manufacturing & Packaging



| PRODUCT | DESCRIPTION |
|-----------|--|
| MO-BT-637 | Met One BT-637 Benchtop Particle Counter |
| MO-G3120 | Temperature & Humidity Probe |
| MO-G3115 | Portable Printer |
| MO-750509 | Portable Printer Paper (per roll) |

Omniguard 4 Differential Pressure Recorder



The Omniguard 4 is a differential pressure recorder in a completely self-contained package, designed from the beginning to be extremely flexible yet easy to use. It is ideal for Asbestos, Lead and Mold abatement and Clean Room monitoring.

It's easy to find a convenient spot to place the unit since the Omniguard 4 is not position sensitive and can be hung by its handle. Accurate measurements continue even if the unit is dropped or moved.

The backlit graphics display provides the easiest setup possible. Pressure is indicated with large easy to read characters and alarm setpoints are always displayed. Screen icons show the monitoring, printer and audible alarm status with a glance. Detailed information for job setup, feature settings and operating instructions are available on-screen at any time by pressing the "Help" key. Pressure readings are time stamped and logged into memory once containment has been established. Audible and visual alarms activate whenever the pressure reaches the alarm setpoints.

The Omniguard 4 ensures the site inspector that proper containment was maintained. Logs and summary reports can be printed at any time for easy inspection of the monitoring data. Durable and reliable, the Omniguard 4 is clearly the contractors choice for monitoring and documenting Vacuum and Pressure in a containment area. With features designed to display information clearly and quickly, you'll be confident that you have the best instrument for the job.

Features:

- Large Graphic Display
- High and low alarm setpoints
- Operates in any position
- Operates with the case lid closed
- Can be hung from the case handle
- Automatic printout and logging of all changes to settings
- 30+ days of logging capacity
- Built-in USB and serial ports
- Supports offsite remote monitoring
- Adjustable Print/log interval



The Omniguard 4's case allows the unit to be operated with the lid closed. A window in the lid lets you see the screen and there is a slot in the side for hoses and cables. Keeping the lid closed means water and dirt stay out and that means a pressure recorder that keeps on working.

| PRODUCT | DESCRIPTION |
|---------------|--|
| ES-OG4 | OmniGuard 4 Pressure Recorder Includes OmniGuard 4, USB cable, manual, 10' tubing and 1 roll of paper |
| ES-TP201-Box | Thermal Paper Rolls, 5/bx |
| ES-OG-HOSE | External Hose Replacement, 10' |
| ES-OG-HOSE100 | External Hose Replacement, 100' |
| ES-OG-WIFI | Omniguard 4 WiFi Adapter |
| ES-OG-ALARM | Omniguard 3 and 4 Remote Alarm Also requires USB Adapter |
| ES-OG-DIALER | Omniguard 3 and 4 Autodialer with Cable |
| ES-OG-PORT | Omniguard 4 USB Port Adapter |
| ES-OG4-USB | 6' USB Cable for Omniguard 4 |

Gas Detection Equipment



Contents

Passive Sampling Badges: 73-74
Single and Multi Gas Monitors: 75-80





3M Passive Air Monitoring Badges

3M™ Air Monitors are simple and effective devices that collect contaminants through the scientific principle of diffusion. They meet or exceed OSHA accuracy requirements of $\pm 25\%$ at 95% confidence level for many work contaminants.

Features:

- No batteries, hoses, pumps or equipment to calibrate.
- Can be analyzed in your lab or returned for analysis.
- 3M's manufacturing operation is ISO 9002 certified.
- Can also be used for area monitoring if sufficient air flow exists.
- Easy to use. Just clip the monitor to lapel, collar, or pocket.
- 3M provides reference information needed to use the monitors.
- 3M monitors are small, lightweight and will not interfere with employee activities.



| ORGANIC VAPOR MONITOR 3500 | ETHYLENE OXIDE MONITOR 3550 | FORMALDEHYDE MONITOR 3720 | ORGANIC VAPOR MONITOR 3520 WITH BACK-UP SECTION |
|--|---|---|--|
|  |  |  |  |
| Single charcoal sorbent wafer for easy collection of organic vapors. Analysis by gas chromatography. | Designed for sampling personnel or work areas in the health care pharmaceutical, and chemical industries. Analysis procedure is available on request. | Monitors personnel or work areas in health care, laboratories, and in the chemical, pulp/paper, foundry and textile industries. Analysis procedure is available on request. Not acceptable for STEL monitoring. | Primary and back-up sorbent pads for sampling demanding environments. Especially suited for monitoring compounds like acrylonitrile, butadiene and methylene chloride for which activated carbon shows limited capacity. |

| MONITOR TYPE | CONFIGURATION | PRODUCT | PACK SIZE |
|----------------------------------|--------------------------------|----------|-----------|
| Organic Vapor | Monitor Only | 3M-3500 | 10/cs |
| | Monitor Only | 3M-3500B | 50/cs |
| | Monitor + Prepaid Lab Analysis | 3M-3510 | 5/cs |
| Organic Vapor w/ Back-Up Section | Monitor Only | 3M-3520 | 5/cs |
| | Monitor Only | 3M-3520B | 50/cs |
| | Monitor + Prepaid Lab Analysis | 3M-3530 | 5/cs |
| Ethylene Oxide | Monitor Only | 3M-3551 | 5/cs |
| | Monitor + Prepaid Lab Analysis | 3M-3550 | 5/cs |
| Formaldehyde | Monitor Only | 3M-3721 | 5/cs |
| | Monitor Only | 3M-3721B | 25/cs |
| | Monitor + Prepaid Lab Analysis | 3M-3720 | 5/cs |

Note: Limited shelf life

Personal Monitoring Badges



Features:

- **Easy to Use:**
Minimal training and expertise are required to perform air sampling with Badges.
- **Non-Intrusive to Worker:**
Badges minimize interference with worker tasks, promoting worker efficiency. They are small, light, and have no tubes or motors.
- **Equipment Not Required:** There are no pumps to purchase, calibrate, recharge or fail in the middle of sampling.
- **Facilitates Full-Shift (or longer) Sampling:**
Lower sampling rates prevent sample capacity exceedance. Badges are tolerated for longer periods.



| MONITOR TYPE | CONFIGURATION | PRODUCT | PACK SIZE |
|----------------|--|-----------|-----------|
| Organic Vapor | Monitor Only | AT-N566 | 10/bx |
| | Monitor w/Prepaid Analysis of 1 vapor | AT-X566-1 | 5/bx |
| | Monitor w/Prepaid Analysis of 4 vapors | AT-X566-4 | 5/bx |
| Ethylene Oxide | Monitor Only | AT-N555 | 10/bx |
| | Monitor w/Prepaid Lab Analysis | AT-X555 | 5/bx |
| Aldehyde* | Monitor Only | AT-N571 | 10/bx |
| | Monitor w/Prepaid Lab Analysis | AT-X571 | 5/bx |
| Ammonia* | Monitor Only | AT-N584 | 10/bx |
| | Monitor w/Prepaid Lab Analysis | AT-X584 | 5/bx |
| Mercury Vapor | Monitor Only | AT-N593 | 10/bx |
| | Monitor w/Prepaid Lab Analysis | AT-X593 | 5/bx |
| Nitrous Oxide | Monitor Only | AT-N575 | 10/bx |
| | Monitor w/Prepaid Lab Analysis | AT-X575 | 5/bx |
| Ozone* | Monitor Only | AT-N586 | 10/bx |
| | Monitor w/Prepaid Lab Analysis | AT-X586 | 5/bx |

* These badges require refrigeration and are not returnable once shipped. Contact Zefon for assistance when ordering these.

GasAlert Extreme Single Gas Detector

The compact and affordable GasAlert Extreme detectors are available for a wide variety of atmospheric hazards.



Advantages:

- Rugged, IP-66/67 highly water-resistant design w/ built-in concussion-proof boot
- LOW, HIGH, TWA and STEL alarms with adjustable setpoints
- Provides 95 dB tone and bright LED indication on alarm (typical)
- Internal vibrating alarm
- Compact (1.1 x 2.0 x 3.75 in) and Lightweight (2.9 oz./ 82 g)
- 2-year battery life (typical) with replaceable 3V camera battery
- Simple auto-zero and calibration procedure
- Full function self-test of: sensor, battery, and circuitry integrity
- Datalogging



| GAS MONITORED | MEASURING RANGE | PRODUCT |
|--|-----------------|----------------|
| Hydrogen Sulfide (H ₂ S) | 0-100ppm | BW-GAXT-H-DL |
| Hydrogen Sulfide (H ₂ S) | 0-500ppm | BW-GAXT-H-2-DL |
| Carbon Monoxide (CO) | 0-1000ppm | BW-GAXT-M-DL |
| Carbon Monoxide (CO), H ₂ resistant | 0-1000ppm | BW-GAXT-M-2-DL |
| Oxygen (O ₂) | 0-30.0% | BW-GAXT-X-DL |
| Sulfur Dioxide (SO ₂) | 0-100 ppm | BW-GAXT-S-DL |
| Chlorine (Cl ₂) | 0-50 ppm | BW-GAXT-C-DL |
| Hydrogen Cyanide (HCN) | 0-30 ppm | BW-GAXT-Z-DL |
| Nitrogen Oxide (NO ₂) | 0-99.9 ppm | BW-GAXT-D-DL |
| Ammonia (NH ₃) | 0-100 ppm | BW-GAXT-A-DL |
| Ammonia (NH ₃) | 0-400 ppm | BW-GAXT-A2-DL |
| Phosphine (PH ₃) | 0-5 ppm | BW-GAXT-P-DL |
| Ozone (O ₃) | 0-1 ppm | BW-GAXT-G-DL |
| Ethylene Oxide (ETO) | 0-100 ppm | BW-GAXT-E-DL |
| Nitric Oxide (NO) | 0-220 ppm | BW-GAXT-N-DL |
| Chlorine Dioxide (ClO ₂) | 0-1 ppm | BW-GAXT-V-DL |

GasAlertMicro ClipXT Multi-Gas Gas Detector



The GasAlertMicro Clip is a full function 4-gas detector packed into an amazingly small instrument with the rugged constitution of the GasAlert line. The simple, single-button interface makes it incredibly easy to use and its over-sized LCD shows the status of all gases being monitored.

Features:

- Easy to use ONE button operation
- Large LCD simultaneously displays H₂S, CO, O₂ and combustible gas concentrations
- Rugged, compact and lightweight (only 5.6oz)
- Simple, automatic calibration
- Integral concussion proof housing
- Datalogging/event logging standard
- Four alarm levels: High, Low, TWA & STEL
- Battery recharge time of 3 hours
- Audible, Visual and Internal Vibrating Alarms
- Rechargeable lithium ion battery provides 14 hours of operation (typical)
- Durable, stainless steel alligator clip
- Highly water resistant



| PRODUCT NUMBER | DESCRIPTION |
|---------------------|---|
| BW-MC2-XWHM-Y-NA-00 | GasAlertMicro Clip 4 Gas Monitor (O ₂ , LEL, H ₂ S, CO) Includes monitor complete with sensors, a dependable lithium polymer rechargeable battery, charging adapter capable of completely recharging the battery within three hours, stainless-steel alligator clip, interactive training CD, calibration cap, manuals and quick reference card. |

GasAlertQuattro Multi-Gas Detector



Rugged and reliable, the GasAlertQuattro four-gas detector combines a comprehensive range of features with simple one-button operation. With flexible power options, the GasAlertQuattro is always ready. The graphic LCD displays easy to identify icons that indicate operational information, such as bump test and calibration status for simplified onsite auditing. IntelliFlash provides continuous visual confirmation of detector operation and compliance. Suited to a wide range of industrial applications including confined space entry, the GasAlertQuattro is fully compatible with BW's MicroDock II automatic test and calibration system.

Features:

- IntelliFlash verifies operation and compliance up to 20 ft. / 6.1 m
- One-button operational simplicity
- Easy to identify icons
- Field-proven Surecell sensors offer an unprecedented performance, even in the harshest environments
- Easy-to-read, multi-language LCD displays all four gas concentrations simultaneously
- Audible, visual and vibrating alarm
- Extended alarm bars
- Heartbeat pulses continually during normal operation
- Extensive datalogging and event logging capability



| PRODUCT NUMBER | DESCRIPTION |
|-------------------|--|
| BW-QT-XWHM-A-Y-NA | GasAlertQuattro 4-Gas (%LEL, O ₂ , H ₂ S, CO) Detector with AA Alkaline Batteries |
| BW-QT-XWHM-R-Y-NA | GasAlertQuattro 4-Gas (%LEL, O ₂ , H ₂ S, CO) Detector with Rechargeable Batteries |

Confined Space Kits are available for the GasAlertMaxXT and other BW Gas Monitors on Page 80

GasAlertMax XT II Multi-Gas Gas Detector

GasAlertMax XT II is the smart, simple, economical way to compliance. Workers feel safe and incidents are minimized so everyone will be able to do more. That means savings realized from business continuity and productivity.

Simple operation, with SmartSample pump

GasAlertMax XT II reliably monitors up to four hazards and combines straightforward one-button operation with our robust, motorized pump for intelligent, remote sampling, ideal for confined spaces. The GasAlertMax XT II is fully compatible with MicroDock II automated test and calibration system.



Features:

- Continuous LCD shows real-time gas concentrations
- Compact and lightweight design makes it comfortable to wear
- Water-resistant
- Simple automatic calibration procedure; compatible with BW MicroDock II automatic test and calibration station
- Full function self-test of sensor, battery status, circuit integrity and audible/visual alarms on start up
- Bright wide-angled visual alarm bars
- Built-in concussion-proof boot
- Integrated sampling pump with reliable diaphragm technology
- Best in class block detection with semi-conductor pressure sensor
- Multi-language support in English, French, German, Spanish and Portuguese
- Conveniently manage your detector with Fleet Manager II
- Equipped with standard datalogging and event logging



| MODEL/CONFIGURATION | PRODUCT NUMBER |
|--|-----------------|
| GasAlertMax XT II 4 Gas Detector Configured for: Combustibles (%LEL), (O ₂), (CO), & (H ₂ S) | BW-XT-XWHM-Y-NA |

Each GasAlertMax XT II detector includes:

GasAlertMax XT II detector, stainless-steel alligator clip, rechargeable battery, charging adaptor, 3 ft. / 1 m calibration hose with quick connect, 10 ft. / 3 m sampling hose with particulate filter and quick connect, reversible screwdriver, pump filter spares (kit of 5), instructions and laminated quick reference card.

Confined Space Kits are available for the GasAlertMaxXT and other BW Gas Monitors on Page 80

GasAlertMicro 5™ Series Gas Detector



The durable GasAlertMicro 5 Series of detectors are designed for rugged use, ease of operation and flexibility. Detecting up to five potential gas hazards, the GasAlertMicro 5 Series enables users to configure a detector to suit specific applications. Choose from a wide range of target gases, diffusion or pump operation, a range of power options and datalogging capability. Detectors come with an extended range of user-settable options and are MicroDock II compatible for automated testing, calibration and record keeping.

GasAlertMicro 5 portable gas detectors simultaneously monitor and display up to five potential atmospheric hazards including oxygen, combustibles and a range of toxic gases.

GasAlertMicro 5 PID detectors feature a humidity resistant PID (photoionization detector) sensor that detects for VOCs (volatile organic compounds) using an 10.6eV infrared lamp. The detector simultaneously monitors and displaying up to four additional atmospheric hazards including oxygen, combustibles and a range of toxic gases.

GasAlertMicro 5 IR detectors use a non-dispersive infrared sensor to monitor for carbon dioxide levels while simultaneously monitoring and displaying up to our additional atmospheric hazards including oxygen, combustibles and a range of toxic gases.

Features:

- Integral concussion-proof boot
- Triple alarms (audible, visual and vibrating)
- Multi-language support in English, French, German, Spanish & Portuguese
- Large, user selectable backlit LCD
- Four alarm levels: Low, High, TWA & STEL
- Datalogging models store and recall event information
- Wide range of user selectable field options including password protection, safe and stealth modes
- Compatible with standard AA Alkaline batteries or optional rechargeable lithium batteries
- Can be configured for other gases: Cl_2 , ClO_2 , PH_3 , HCN , O_3



| MODEL/CONFIGURATION | OPTIONS | PRODUCT NUMBER |
|--|-------------------------------------|----------------------|
| GasAlert Micro5 5 Gas Detector: Configured for: Combustibles (%LEL) (O ₂), (CO), (H ₂ S), (SO ₂) | Lithium Battery & Datalogging | M5-XWSY-R-D-D-Y-N-00 |
| | Lithium Battery, Pump & Datalogging | M5-XWSY-R-P-D-Y-N-00 |
| GasAlert Micro5 5 Gas Detector: Configured for: Combustibles (%LEL) (O ₂), (CO), (H ₂ S), (NH ₃) | Lithium Battery & Datalogging | M5-XWAY-R-D-D-Y-N-00 |
| | Lithium Battery, Pump & Datalogging | M5-XWAY-R-P-D-Y-N-00 |
| GasAlert Micro5 5 Gas Detector: Configured for: Combustibles (%LEL) (O ₂), (CO), (H ₂ S), (Cl ₂) | Lithium Battery & Datalogging | M5-XWCY-R-D-D-Y-N-00 |
| | Lithium Battery, Pump & Datalogging | M5-XWCY-R-P-D-Y-N-00 |

GasAlertMicro 5™ PID Gas Detector

| MODEL/CONFIGURATION | OPTIONS | PRODUCT NUMBER |
|--|-------------------------------------|-------------------------|
| GasAlert Micro5 PID Gas Detector Configured for: VOC's, Combustibles (%LEL), (O ₂), (H ₂ S), (CO) | Lithium Battery, Pump & Datalogging | M5PID-XWQY-R-P-D-Y-N-00 |
| PID Sensor Cleaning Kit | | BW-M5PID-CLN-K1 |

GasAlertMicro 5™ IR Gas Detector

| MODEL/CONFIGURATION | OPTIONS | PRODUCT NUMBER |
|--|--|--|
| GasAlert Micro5 IR Gas Detector Configured for: CO ₂ (IR), Combustibles (%LEL), (O ₂), (H ₂ S), (CO) | Lithium Battery & Datalogging Lithium Battery, Pump & Datalogging | M5IR-XWBY-R-D-D-Y-N-00 M5IR-XWBY-R-P-D-Y-N-00 |

Each GasAlert Micro5 includes the monitor and sensors (as specified), sensor compartment cover for diffusion operation, calibration adapter and hose, quick reference guide, interactive training & technical documentation CD, integral concussion-proof boot and 3 AA alkaline batteries. Models with rechargeable lithium battery additionally includes a charging cradle. Datalogging models additionally include a 32 MB MultiMedia Card and BW Fleet Manager software for downloading, evaluating & archiving results. Models with pump include a motorized pump and cover (installed), 12 in./30 cm sample probe with hydrophobic barrier (water trap) with particulate filters, a 5 ft./1.5 m sample tubing, three spare particulate filters and one spare water trap filter.

Confined Space Kits are available for the GasAlertMicro5 Series and other BW Gas Monitors on Page 80

BW Micro Dock II

Cost effective calibration and bump test management

The most cost effective way to manage the calibration and bump testing of BW's portable gas detectors is through the MicroDock II automated test and calibration system. Fully portable and easily expandable, the MicroDock II requires no computer and provides simultaneous management of up to ten modules. Minimize expenses and maximize productivity with the MicroDock II.



Features:

- Quick and easy compliance: automatically maintain accurate records.
- Automatic bump testing, calibration, record keeping and charging.
- One base station with one AC outlet supports up to ten modules to suit your application.

Compatible Detectors:

- GasAlert Quattro
- GasAlert MicroClip
- GasAlert Max XT II
- GasAlert Micro 5 Series
- GasAlert Extreme
- GasAlert Clip Extreme (2 & 3 year)

Ordering Information:

BW MicroDock II units must be configured with options for the specific monitors you plan to use it with. To order, please contact your *Zefon* representative.

BW SamplerPak Motorized Sampling Pump



Designed for use with BW single and multi-gas detectors, the BW SamplerPak is a motorized pump that allows remote sampling capabilities to be added to any BW diffusion instrument. The Sampler is an excellent choice for a multitude of applications and industries, including pre-entry and continuous confined space work. Available as its own kit, or as part of a Confined Space Kit with any compatible instrument.

Each sampler pack comes complete with Sampler motorized pump, coiled connector tubing for detector/pump, sampling tubes with barbed fitting, batteries, sampling probe, and a convenient hard-sided carrying case with room for a detector.

| PRODUCT NUMBER | DESCRIPTION |
|----------------|--|
| BW-GA-SPAK | SamplerPak motorized sampling pump kit with alkaline batteries. |
| BW-GA-SPAK-NA | Deluxe SamplerPak motorized sampling pump kit with both alkaline & rechargeable batteries. |

BW Deluxe Confined Space Kits



Includes:

- Carrying holster for the detector specified
- 1 ft. / 0.3 m sampling probe with 10 ft. / 3.3 m hose and quick connect
- 3 ft. / 1 m calibration hose with quick connect
- 0.5 LPM regulator
- Manual aspirator pump (Micro and MicroClip only)
- IR connectivity kit with Fleet Manager II software (Max XT Only)
- IR connectivity kit, fittings and auxiliary filters (MicroClip only)
- Concussion-proof boot with alligator clip (Max XT Only)
- Foam lined carrying case
- Location in case for 34 L calibration gas cylinder & detector (ordered separately)

(NOTE: Does NOT include Monitor or calibration gas)

| PRODUCT NUMBER | DESCRIPTION |
|----------------|---|
| BW-QT-CK-DL | GasAlertQuattro Deluxe Confined Space Kit |
| BW-M5-CK-DL | GasAlertMicro5 Series Deluxe Confined Space Kit |
| BW-MC-CK-DL | GasAlertMicroClip Deluxe Confined Space Kit |
| BW-XT-CK-DL | GasAlertMax XT II Deluxe Confined Space Kit |

Accessories for BW Gas Monitors

| PRODUCT NUMBER | DESCRIPTION |
|----------------|--|
| BW-REG-0.5 | Regulator for Gas Cylinder |
| BW-C2-HOSE1-5 | Tygon® Hose for Cal Gas Connection, 5 foot |

Additional accessories are available. Please contact your Zefon representative for calibration gas information.

Laboratory & Remediation Supplies



Contents

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Small Wonder Acetone Vaporizer

The WonderMakers Small Wonder Acetone Vaporizer was developed as an economical and quick way to clear asbestos PCM slides. Specifically designed to meet NIOSH 7400, 7402, or ORM requirements for preparation of PCM samples.



Features:

- Heat control and thermometer built into vaporizer unit
- Padded carrying case protects equipment and supplies
- Detailed instruction manual
- Enough supplies for the analysis of 1/2 gross of slides
- Lightweight but solidly built
- Designed in strict compliance with the NIOSH 7400, 7402, or ORM requirements for preparation of microscope slides for PCM analysis

Specifications

| | |
|------------|---|
| Dimensions | 4-7/8" L x 4-1/2" W x 2-3/4" H (vaporizer) 13" L x 11" W x 4" H (Complete Analysis Kit) |
| Materials | Plastic case, ABS plastic cover on vaporizer, clear plastic bottles, metal and plastic tools. |
| Weight | 2-1/2 lbs. (Small Wonder vaporizer) 8 lbs. (Complete Analysis Kit) |
| Finish | Black vaporizer cover with gray cord. Case color may vary. |



Complete Kit Shown
Includes everything needed to clear slides for PCM analysis

| PRODUCT | DESCRIPTION |
|---------|--|
| WM42 | Small Wonder Analysis Kit Includes acetone vaporizer, 1 box microscope slides, 1/2oz Triacetin, 2oz Acetone, 1 microdropper, 1 syringe, 1 scalpel, tweezers, padded carrying case and instruction manual. |
| WM44 | Acetone reagent, 2oz, 99% pure |
| WM45 | Triacetin reagent, 1/2oz, 99% pure |
| WM47 | 1cc Syringe |
| WM48 | Rounded Edge Scalpel |
| WM49 | Microdropper |

Perm-O-Fix Acetone Vaporizer

A simple, easy to use, acetone vaporizer for use in preparing asbestos PCM samples as per NIOSH 7400.



| PRODUCT | DESCRIPTION |
|---------|------------------------------------|
| ZA0190 | Perm-O-Fix Acetone Vaporizer, 110v |
| ZA0191 | Perm-O-Fix Acetone Vaporizer, 220v |

Empty Bottles



| PRODUCT | DESCRIPTION |
|---------|----------------------|
| ZA0164 | Dropper Bottle, 1 oz |
| ZA0165 | Amber Bottle, 1 oz |
| ZA0166 | Amber Bottle, 1 oz |

Meiji MT6520 PCM Microscope

The MT6520 by Meiji Techno is a PCM (Phase Contrast Microscopes) Microscope for Asbestos fiber counting applications. Meiji Techno manufactures these microscopes pursuant to NIOSH 7400 and OSHA ID 160 Reference methods. Each microscope comes with centering telescope, 1mm stage micrometer, GIF 546nm filters and built-in Koehler illuminator as standard equipment.



Meiji MT6120 PLM-PCM Microscope

The MT6120 by Meiji Techno is a combination PLM - PCM (Polarized Light and Phase Contrast) Microscope for Asbestos fiber identification applications. Meiji Techno manufactures these microscopes pursuant to NIOSH 9002 Reference methods and NIOSH 7400 and OSHA ID 160 Reference methods.



Meiji MT6520 PCM Microscope Asbestos Field Kit

Items included in field kit:

- Meiji MT6520 PCM Microscope as specified above
- HSE/NPL Phase Shift Test Slide
- Perm-o-fix acetone vaporizer
- 1cc and 3cc syringe
- 30ml Triacetin
- 1 oz cover slips
- Forceps
- Sharpie marker
- Scalpel handle and blade
- 30 ml Acetone
- 3 station counter
- 1 gross Plain Microscope Slides
- Clear Nail Polish
- Lens paper
- Pelican Shipping Case



| PRODUCT | DESCRIPTION |
|---------|--|
| ZA0201 | Meiji MT6520 PCM Microscope |
| ZA0205 | Meiji MT6520 PCM Microscope Asbestos Field Kit |
| ZA0202 | Meiji MT6120 PLM Microscope |
| ZA0210 | HSE/NPL Phase Shift Test Slide |
| ZA0211 | Meiji Centering Telescope |
| ZA0212 | Meiji Stage Micrometer |

Nikon E100 Phase Contrast Microscope

Designed for years of high quality use, the Eclipse E100 is an upright microscope with outstanding optical performance combined with elegant ergonomic touches. The Eclipse E100 incorporates Nikon's exclusive CFI infinity optical system which excels at correcting both chromatic aberration and curvature of the field of view, and features longer working distances and higher numerical apertures. A new series of BE Plan Achromat objectives have been designed especially for the E100 with excellent optical corrections and very flat optical performance. This means clear, bright images at every magnification.



Nikon E200POL Polarized Light Microscope

The Nikon E200POL is a cost-efficient polarizing microscope incorporating industry-acclaimed CFI60 infinity optics. The E200POL features an extremely compact body that takes up little space on your desk. And because the E200POL's design is based on the Eclipse E200 biological microscope, it shares the same objectives and uses many of the accessories created for higher-grade Eclipse series microscopes.



Nikon E200 Phase Contrast Microscope

The Nikon Eclipse E200 is a built-to-last, top-quality microscope ideal for basic laboratory use or educational purposes. Powered by Nikon's advanced CFI60 optics, the E200 produces stunningly sharp and clear images at any magnification. Best of all, the Eclipse E200 maintains the same operational ease and rigidity common to all Nikon microscopes and is compatible with many accessories for highergrade Eclipse series microscopes.



Nikon E100 or E200 Microscope Asbestos Field Kit

Items included in field kit:

- Nikon E100 or E200 PCM Microscope
- Centering telescope
- Green Filter
- Walton Beckett Graticule
- Stage Micrometer
- HSE/NPL Phase Shift test Slide
- Perm-o-fix acetone vaporizer
- 1cc and 3cc syringe
- 30ml Triacetin
- 1 oz cover slips
- Forceps
- Sharpie marker
- Scalpel handle & blade
- 30 ml Acetone
- 3 station counter
- 1 gross Plain Microscope Slides
- Clear Nail Polish
- Lens paper
- Pelican Shipping Case

| PRODUCT | DESCRIPTION |
|---------|--|
| ZA0100 | Nikon E100 Phase Contrast Microscope |
| ZA0101 | Nikon E200 Phase Contrast Microscope |
| ZA0103 | Nikon E200POL Polarized Light Microscope |
| ZA0104 | Nikon Phase Contrast Microscope Field Kit-E100 |
| ZA0105 | Nikon Phase Contrast Microscope Field Kit-E200 |
| ZA0110 | Nikon 10X Dispersion Staining Objective |
| ZA0111 | Nikon Centering Telescope |
| ZA0112 | Nikon Stage Micrometer |
| ZA0102 | Nikon 100x Oil Immersion Lens |

Microscope Slides



Premiere® Brand 9100 Series Microscope Slides

Premiere® Brand 9100 Series Microscope Slides are made of corrosion resistant glass with smoothly polished edges. Pre-cleaned and suitable for a wide range of applications.

Sized 3" x 1" x approximately 1mm thick.

| PRODUCT | DESCRIPTION | Quantity |
|---------|---------------------------------------|-------------------------|
| ZA0260 | Plain Clear 3" x 1" Microscope Slides | 1 Gross (144 slides) |
| | | 10 Gross (1,440 slides) |
| ZA0261 | Frosted 3" x 1" Microscope Slides | 1 Gross (144 slides) |
| | | 10 Gross (1,440 slides) |



Grafc0® Brand Microscope Slides

Grafc0® Brand Microscope Slides are exceptionally clear, water-white, extra hard glass. Rounded corners, ground and polished edges. Packaged in boxes with paper between each slide.

| PRODUCT | DESCRIPTION | Quantity |
|---------|---------------------------------------|-------------------------|
| ZA0270 | Plain Clear 3" x 1" Microscope Slides | 1 Gross (144 slides) |
| | | 10 Gross (1,440 slides) |
| ZA0271 | Frosted 3" x 1" Microscope Slides | 1 Gross (144 slides) |
| | | 10 Gross (1,440 slides) |



Platinum Line Microscope Slides

Platinum Line Microscope slides are premium slides made in Germany. Slides are plain with no frosting, pre-cleaned, and sized 3" (75mm) x 1". Non-corrosive and non-fogging. Thickness: 0.9 to 1.0 mm.

| PRODUCT | DESCRIPTION | Quantity |
|---------|---------------------------------------|----------|
| 50A420 | Plain Clear 3" x 1" Microscope Slides | Any |

Microscope Slide Storage Boxes & Mailers



| PRODUCT | DESCRIPTION |
|------------|------------------------------|
| CA-MSL-07 | Single Slide Mailer, Plastic |
| CA-MSL-08 | Double Slide Mailer, Plastic |
| CA-MSL-15 | 5 Slide Holder, Plastic |
| CA-97-0025 | 25 Slide Storage Box, White |
| CA-97-0055 | 50 Slide Storage Box, White |
| CA-97-0125 | 100 Slide Storage Box, White |

Microscope Cover Glass

- #1.0 Thickness cover glass measures approximately .15mm thick and includes approximately 100 slides per box.
- #1.5 Thickness cover glass measures approximately .17mm thick and includes approximately 100 slides per box.

Platinum Line® Cover Glass

| PRODUCT | DESCRIPTION |
|---------|---|
| ZA0280 | Cover Glass 18mm x 18mm - #1.0 Thickness, 1 oz bx |
| ZA0281 | Cover Glass 18mm x 18mm - #1.5 Thickness, 1 oz bx |
| ZA0282 | Cover Glass 22mm x 22mm - #1.0 Thickness, 1 oz bx |
| ZA0283 | Cover Glass 22mm x 22mm - #1.5 Thickness, 1 oz bx |
| ZA0284 | Cover Glass 22mm x 40mm - #1.0 Thickness, 1 oz bx |



Chase Brand Cover Glass

| PRODUCT | DESCRIPTION |
|---------|---|
| ZA0290 | Cover Glass 22mm x 22mm - #1.0 Thickness, 1 oz bx |
| ZA0291 | Cover Glass 22mm x 22mm - #1.5 Thickness, 1 oz bx |
| ZA0292 | Cover Glass 22mm x 30mm - #1.0 Thickness, 1 oz bx |
| ZA0293 | Cover Glass 22mm x 30mm - #1.5 Thickness, 1 oz bx |
| ZA0294 | Cover Glass 22mm x 40mm - #1.0 Thickness, 1 oz bx |
| ZA0295 | Cover Glass 22mm x 40mm - #1.5 Thickness, 1 oz bx |



Cassette Opener

Accessories



Self-Closing Forceps



| PRODUCT | DESCRIPTION |
|------------|--|
| ZA0046 | Cassette Opener for 25mm, 37mm and Air-O-Cell® Cassettes |
| CA-97-5601 | Talley Counter, Hand Operated |
| CA-97-3902 | Forceps, Stainless Steel, 4.5" long, 12/pk |
| ZA0054 | Forceps, Self Closing, Each |
| CA-9410 | Scalpel, Disposable Plastic with #10 Stainless Blade, 10/bx |
| CA-9303 | Scalpel Handle |
| CA-9310 | Carbon Steel Blades, #10, 100/bx |
| ZA0053 | Kimwipes, 4.5" x 8.5", 280/bx |
| ZA0052 | Alcohol prep pads, 200/bx |
| ZA0056 | Via-Cell Linking Solution, Sterile, 15ml |
| ZA0058 | Via-Cell Blue Stain, 15ml (For staining the sample for microscopic analysis when culture is not required) |

Whirl-Pak® Bags

Nasco Whirl-Pak® sample collection bags provide an easy to use leakproof closure for collection of a wide variety of sample materials.

Features:

- Models with write-on strip make sample identification easier and more convenient by working with a wide variety of writing instruments including ballpoint pens, pencil, or felt-tip markers.
- Puncture proof tabs • Leakproof Closure • Guaranteed Sterile (sterilized after manufacturing)

Whirl-Pak Bags Without Write-On Area

| PRODUCT | DESCRIPTION |
|----------|--|
| B01009WA | 3"w x 5" l, 2.25mil, 2oz capacity, 500/pk |
| B00679WA | 3"w x 7.25" l, 2.25mil, 4oz capacity, 500/pk |
| B00736WA | 4.5"w x 9" l, 2.5mil, 18oz capacity, 500/pk |
| B01020WA | 6"w x 9" l, 3.0mil, 24oz capacity, 500/pk |
| B01027WA | 6"w x 15" l, 3.0mil, 42oz capacity, 500/pk |

The white, write-on strip makes sample identification easier and more convenient. It's easy to write on this white strip using an ordinary ballpoint pen, pencil, or felt-tip marker. The paper-like finish virtually eliminates ink smearing, and provides a surface that will accept a variety of writing instruments.

Whirl-Pak Bags With Write-On Area

| PRODUCT | DESCRIPTION |
|----------|--|
| B01064WA | 3"w x 5" l, 2.25mil, 2oz capacity, includes write on area, 500/pk |
| B01062WA | 3"w x 7.25" l, 2.25mil, 4oz capacity, includes write on area, 500/pk |
| B01065WA | 4.25"w x 9" l, 2.5mil, 18oz capacity, includes write on area, 500/pk |
| B01297WA | 6"w x 9" l, 2.5mil, 24oz capacity, includes write on area, 500/pk |
| B01195WA | 7.5"w x 12" l, 4.0mil, 55oz capacity, includes write on area, 500/pk |
| B01472WA | 3"w x 7.25" , 2.25ml, 4oz capacity, includes write on area, 500/pk |
| B01489WA | 3.5"w x 7" , 2.5ml, 7oz capacity, includes write on area, 500/pk |



Zip-Style Bags

These zip style reclosable bags with white write-on area are perfect for labeling custom orders, indicating manufacturing dates, assembly instructions or warnings, as well as labeling medium or heavy weight parts and samples. White-Block area accepts marker, rubber stamp, grease pencil, or pen. Side-seal construction strengthens the reclosable top. Meets FDA/USDA specifications.



| PRODUCT | DESCRIPTION |
|---------|--|
| ZB1 | 2.5" x 3", 2mil w/ write on area, 100/pk |
| ZB5 | 3" x 5", 2mil w/ write on area, 100/pk |
| ZB4 | 3" x 5", 4mil w/ write on area, 100/pk |
| ZB6 | 9" x 12", 2mil w/ write on area, 100/pk |
| ZB2 | 9" x 12", 4mil w/ write on area, 100/pk |

Saccharin Respirator Fit Test Kit

The Saccharin Fit Test Kit offers OSHA-compliant testing of disposable and reusable dust and mist respirators. When the sweet taste of saccharin is detected, the respirator has failed its fit test. It includes polycoated hood, two nebulizers, sensitivity and fit test solutions, and instructions.



| PRODUCT | DESCRIPTION |
|---------|-----------------------------------|
| AL-2040 | Saccharin Respirator Fit Test Kit |

Banana Oil Respirator Fit Test Kit

Iso Amyl Acetate (banana oil) offers the oldest method of testing respirator fit. Its strong, readily identifiable odor will be recognized if respirators don't obtain a fit. For quick fit testing the standard kit contains two 1 oz. bottles of test agent, vinyl test enclosure, measuring pipette, and paper towels in a handy carry bag.



| PRODUCT | DESCRIPTION |
|---------|------------------------------------|
| AL-0203 | Banana Oil Respirator Fit Test Kit |
| AL-0201 | Banana Replacement Ampoules, 10/bx |

VeriFit Irritant Smoke Generator for Respiratory Fit Testing

Patented all-in-one design is convenient and complete; no components to lose. Its small integrated bellows pump provides the optimum amount of smoke for fit testing yet minimizes the risk of overexposure. The plastic smoke generator eliminates danger from exposed broken glass for safer operation and disposal.

Features:

- Integrated pump provides correct amount of smoke each time
- All-in-one design - No parts to lose or replace
- Plastic Design - No glass to break



NEXTTEQ
BETTER TECHNOLOGY. BETTER QUALITY.
BETTER VALUE.

Respirator fit testing is accomplished in three simple steps:

1. *Bend the smoke generator to break the enclosed ampoule.*
2. *Remove the cap*
3. *Wait 5 seconds and compress bellows*

| PRODUCT | DESCRIPTION |
|---------------|---|
| 90095 | VeriFit Irritant Smoke Generator Kit, 6/bx |
| 50811000-310N | VeriFit Irritant Smoke Generator Kit, 10/bx |

Bitrex® Respirator Fit Test Kit

The Bitrex® Fit Test Kit offers qualitative OSHA-compliant fit testing for disposable and reusable dust and mist respirators. Bitrex creates an unmistakable bitter taste that indicates break through in the respirator fit. Bitrex has been found safer than saccharin tests while producing identical results. Disposable glass ampoules make pouring solution into nebulizers easier and reduces the chance of contamination.

Features:

- For testing the facepiece-to-face seal
- Fast, easy method for performing qualitative fit testing
- Use with any particulate respirator or any gas/vapor respirator with particulate prefilter
- Helps satisfy respiratory program requirements
- Can be used during respirator training programs
- Helps meet administrative respiratory protection training program regulations as specified in OSHA 29 CFR 1910.134



| PRODUCT | DESCRIPTION |
|----------|---|
| 2041 | Bitrex Respirator Fit Test Kit Includes hood, 2 nebulizers, fit test solution, sensitivity solution and instructions |
| 2041-11K | Sensitivity Solution Tubes, 6/bx |
| 2041-12K | Test Solution Tubes, 6/bx |

Bitrex® is a trademark of Macfarlan Smith

Smoke Tubes Respirator Fit Test Kit



Field proven as an OSHA accepted method since 1982, irritant smoke qualitative respirator fit testing is an economical, fast, safe and reliable fit testing method. Smoke tubes are used with a wide variety of respirators by firefighters, HAZMAT teams, first responders, the military and many industrial applications.

Kit Includes:

- 6 - Irritant Smoke Tubes
- 1 - Precision Aspirator Bulb Assembly
- 1 - Record Keeping Form
- 1 - Carrying Pouch

Irritant smoke testing is fast, simple, easy-to-perform and economical. You save money because there is no need for nebulizers, electric pumps, mixing jars, batteries, special test masks, mask probes or testing hoods. Each kit has everything you need for over 50 tests without the cost of extra equipment. Plus, you save time because each smoke tube and aspiration bulb pump is pre-calibrated and ready for immediate use. No warm up time or calibration required.

| PRODUCT | DESCRIPTION |
|---------|--|
| 500 | Smoke Tube Kit Contains 6 smoke tubes, aspirator bulb and carrying case |
| 501 | Replacement Smoke Tubes 6/bx |





Sampling Equipment Specialists

