



**GLASS EXPANSION**

Quality By Design

# ICP-OES/ICP-MS Supplies & Accessories Catalogue

Issue 10



## Nebulizers

|  |   |
|--|---|
| Introduction to Glass Expansion Nebulizers       | 1 |
| Nebulizer Types                                  | 1 |
| Glass Expansion Nebulizer Part Numbers Explained | 1 |
| Learn about Glass Expansion Nebulizers           | 2 |
| Nebulizer Selection Guide                        | 3 |

## Spray Chambers

|  |   |
|--|---|
| Introduction to Glass Expansion Spray Chambers                         | 5 |
| Spray Chamber Types  | 5 |
| Helix CT - Interface Between Nebulizer and Spray Chamber               | 5 |
| HydraMist Simultaneous Cold Vapor/Pneumatic Nebulization Spray Chamber | 6 |
| Spray Chamber Selection Guide  | 7 |

## Torches

|  |   |
|--|---|
|  | 8 |
|--|---|

## RF Coils

|  |   |
|--|---|
|  | 9 |
|--|---|

## ICP-MS Cones

|  |    |
|--|----|
|  | 10 |
|--|----|

## Accessories

|   |    |
|---|----|
| IsoMist XR Programmable Temperature Spray Chambers    | 11 |
| Guardian In-Line Sample Filter                        | 12 |
| Guardian In-Line Non-Return Gas Filter                | 12 |
| Eluo Nebulizer Cleaning Tool                          | 13 |
| Trident CT In-Line Reagent Additions Kit              | 13 |
| Elegra Argon Humidifier                               | 14 |
| High Efficiency Sample Introduction System for ICP-MS | 14 |
| Laser Ablation  | 15 |
| Autosampler Probes                                    | 16 |
| Guardian Autosampler Probes                           | 17 |

## Agilent Technologies®

|                         |         |    |
|-------------------------|---------|----|
| 7900                    | ICP-MS  | 18 |
| 8900                    | ICP-MS  | 21 |
| 7800/7850               | ICP-MS  | 24 |
| 7700/8800               | ICP-MS  | 27 |
| 5000 Series SVDV/VDV/RV | ICP-OES | 30 |

## PerkinElmer®

|                     |         |    |
|---------------------|---------|----|
| NexION 5000         | ICP-MS  | 32 |
| NexION 1000/2000    | ICP-MS  | 34 |
| NexION 300/350      | ICP-MS  | 36 |
| Avio 200/500        | ICP-OES | 39 |
| Optima 8000/8300 DV | ICP-OES | 41 |

## Shimadzu®

|                         |         |    |
|-------------------------|---------|----|
| 2030                    | ICP-MS  | 43 |
| 9000/9800 and 7500/8100 | ICP-OES | 45 |

## Spectro™

|   |         |    |
|---|---------|----|
| Arcos II EOP/ Blue EOP/TI & Green TI    | ICP-OES | 48 |
| Arcos II SOP/ Blue SOP & Green SOP/DSOI | ICP-OES | 50 |

## Thermo Fisher®

|                  |           |    |
|------------------|-----------|----|
| Q/RQ/TQ          | ICP-MS    | 52 |
| Neoma            | MC-ICP-MS | 54 |
| PRO Duo          | ICP-OES   | 56 |
| PRO Radial       | ICP-OES   | 58 |
| 6000/7000 Duo    | ICP-OES   | 60 |
| 6000/7000 Radial | ICP-OES   | 62 |

## Fittings and Connectors

|   |    |
|---|----|
| Nebulizer Fittings and Connectors             | 64 |
| Spray Chamber/Torches Fittings and Connectors | 65 |

## Pump Tubing

|  |    |
|--|----|
| Standard Peristaltic Pump Tubing           | 66 |
| Contour Flared End Peristaltic Pump Tubing | 69 |

## Introduction to Glass Expansion Nebulizers

The nebulizer is a critical component of your ICP sample introduction system, so why not opt for the highest quality? Glass Expansion has been manufacturing ICP nebulizers since the early 1980s and continually updates nebulizer designs to improve performance and ease of use. Our proprietary designs include a thick walled VitriCone capillary, UniFit sample line connector and the Direct Connect (DC) product line.

Whether your ICP laboratory is analyzing clean aqueous samples, samples containing HF and/or high dissolved salts, or volatile organic solvents; Glass Expansion has a nebulizer to suit your needs. Learn about the performance advantages and overall difference in construction quality that a Glass Expansion nebulizer can provide your ICP laboratory.

## Nebulizer Types

| Nebulizer   | TDS (%)                  | Particulates (µm)            | HF                         | Precision                            | Purity                                    | Material                                   |
|---|--------------------------|------------------------------|----------------------------|--------------------------------------|---|--|
| SeaSpray<br>MicroMist<br>Conikal<br>Slurry<br>Quartz SeaSpray | 20<br>15<br>5<br>1<br>20 | 75<br>40*<br>75<br>150<br>75 | No<br>No<br>No<br>No<br>No | High<br>High<br>High<br>High<br>High | Good<br>Good<br>Good<br>Good<br>Excellent | Glass<br>Glass<br>Glass<br>Glass<br>Quartz |
| OpalMist  | 15                       | 75*                          | Yes                        | High                                 | Excellent                                 | PFA  |
| DuraMist  | 30                       | 75*                          | Yes                        | High                                 | Good                                      | PEEK                                       |
| VeeSpray  | 30                       | 300                          | Yes                        | Moderate                             | Good                                      | Ceramic                                    |

\* Varies with nebulizer uptake

## Glass Expansion Nebulizer Part Numbers Explained

### Glass DC Nebulizers

#### Conikal

1mL/min uptake

A13-07-UC1



**A**#-yy-**ZZ**nnn

- A** Gas pressure rating of 40 psi
- #** Gasline fitting type eg:  
13 = Suitable for Agilent® 5000 Series
- yy** The argon flow in L/min eg. 07=0.7L/min
- ZZ** Nebulizer model type:  
 UC = Conikal U-Series nebulizer  
 US = Slurry U-Series nebulizer  
 USS = SeaSpray U-Series nebulizer  
 UM = MicroMist U-Series nebulizer  
 CV = Ceramic VeeSpray v-groove nebulizer  
 DM = DuraMist HF resistant nebulizer  
 PFA = OpalMist PFA HF resistant nebulizer
- nnn** Aspirated uptake at nominal argon flow, in mL/min eg:  
 UC1 = 1mL/min  
 UM04 = 0.4mL/min  
 PFA005 = 0.05mL/min

## Learn About Glass Expansion Nebulizers

All Glass Expansion concentric nebulizers use the unique VitriCone™ construction delivering the best possible precision.

### DC Nebulizer



The DC (Direct Connection) nebulizer has a UniFit sample connector which slides easily over the sample arm and an argon connector configured to connect directly to your ICP.

#### DC Nebulizer Benefits:

- Inert metal-free argon connector.
- Instrument-specific Direct Connect flexible argon line.
- Reliable ratchet fitting ensures leak-free gas connection.

DC versions of the SeaSpray, MicroMist, Conikal, Slurry, DuraMist, OpalMist and VeeSpray nebulizers are available to suit the most common models of ICP-OES and ICP-MS.

The DC nebulizer part number has a prefix specific to each type of gas connector. For example, the prefix “A13-” denotes a connector for the Agilent® 5000 ICP-OES Series, so part number A13-07-USS2 is a SeaSpray nebulizer configured for direct connection to the Agilent® 5000 Series.

#### In addition to these unique benefits, the DC nebulizer shares the following benefits with the U-Series nebulizer:

- Resists blockage: The sample channel is uniform from the entry point to the tip, so there is nowhere for particulates to be trapped.
- Fast washout: Since there is nowhere for sample to be trapped, the fastest possible washout and highest sample throughput is achieved.
- Simple to use: Our proprietary UniFit connector slides easily over the sample arm and creates an excellent seal.
- Full length VitriCone construction: With the VitriCone design, the sample channel is constructed from heavy glass capillary which is machined to very high tolerances.



### DC Nebulizer Gas Fitting Connectors

|   |             |
|---|-------------|
| Agilent® Vista/700-ES, 4100/4200                  | 70-803-0969 |
| Agilent® 7700/7800/7900/8800/8900                 | 70-803-1105 |
| Agilent® 5000 ICP-OES Series                      | 70-803-1105 |
| Analytik Jena® ICP-MS                             | 70-803-2002 |
| Analytik Jena® ICP-OES                            | 70-803-1105 |
| Horiba® Jobin Yvon (All models)                   | 70-803-1105 |
| Leeman (All Models)                               | 70-803-0969 |
| Nu Instruments ICP-MS                             | 70-803-1858 |
| Nu Instruments TOF-ICP-MS                         | 70-803-2044 |
| PerkinElmer® ICP-OES                              | 70-803-1070 |
| PerkinElmer® Elan/NexION 300/350                  | 70-803-1049 |
| PerkinElmer® NexION 1000/2000/5000                | 70-803-1449 |
| Radom MICAP – OES™ 1000                           | 70-803-2054 |
| Shimadzu® (All models)                            | 70-803-1311 |
| Spectro™ (All models)                             | 70-803-1070 |
| Thermo® PRO, 6000/7000, Q/RQ/TQ, X-Series & Neoma | 70-803-1105 |
| Thermo® Neptune                                   | 70-803-1468 |

## U-Series Glass Concentric Nebulizers

SeaSpray, MicroMist, Conikal and Slurry U-Series nebulizers are available to suit all common models of ICP-OES and ICP-MS. Each U-Series nebulizer is supplied with a UniFit sample connector.

U-Series nebulizers can be identified by the letter 'U' in the part number, eg. ARG-07-USS2 or ARG-1-UM04.

All glass concentric nebulizers in this catalog are U-Series nebulizers.



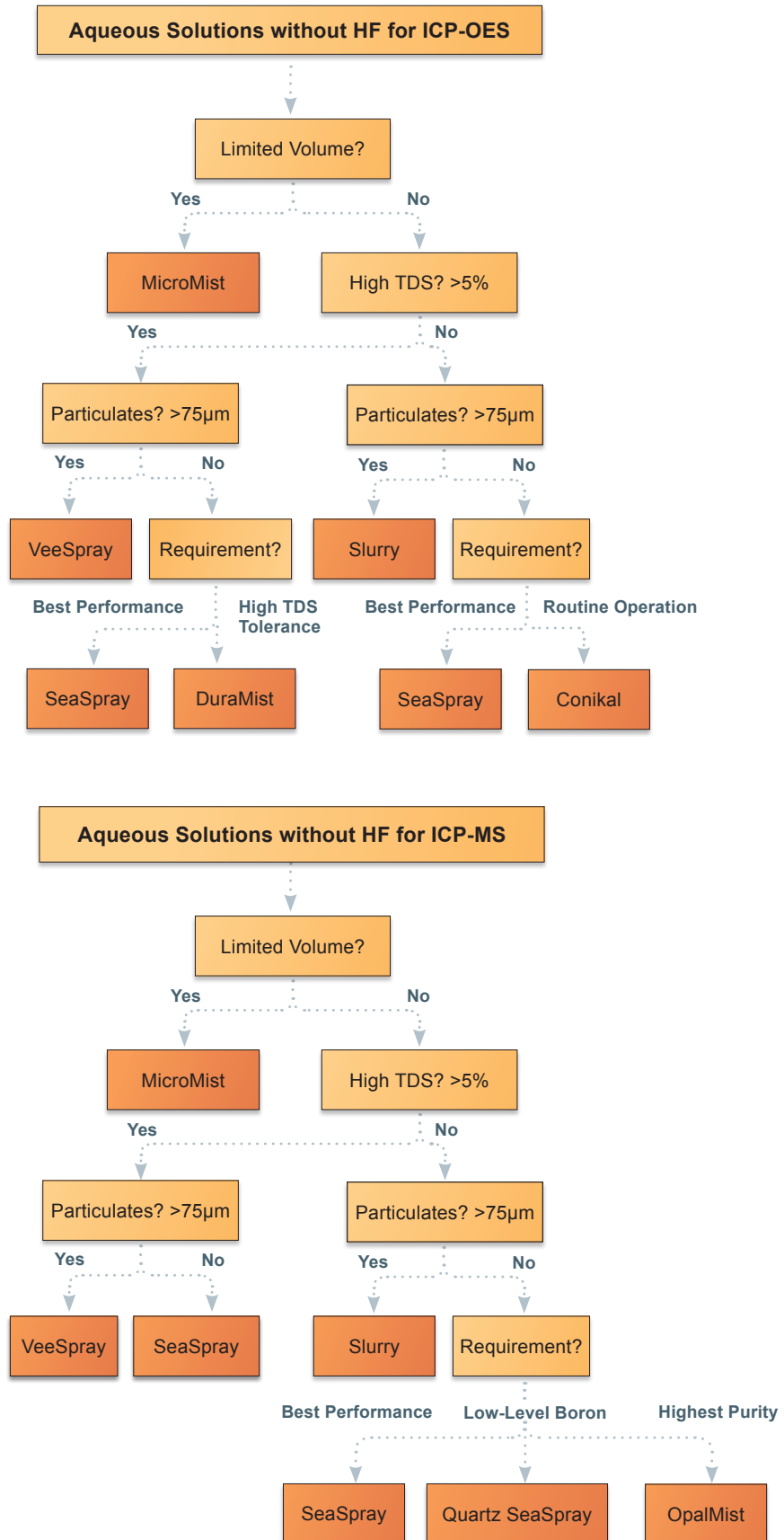
## U-Series Quartz Concentric Nebulizers

The Quartz SeaSpray concentric nebulizer is made from ultra pure quartz and offers outstanding nebulization efficiency for trace level analyses. It offers freedom from clogging while nebulizing solutions to the limit of solubility of most mineral salts, and conferring significant sensitivity gains. It is specifically designed for ultra trace level analysis.

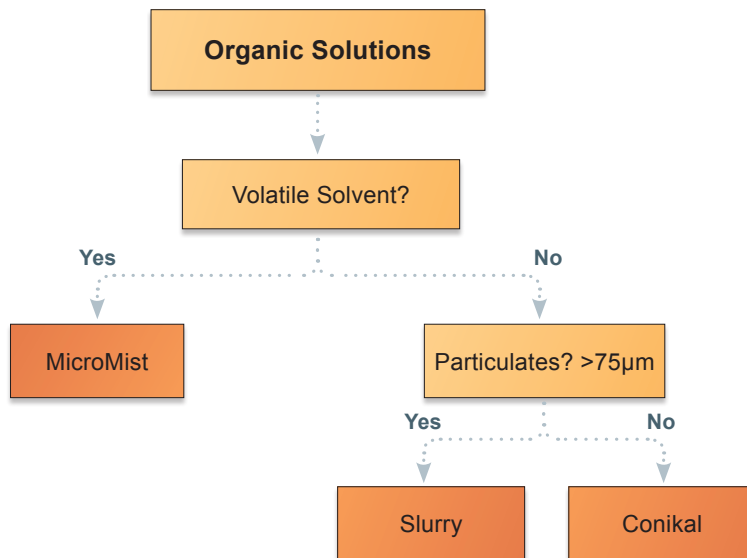
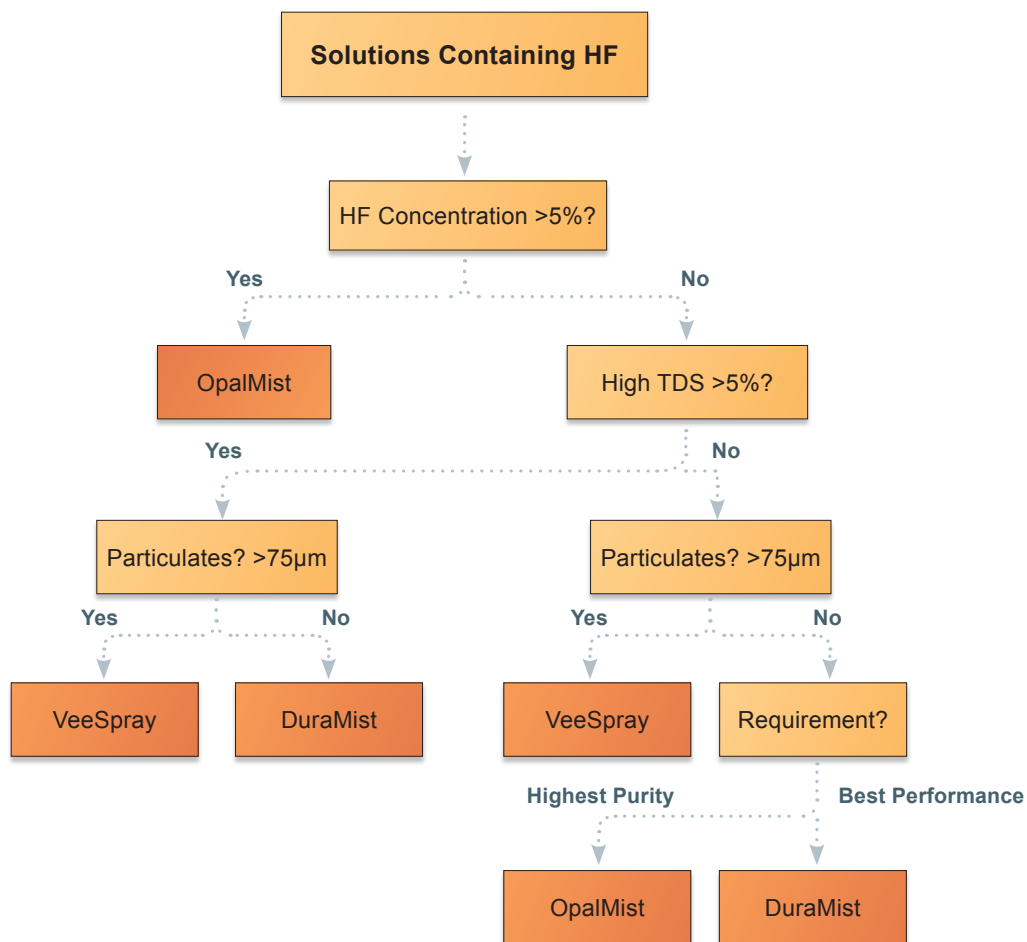




Nebulizer Selection Guide










## Nebulizer Selection Guide



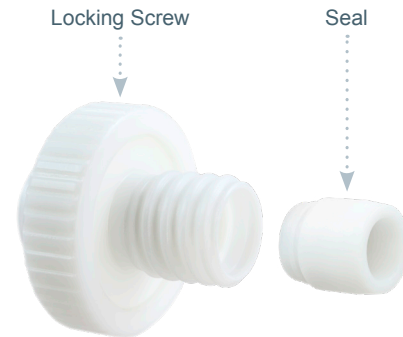
## Introduction to Glass Expansion Spray Chambers

The spray chamber is a crucial component of the ICP sample introduction system since it has a profound effect on transport efficiency, precision, and washout. Glass Expansion revolutionized the spray chamber design for the ICP industry with the Tracey and Twister cyclonic spray chamber, providing improved efficiency and reduced washout. Glass Expansion's unique Helix CT nebulizer interface, provides a zero dead volume seal that results in higher throughput compared to non-Glass Expansion designs.

### Spray Chamber Types

|              |   |  |
|--------------|---|--|
| Tracey       |    | Internal Volume, mL: 50<br>Internal Baffle: No<br>HF-resistant: No<br>Precision: Very Good<br>Purity: Good<br>Material: Glass  |
| Twister      |    | Internal Volume, mL: 50<br>Internal Baffle: Yes<br>HF-resistant: No<br>Precision: Excellent<br>Purity: Good<br>Material: Glass |
| Cinnabar     |   | Internal Volume, mL: 20<br>Internal Baffle: No<br>HF-resistant: No<br>Precision: Very Good<br>Purity: Good<br>Material: Glass  |
| Twinnabar    |  | Internal Volume, mL: 20<br>Internal Baffle: Yes<br>HF-resistant: No<br>Precision: Very Good<br>Purity: Good<br>Material: Glass |
| Tracey TFE   |  | Internal Volume, mL: 50<br>Internal Baffle: No<br>HF-resistant: Yes<br>Precision: Good<br>Purity: Good<br>Material: PTFE       |
| Twister TFE  |  | Internal Volume, mL: 50<br>Internal Baffle: Yes<br>HF-resistant: Yes<br>Precision: Very Good<br>Purity: Good<br>Material: PTFE |
| Tracey PFA44 |  | Internal Volume, mL: 44<br>Internal Baffle: No<br>HF-resistant: Yes<br>Precision: Good<br>Purity: Excellent<br>Material: PFA   |

## Helix CT - The Modern Interface Between Nebulizer and Spray Chamber



Traditionally, ICP-OES and ICP-MS sample introduction systems have relied on o-rings to form a gas-tight seal between the nebulizer and spray chamber. There are several drawbacks with an o-ring seal, such as:

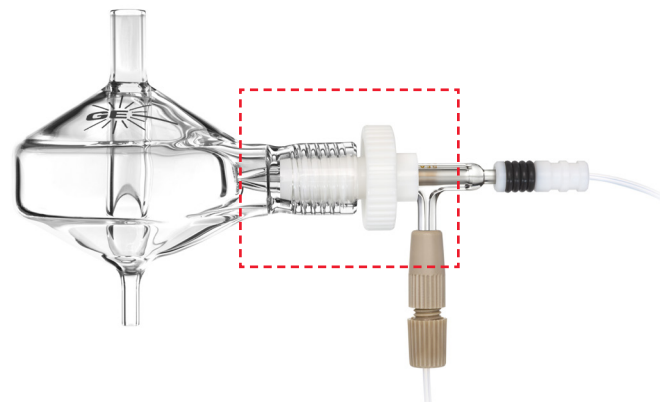
- Potential for contamination due to dead volume around the o-ring seal
- Chemical resistivity of strong acids and organic solvents
- The o-rings are difficult to replace, often requiring tools
- Bonding to the nebulizer can result in breakage

Glass Expansion Helix CT spray chamber with ConstantTorque technology, provides a constant, reproducible, inert, gas-tight seal between the nebulizer and spray chamber.

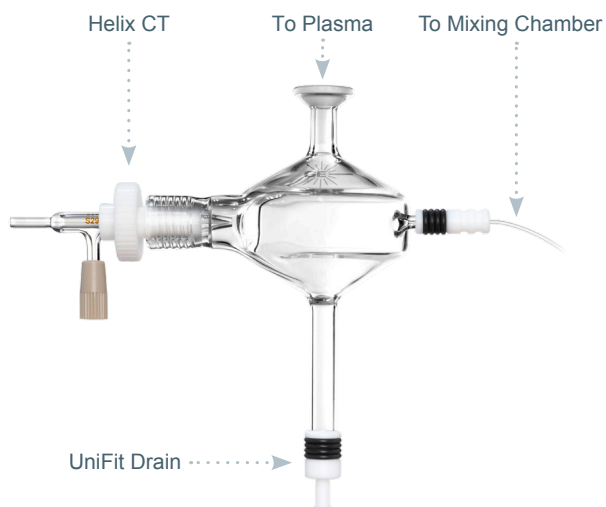
The main feature of the Helix CT spray chamber is the Helix locking screw with built-in torque control mechanism that allows for a consistent seal of the PTFE ferrule against the nebulizer –making it impossible to overtighten or undertighten while ensuring a gas-tight seal each and every time.

A PressFit PTFE ferrule provides a chemically inert seal around the nebulizer, which is immune to strong acids and organic solvents routinely used in ICP sample preparation.

The Helix CT cyclonic spray chamber by Glass Expansion, therefore, eliminates all the drawbacks of the o-ring nebulizer seal, while improving user safety by preventing broken nebulizers.



## HydraMist Simultaneous Cold Vapor/ Pneumatic Nebulization Spray Chamber



\* Note: Nebulizer is not included in HydraMist Kit.

The Glass Expansion HydraMist is a sensitive, simple-to-use spray chamber for Inductively Coupled Plasma (ICP) that allows simultaneous operation of both conventional pneumatic nebulization and cold-vapor/hydride generation. Cold vapor generation can provide more than 10-fold improvement in sensitivity on ICP for cold vapor forming elements such as As, Sb, Se, Tl and Hg. The generation of volatile species of these elements results in increased analyte loading of the analytical plasma giving lower detection limits.

The design of the HydraMist spray chamber is based upon Glass Expansion's industry-standard cyclonic spray chamber, giving excellent sensitivity and short-term analytical precision with fast washout. The HydraMist spray chamber features a secondary inlet port that mixes the aerosolized sample and liquid reductant inside the spray chamber for rapid conversion of the As, Sb, Se, Tl and Hg analytes into volatile hydride species. The unique drain design ensures fast, complete removal of waste from the spray chamber, eliminating excess hydrogen build-up that causes sample reflux degrading analytical precision.

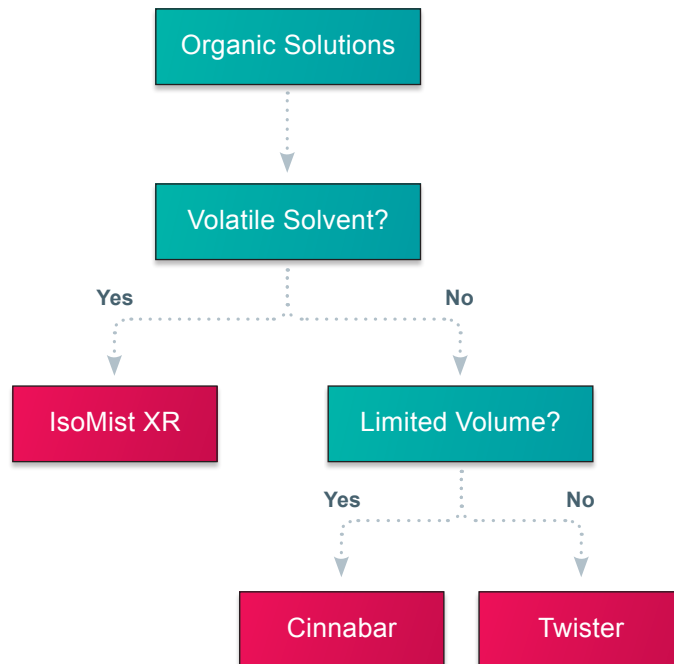
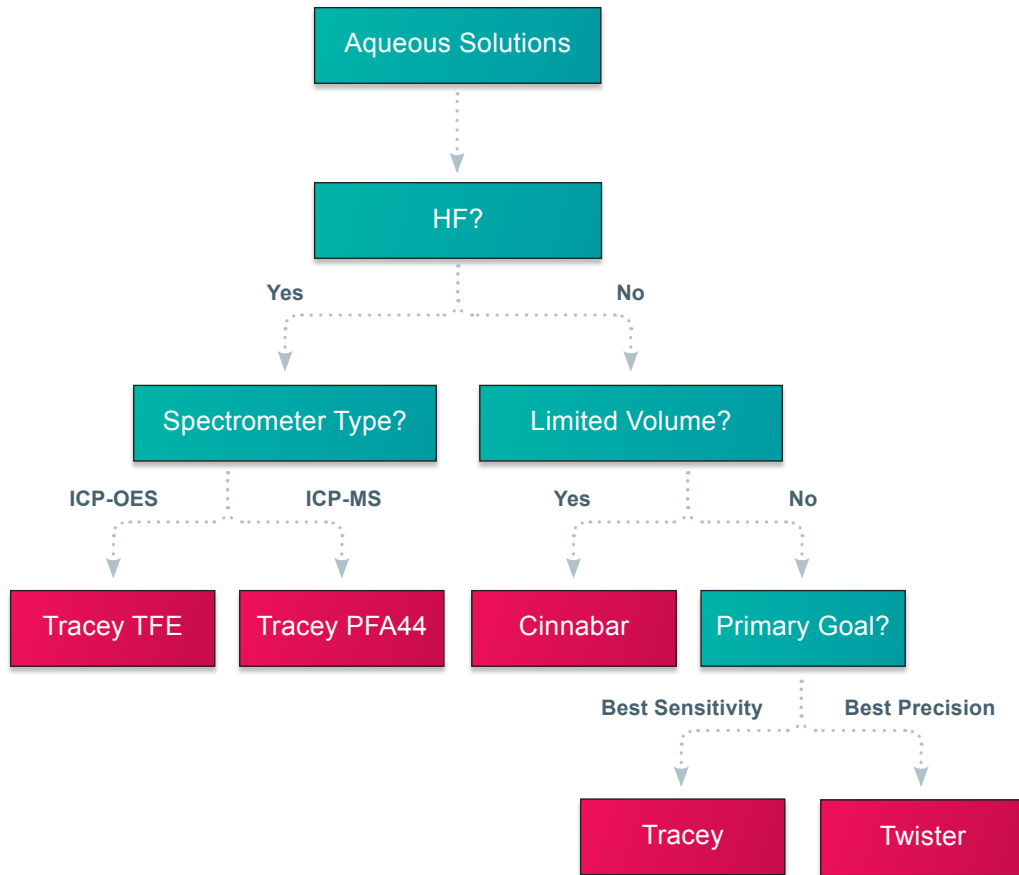
The HydraMist Spray Chamber Features:

- The same outstanding short-term analytical precision and washout as other Glass Expansion cyclonic spray chambers
- Fast and complete vapor phase formation of volatile As, Se, Sb, Tl and Hg species for the best detection limits in hydride generation mode
- A unique drain design to eliminate hydrogen build-up and sample reflux that degrades short-term precision
- Economic, just replace your current spray chamber and keep your existing nebulizer
- Improve productivity by analysing non-hydride forming elements and cold vapor elements simultaneously, avoiding system shutdowns to change over between the hydride generator accessory and conventional pneumatic nebulization

### HydraMist Kit

| HydraMist Kit                              |         |
|--|---------|
| Agilent® 5000 ICP-OES Series               | KT-1157 |
| Agilent® 7700/7800/7900/8900               | KT-1168 |
| Analytik Jena® PQ 9000                     | KT-1157 |
| PerkinElmer® Avio 200/500                  | KT-1157 |
| PerkinElmer® Optima 8000/8300 DV           | KT-1162 |
| PerkinElmer® Optima 4000/5000/7000 DV      | KT-1162 |
| Shimadzu® ICPE 9000/9800                   | KT-1157 |
| Spectro™ Arcos II SOP/EOP and Blue EOP/SOP | KT-1160 |
| Thermo® PRO                                | KT-1160 |
| Thermo® Duo 7600                           | KT-1156 |
| Thermo® Duo 6000/7200/7400                 | KT-1179 |

Spray Chamber Selection Guide





## D-Torch (Demountable Torch)

The D-Torch is a revolutionary new demountable torch design. It provides the benefits of a fully demountable torch at a significantly lower cost. Interchangeable outer tubes made of quartz or ceramic are available. The quartz tube is ideal for most aqueous applications and, since the outer tube is usually the first to wear, you can make a significant saving by replacing just the outer tube rather than the whole torch.

The ceramic outer tube is of particular benefit for the analysis of samples with high salt content or wear metals in engine oils, where quartz outer tubes often suffer from short lifetime. The ceramic outer tube has a much longer lifetime, greatly reducing interruptions and downtime due to torch failure. The D-Torch uses the same mounting system as the standard fixed torch so there is no additional cost or complexity to install it.

- Demountable outer tube – why replace the entire torch when just the outer tube wears?
- Interchangeable quartz and ceramic outer tubes.
- Much lower cost than other demountable torches.
- Interchangeable injectors for aqueous, organics, high dissolved solids or HF applications.

\* The D-Torch is covered by US Patent 8,232,500 B2

The D-Torch models suited for the Agilent® 5000 Series, PerkinElmer® Avio 200/500, Thermo® PRO and Spectro™ Arcos II and Blue incorporates the same easy to use, self-aligning and locking features of the standard torch in a robust cost effective design.

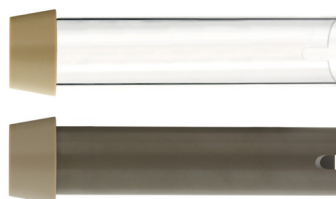
### Complete D-Torch



### Injectors



### Outer Tubes



### Torch Body



## Semi Demountable Torch



- Highly accurate construction
- Lower running cost than one-piece torches

Usually comprises a quartz torch body, a torch adaptor, an injector and GazFit connectors. All these parts are replaceable, making the semi demountable torch more cost effective than the fixed quartz torch. The design of the torch for standard analyses and HF analyses is the same, with only the injector material changing. For aqueous and organics analyses use a quartz injector, while for HF analyses use an alumina injector. Hence simply interchange between quartz and alumina injectors for appropriate analyses. Several internal diameters for both quartz and alumina injectors are also available.

## Fixed Quartz Torches (One Piece)



- Precise quartz construction
- Wide range held in stock
- Simple to use
- Lowest initial cost

## RF Coils – more efficient energy transfer



Glass Expansion Coils are produced from the highest quality raw materials and plated using prescribed methods to obtain maximum RF (Radio Frequency) transmission efficiency. There are numerous papers published on RF transmission with regard to conductor and coating resistance.

### Why Change your RF Coil?

- Regular replacement of corroded coils reduces the load on the RF generating system.
- Changing corroded coils increases energy transfer, resulting in a more robust plasma and generally higher analytical line intensities.

### Advantages of Glass Expansion RF Coils

- High quality and consistent plating of our coils promotes extended coil life.
- Each coil is supplied on a plastic former ensuring correct dimensions and easier installation.
- Each coil is supplied in a special protective container to ensure correct dimensions are maintained, and the coil arrives corrosion free.
- Correct alignment of the RF Coil with respect to the torch body reduces devitrification of the outer tube.
- Reusable alignment tools ensure correct installation every time. Our Do-it-yourself instructions saves time.

### Glass Expansion installation Kits for RF Coils

- Incorrect alignment of the torch in the coil will dramatically reduce torch life. The Glass Expansion Installation Kits help ensure correct alignment and maximum torch life.
- Correct alignment of the RF Coil with respect to the torch body reduces devitrification of the outer tube.
- Re-usable alignment tools are available separately to ensure correct installation of the coil every time.
- Our easy to follow Do-It-Yourself installation instructions save you time, and the cost of a service call.

### All kits contain:

- An Installation Kit – Aligns coil to torch mounting bracket.
- Required Spanner/s – Designed specifically for each instrument.
- USB - Do-It-Yourself instructions.



## ICP-MS Cones



Our ICP-MS interface cones are made from ultra-pure metals sourced from specialty smelters. Our highly experienced machinists use state of the art CNC machines and electron beam welding to provide cones with the finest tolerances for the highest quality.

We supply cones for all of the popular ICP-MS models and, to make sure you get all the support you need, we have a staff of technical experts and a fully equipped ICP-MS laboratory for testing and evaluation.

### No-risk guarantee:

As with all of our products, our cones are backed by our complete satisfaction guarantee.

### Free refurbishment:

Extend the life of your platinum cones with our free refurbishment program. In many cases, a platinum cone can be refurbished multiple times and its lifetime greatly extended. As a customer service, Glass Expansion will refurbish your platinum cones free-of-charge.

### Platinum reclaim:

If your platinum cone cannot be refurbished, we will provide a rebate for the value of platinum in the cone.

### Coneguard

The ConeGuard Thread Protector protects the cone thread from corrosive cleaning solutions and greatly extends cone life.

## ICP-MS Cone Resource Guide

Our ICP-MS Cone Resource Guide answers all the questions you ever had about cones. It includes the “why” and “how” of selecting the right cones, details on the advantages of different cone materials, and tips on care and maintenance.



### Includes:

- About Glass Expansion ICP-MS Cones
- Platinum Cone Refurbishing
- Cone Material Guidelines
- Cones by ICP Model
- Cone Conditioning, Gasket & O-ring replacement guidelines
- Cone Maintenance

Scan the QR Code to view our ICP-MS Cone Resource Guide:



## IsoMist XR Programmable Temperature Spray Chamber



The IsoMist XR programmable temperature controlled cyclonic spray chamber now features an improved thermodynamic design providing an extended temperature range and faster cool-down, so your ICP is ready to go sooner.

IsoMist XR is a compact, convenient and maintenance-free temperature controlled sample introduction system for all ICP's.

### Improved Analytical Stability with Precise Temperature Control

On the IsoMist XR, the spray chamber temperature is accurately controlled through an improved thermodynamic design using a multi-stage peltier device. The spray chamber temperature is settable in 1°C increments from -25°C to 80°C guaranteeing optimum conditions can be used for any application.

### Reduce Oxide Interferences in ICP-MS

Using the IsoMist XR spray chamber at sub-ambient temperatures on an ICP-MS, the sample is cooled, less water vapor is transferred to the plasma resulting in lower oxide formation and reduced polyatomic (ArO, ArOH) interferences. Less oxides in the plasma mean fewer interferences, improving accuracy and detection limits.

### Perfect for Naphtha and Gasoline Analysis

For volatile solvents, a lower sample introduction temperature reduces nebulization efficiency avoiding quenching of the plasma from solvent overloading. With a minimum operating temperature of -25°C, analyzing volatile organic solvents such as naphtha and gasoline by ICP is even easier.

### Improve Analytical Stability with Constant Spray Chamber Temperature

Fluctuations in the lab temperature affects sample viscosity and nebulization efficiency. Maintaining the sample introduction system at a constant and stable temperature improves analytical reproducibility, enhances throughput and lowers operating costs by reducing the need to re-run samples when a check standard drifts outside the acceptable upper or lower limits.

### Elevated Sample Introduction Temperatures Enhances Sensitivity

The sensitivity for many analyses can be enhanced by operating the spray chamber at elevated temperatures - especially important for limited sample volumes. Heating the spray chamber also helps with the analysis of viscous samples such as lubricants and edible oils.

### A Spray Chamber Optimized for Analytical Performance

The IsoMist XR incorporates a proven cyclonic spray chamber design in glass, quartz and HF resistant PFA with Helix CT interface. Compared to a Scott type spray chamber, cyclonic spray chambers are more sensitive and have better washout. The IsoMist XR includes the Helix CT nebulizer interface, which eliminates sample contamination and ensures easy nebulizer removal for routine nebulizer cleaning. The Helix CT nebulizer interface also has zero dead volume, reducing carry-over and improving washout between samples. With a positive stop built-in, Helix CT ensures correct and reproducible nebulizer insertion depth for constant nebulizer performance.



### Easy to Use Software

For maximum convenience, the IsoMist XR can be controlled from a PC via USB or Bluetooth wireless interface. The spray chamber temperature can be monitored during an analytical run with time vs temperature plot on your PC screen.

### Elegant, Ergonomic and Compact

The IsoMist XR is an elegant, compact, stand-alone system manufactured from materials resistant to attack from acids and solvents commonly used in ICP analysis. By using a peltier to maintain the spray chamber temperature, the messy, noisy and high-maintenance refrigerated circulating baths used with jacketed spray chambers has been eliminated. The compact design means all IsoMist XR Programmable Temperature Controlled Spray Chambers are compatible with virtually any ICP-OES or ICP-MS.

## Guardian In-Line Sample Filter

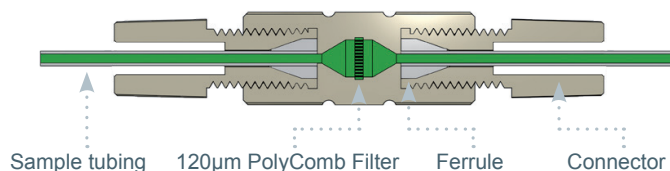


If there are particulates in your samples, there is a risk that they may get trapped in the narrow bore sample tubing or within the nebulizer. The Guardian In-Line Sample Filter provides a simple and effective way to eliminate this risk. This filter is easily inserted in the sample tubing between the autosampler probe and the nebulizer. It incorporates a 120 micron PolyComb filter and is suitable for use with 1/16 inch (1.6mm) OD or 1.3mm OD sample tubing.

The purpose-built clog-resistant design is ideal for ICP samples. Unlike sintered or frit style filters, the linear honeycomb structure makes the PolyComb filter resistant to clogging from particulates. Any particle build-up is easily removed by back-flushing using the Eluo Adaptor 70-803-1160. And the PEEK material is suitable for use with all of the most common ICP solutions.



Eluo Adapter For In-Line Filter



### Guardian In-Line Sample Filter

|                                 |             |
|---------------------------------|-------------|
| In-Line Filter                  | 70-803-1108 |
| Eluo Adaptor for In-Line Filter | 70-803-1160 |
| Fitting Seal 1/16 (PKT 10)      | 70-803-0749 |
| Fitting Seal 1.3mm (PKT 10)     | 70-803-0748 |

## Guardian In-Line Non-Return Gas Filter



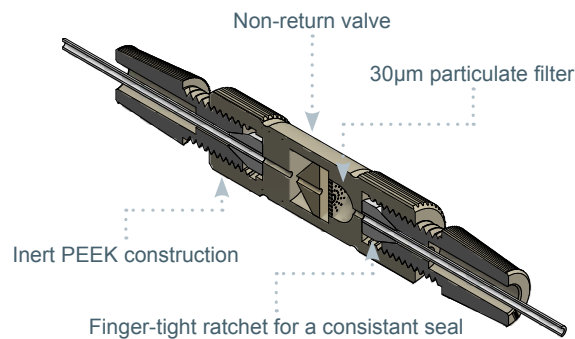
The new Guardian In-line Non-Return Gas Filter provides protection for your ICP system in two ways:

1. A non-return valve prevents acidified sample or rinse solution syphoning into the instrument gas box.
2. 30µm PolyComb filter protects the nebulizer from particulates in the instrument gas supply.

The Guardian In-line Non-Return Gas Filter is positioned between the Argon inlet on the Direct Connection nebulizer and the gas supply fitting on the instrument. The In-line Non-Return Filter has a one-way valve that allows argon to flow from the instrument into the nebulizer, but prevents liquid syphoning into the instrument. A unique PolyComb 30µm filter design protects the nebulizer from particulates from the gas supply or from worn or damaged fittings in the gas lines. Unlike Sintered or Frit style filters, the linear honeycomb structure makes PolyComb most resistant to particulate and dissolved solid clogging.

Syphoning of the sample or rinse solution into the nebulizer argon control module on your ICP can occur at the end of an analytical run when the nebulizer gas pressure is turned off and there is liquid in the sample flow path. It is made worse if the autosampler probe stays in the rinse position at the end of a run.

A real problem using an autosampler for unattended overnight runs, it is a silent, invisible killer of your ICP. Acidified solution in the instrument Argon control module can cause corrosion to electronic sensors in mass flow controllers and damage regulators that can result in expensive repairs to your ICP and un-planned down time.



### Guardian In-Line Non-Return Gas Filter

|   |             |
|---|-------------|
| Guardian DC In-Line Non-Return Gas Filter | 70-803-1942 |
| Guardian In-Line Non-Return Gas Filter    | 70-803-1362 |

\*Choose P/N 70-803-1942 if using a DC nebulizer model.



## Eluo Nebulizer Cleaning Tool



### Cleaning your nebulizer is as easy as 1, 2, 3.

1. Fill your Eluo with Methanol.
2. Insert your nebulizer, tip first, into the Eluo.
3. Clean your nebulizer by pressing the Plunger down.

Particle build-up in a nebulizer capillary and tip causes sample flow to be constricted, reducing nebulizer efficiency and performance. Now, blocked nebulizers can be safely and easily restored to optimum performance with a revolutionary cleaning instrument – the Eluo.

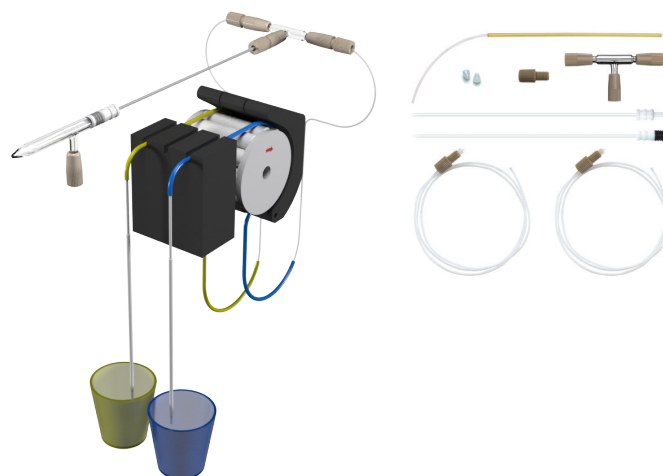
The Eluo is designed to efficiently deliver a cleanser through the nebulizer capillary to dislodge particle build-up and thoroughly clean the nebulizer. One simple action does it all. No more messy procedures or shattered nebulizers in ultrasonic baths. Use the Eluo regularly to maintain nebulizer performance and prolong nebulizer life. Every lab should have an Eluo.

The Eluo can also be conveniently used to clean the Inline Particle Filter P/N 70-803-1108 with the addition of Adaptor P/N 70-803-1160.

### Eluo Nebulizer Cleaning Tool

|                                      |             |
|--------------------------------------|-------------|
| Eluo for Glass concentric Nebulizers | 70-ELUO     |
| Eluo HF Nebulizer Cleaner            | 70-ELUO-OPD |
| Fluka RBS-25 concentrate             | FLUKA25     |
| O-ring Kit for Eluo (2 sets)         | 70-0806     |

## Trident CT™ In-Line Reagent Additions Kits



Internal standards are often used in ICP Spectrometry to improve stability. The internal standardization process involves the addition of a known concentration of a particular element to every sample and can be a very time-consuming procedure. The Glass Expansion Trident Kits allow the internal standard to be automatically mixed with each sample during sample introduction, saving considerable sample preparation time.

The Trident CT™ mixing chamber is based on the industry-proven design of the Trident, but with the addition of Glass Expansion's ConstantTorque™ (CT) to provide a simple-to-use, leak-free connection for both the internal standard and sample, every time.

The heart of the kit is the mixing chamber, designed with zero dead volume CT fittings. With other mixing chambers, worn or improperly fitted connections leak, inject a stream of air bubbles into the nebulizer flow, degrading short-term analytical precision (%RSD). By using CT ratchet-style fittings, the Trident CT eliminates air leaks, optimizing analytical performance.

### The Trident CT features:

- Compact, efficient mixing chamber ensures complete mixing of the sample and reagent.
- CT fittings for a durable, leak-free seal on all connections.
- Zero dead volume connections.
- Completely modular so that damaged or lost components can easily be replaced.

Check the Trident Dilution Factor Calculator on our website to find out the sample and internal standard dilution factors for selected combinations of pump tubing.

The peristaltic pump tubing is not supplied as part of the Internal Standard Kit but can be ordered separately.

### In-Line Reagent Additions Kits

|  |             |
|--|-------------|
| Trident CT In-Line Reagent Additions Kit               | 60-703-1179 |
| Trident Internal Standard Kit for HF (original design) | 60-808-1150 |

## Elegra Argon Humidifier



Elegra

Elegra Dual

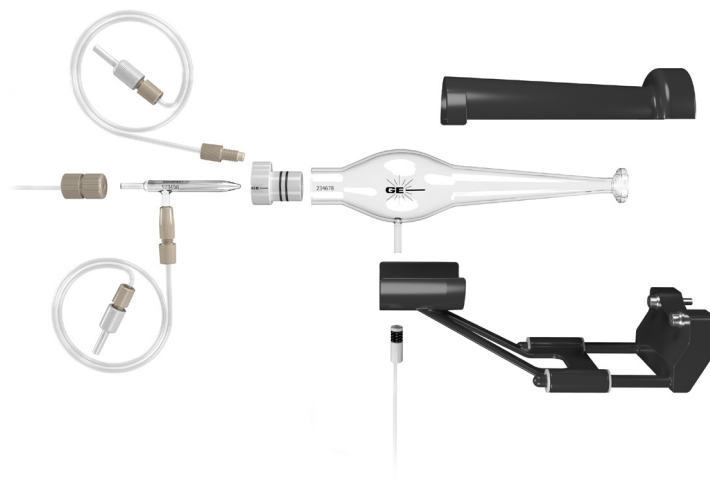
An Argon Humidifier is commonly used in ICP analyses involving samples with high concentrations of dissolved solids. It helps to alleviate salt deposits in the nebulizer and torch injector, allowing uninterrupted and maintenance-free operation.

- Compact, cost-effective design.
- No heating or electric power required.
- Non-pressurized water reservoir.
- An easy-to-use bypass switch allows you to take the Elegra off-line without disconnecting argon lines. (Not available with Elegra Dual)
- Highly efficient membrane humidification technology.
- Improved signal stability for samples with high TDS.
- Simple to install, use and maintain.
- Improves productivity by reducing down-time for cleaning.
- Inert metal-free construction eliminates contamination.
- Maximum and minimum fill marks ensure that you are always operating under optimum conditions.
- Compatible with all ICP-OES and ICP-MS models. Direct connection to argon outlet provided for most models.
- Elegra Dual two-channel configuration available for ICP-MS instruments using auxiliary argon.

### Elegra Argon Humidifier

|  |             |
|--|-------------|
| O-ring for Capricorn or Elegra Cap (PKT 3) | 70-V-225    |
| Elegra Stand                               | 70-803-1581 |
| Elegra Membrane                            | 70-803-1286 |

## High Efficiency Sample Introduction System (HE-SIS)



Originally designed as a highly efficient single-cell sample introduction system, Glass Expansion's HE-SIS has been redesigned to provide superior performance across a wide variety of applications, including single-cell, single particle, nanoparticle, and low-volume sample studies, with up to 95% transport efficiency.

### Key HE-SIS Components

#### High Efficiency MicroMist™ Nebulizer

This specially designed concentric glass nebulizer is based on our popular MicroMist™ design, capable of efficiently nebulizing limited sample volumes at low sample and argon gas flow rates.

#### Patent-pending MicroJet Gas Adapter

Patent-pending MicroJet gas adapter, which shapes the nebulizer aerosol plume to reduce sample deposition on the spray chamber walls and enhance transport efficiency.

#### High Efficiency Spray Chamber

A low-volume, on-axis spray chamber directly couples to the torch, providing the highest transport efficiency and excellent washout between samples.

### High Efficiency Sample Introduction System

|                                 |         |
|---------------------------------|---------|
| For Agilent® ICP-MS             | KT-1155 |
| For Thermo® ICP-MS              | KT-1172 |
| For TOFWERK icpTOF              | KT-1172 |
| For NexION 1000/2000/5000       | KT-1184 |
| For PerkinElmer® NexION 300/350 | KT-1204 |
| For NU ATTOM                    | KT-1205 |
| For Thermo® X Series            | KT-1213 |
| For Thermo® Neptune/Element     | KT-1215 |
| For Nu Vitesse                  | KT-1219 |

## Laser Ablation

P/N: 21-809-4309



P/N: 70-803-1600



P/N: 31-808-4034



P/N: 20-809-4550



P/N: 21-809-2801



P/N: 31-808-4289



P/N: 31-808-4107



P/N: 31-808-3863  
OD: 4mm  
ID: 2mm

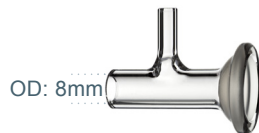


## S13 (13 mm) cup Adaptors

P/N: 31-800-1007  
ID: 4mm



P/N: 21-809-4140



P/N: 21-809-0965C  
OD: 6mm  
ID: 4mm



P/N: 31-808-3045  
OD: 4mm  
ID: 2mm



## GazFit Connectors



### GazFit Union Connectors (for rigid walled tubing)

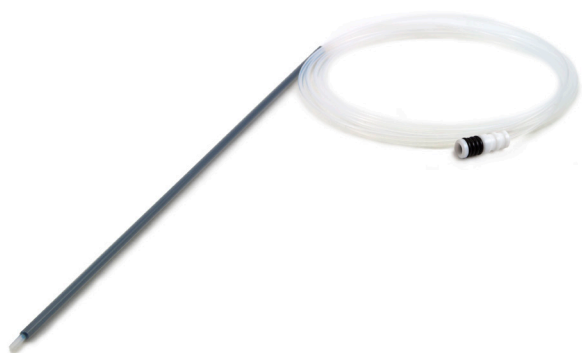
|                          |         |
|--------------------------|---------|
| GazFit Union 4mm (PKT.2) | GAZ-04U |
| GazFit Union 6mm (PKT.2) | GAZ-06U |
| GazFit Union 8mm (PKT.2) | GAZ-08U |



### Standard GazFit Connectors (for soft walled tubing)

|   |             |
|---|-------------|
| GazFit Connectors for 4mm OD side arm (PKT.4)                                       | GAZ-04      |
| GazFit Connectors for 5mm OD side arm (PKT.4)                                       | GAZ-05      |
| GazFit Connectors for 6mm OD side arm (PKT.4)                                       | GAZ-06      |
| GazFit Connectors for 8mm OD arm (PKT.2)  | GAZ-08      |
| GazFit Connectors, 2 for 6mm OD side arms, 2 for 4mm OD side arms (PKT.4)           | GAZ-0604    |
| GazFit Connectors for 6mm OD side arm with connection for 1/8inch ID tubing (PKT.4) | GAZ-06-3.2B |

## Autosampler Probes



### Suitable for Cetac ASX-200/500/800 Series and PerkinElmer S20 Series

|   |              |
|---|--------------|
| PTFE Encapsulated Carbon Fibre Probe 0.25mm ID with EzyFit          | 70-803-1088  |
| Polyimide sheathed Autosampler Probe 0.5mm ID                       | 60-808-1186L |
| PTFE Encapsulated Carbon Fibre Probe 0.25mm ID                      | 70-803-1523  |
| PTFE Encapsulated Carbon Fibre Probe 0.5mm ID                       | 70-803-0784  |
| PTFE Encapsulated Carbon Fibre Probe 0.5mm ID with UniFit           | 70-803-1380  |
| PTFE Encapsulated Carbon Fibre Probe 0.75mm ID with ratchet fitting | 70-803-1443  |
| PTFE Encapsulated Carbon Fibre Probe 0.75mm ID                      | 70-803-1880  |
| PTFE Encapsulated Carbon Fibre Probe 1.0mm ID with ratchet fitting  | 70-803-0793  |
| PTFE Encapsulated Carbon Fibre Probe 1.0mm ID                       | 70-803-1879  |

### For Cetac ASX 110

|   |             |
|---|-------------|
| PFA sheathed Autosampler Probe 0.25mm ID with EzyFit      | 70-803-1072 |
| PFA sheathed Autosampler Probe 0.25mm ID with UniFit      | 70-803-1073 |
| PTFE Sheathed Carbon Fibre Probe 0.18mm ID with UniFit    | 70-803-1684 |
| PTFE Encapsulated Carbon Fibre Probe 0.3mm ID with UniFit | 70-803-1191 |
| PTFE Encapsulated Carbon Fibre Probe 1.0mm ID             | 70-803-1182 |

### For Agilent® SPS 3/SPS 4

|  |             |
|--|-------------|
| PTFE Encapsulated Carbon Fibre Probe 0.25mm ID | 70-803-0910 |
| PTFE Encapsulated Carbon Fibre Probe 0.50mm ID | 70-803-0909 |
| PTFE Encapsulated Carbon Fibre Probe 0.75mm ID | 70-803-0908 |
| PTFE Encapsulated Carbon Fibre Probe 1.0mm ID  | 70-803-0853 |

### For Agilent® I-AS

|   |             |
|---|-------------|
| PTFE Encapsulated Carbon Fibre Probe 0.25mm ID with UniFit, 1100mm total length | 60-703-1010 |
| PTFE Encapsulated Carbon Fibre Probe 0.3mm ID with UniFit, 686 mm total length  | 60-703-1009 |
| PTFE Encapsulated Carbon Fibre Probe 1.0mm ID                                   | 60-703-0533 |

### For PerkinElmer® S10 or AS93+

|   |             |
|---|-------------|
| PTFE Encapsulated Carbon Fibre Probe 0.25mm ID            | 70-803-1071 |
| PTFE Encapsulated Carbon Fibre Probe 0.5mm ID with UniFit | 70-803-0991 |
| PTFE Encapsulated Carbon Fibre Probe 0.5mm ID             | 70-803-1440 |
| PTFE Encapsulated Carbon Fibre Probe 1.0mm ID             | 70-803-0816 |

### For Shimadzu®

|   |             |
|---|-------------|
| PTFE Encapsulated Carbon Fibre Probe 0.3mm ID with UniFit, for Shimadzu® ASC-6100F/9800 | 70-803-1200 |
| PTFE Sheathed Carbon Fibre Probe 0.75mm ID with UniFit, for Shimadzu® AS-10             | 70-803-1477 |

## Guardian Autosampler Probes

The unique design of the robust tip—which combines drip-resistance and built-in particle filtering—helps to prevent cross-contamination during probe movement and blockages in your nebulizer and capillary tubing. Constructed entirely from PEEK and PFA, the Guardian autosampler probe also provides exceptional resistance to strong acids and solvents. The Guardian probe has an ID of 1.0mm, with interchangeable UniFit sample capillaries that are available in IDs of 0.3, 0.50, 0.75 and 1.0mm.



### Benefits:

- Robust tip design eliminates crushed and damaged tips due to misalignment.
- Drip-resistance prevents cross contamination of samples, especially with oils.
- Built-in particle filtering holds back particulates from blocking the line.
- Completely inert design, all PEEK and PTFE construction.
- Interchangeable UniFit™ sample lines available in various IDs (e.g. 0.3, 0.50, 0.75 & 1.0mm)
- Designed to suit Teledyne Cetac, AimLab & Agilent SPS3 /SPS4 Autosamplers.

### Suitable for Cetac, Aim Lab and Agilent SPS3 / SPS4 Autosamplers

|  |             |
|--|-------------|
| Guardian Probe for SPS3/SPS4/AIMS, 0.75mm Probe Connecting Line (Red)    | 70-803-1957 |
| Guardian Probe Cetac ASX-200/500/800, 0.75mm Probe Connecting Line (Red) | 70-803-1803 |

### Guardian Probe only

|   |             |
|---|-------------|
| Guardian Probe for SPS3/SPS4/AIMS               | 70-803-2008 |
| Guardian Probe for Cetac ASX-200/500/800 Series | 70-803-1787 |
| Guardian Probe for Cetac ASX-112FR              | 70-803-2029 |

### Probe Connecting Lines for SPS3/SPS4/AIMS & Cetac ASX-200/500/800

|  |             |
|--|-------------|
| Probe Connecting line 1.0mm ID (Green) | 70-803-1721 |
| Probe Connecting Line 0.75mm ID (Red)  | 70-803-1714 |
| Probe Connecting Line 0.5mm ID (Blue)  | 70-803-1852 |
| Probe Connecting Line 0.3mm ID (Black) | 70-803-1853 |

### Probe Connecting Lines for ASX-112FR

|   |             |
|---|-------------|
| Probe Connecting Line 0.18mm ID (Black)                   | 70-803-2030 |
| Probe Connecting Line 0.18mm ID with EzyFit (Green/Black) | 70-803-2085 |



### Glass DC Nebulizers

**SeaSpray**

400µL/min uptake      A13-1-USS04X

**MicroMist**

400µL/min uptake      A13-1-UM04X  
 200µL/min uptake      A13-1-UM02X  
 100µL/min uptake      A13-1-UM01Q  
 50µL/min uptake      A13-1-UM005Q



**Conikal**

1mL/min uptake      A13-1-UC1X

### Quartz DC Nebulizers

**SeaSpray**

1mL/min uptake      A13-1-QSS1



### DC Nebulizers for HF

**OpalMist**

400µL/min uptake      A13-1-PFA04X  
 200µL/min uptake      A13-1-PFA02X  
 100µL/min uptake      A13-1-PFA01Q  
 50µL/min uptake      A13-1-PFA005Q



### DC Nebulizers for Single Cell

**MicroMist HE**

200µL/min uptake      C13-1-UFT02



### Peltier Controlled Cyclonic Spray Chambers

Glass Spray Chamber      KT-1116  
 Quartz Spray Chamber      KT-1116Q  
 PFA Spray Chamber      KT-1116P



### Spray Chambers

**Single-Cell Spray Chamber Kit**

High Sensitivity Single-Cell Sample Introduction System      KT-1155



### Spray Chambers

(continued)

**HydraMist Simultaneous Cold Vapor/ Pneumatic Nebulization Spray Chamber**

Hydride Kit      KT-1168



**\*Twister**

50mL Cyclonic with Aux.      20-809-2574HE



**\*Cinnabar**

20mL Cyclonic with Aux.      20-809-2575HE

**Quartz Scott Style**

For 7900 UHMI      20-809-4144



### Spray Chambers for HF

**\*Tracey PFA44**

44ml Cyclonic with Aux.      20-809-2578  
 Spray Chamber Adaptor      KT-1104



\*Requires adaptor KT-1104.

### Torches

**Quartz Torches**

with 1.0mm Injector      30-807-0558  
 with 1.5mm Injector      30-807-0557  
 with 2.0mm Injector      30-807-3608  
 with 2.5mm Injector      30-807-0556



**Torch Options**

Quartz Torch Bonnet      31-808-2577  
 Quartz Connector with Dilution Port      31-808-3217  
 Quartz Connector with 45deg Dilution Port      31-808-3280  
 Straight Quartz Connector      31-808-3288  
 Clamp (PKT 2)      70-803-0846



**Torches**

(continued)

**Semi-Demountable Torch**

with 2.4mm Quartz Injector 30-808-3853



**Torch Options**

Semi-Demountable Torch body 31-808-3857

2.4mm Tapered Quartz Injector 31-808-4168



2.4mm Tapered Alumina Injector 31-808-3855



2.4mm Sapphire Capillary Injector 31-808-4159



Injector Adaptor 31-808-4129

Viton O-rings for FDT/SDT ball joints (PKT 10) 70-V-011



**RF Coils**

Copper 70-900-7800C



Silver 70-900-7800S



Gold 70-900-7800G



**RF Coil Installation Kit** 70-900-7500T



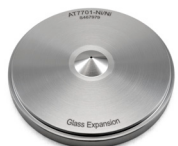
**Cones**

**Sampler Cones**

Nickel Sampler AT7701-Ni



Nickel Sampler with Nickel plated base AT7701-Ni/Ni



**Cones**

(continued)

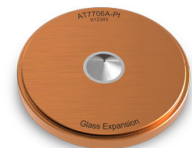
**Sampler Cones (continued)**

Aluminium Sampler AT7701-Al



Platinum Sampler AT7706-Pt

Platinum Sampler (18 mm Insert) AT7706A-Pt



Platinum Sampler with Nickel plated base AT7706-Pt/NiP



Platinum Sampler with solid Nickel base AT7706-Pt/Ni

Platinum Sampler (15mm insert) with Nickel base AT7706B-Pt/Ni



Platinum Sampler with Nickel plated base (Extended Life) AT7706L-Pt/NiP

**Skimmer Cones**

Nickel Skimmer for x-lens AT7902X-Ni



Aluminium Skimmer for x-lens AT7902X-Al



Platinum Skimmer for x-lens AT7908X-Pt



Platinum Skimmer with Nickel base for x-lens AT7908X-Pt/Ni



Nickel Skimmer for s-lens AT7702S-Ni

Copper Skimmer AT7702S-Cu

Platinum Skimmer for s-lens AT7708S-Pt

Platinum Skimmer with Nickel base for s-lens AT7708S-Pt/Ni

## Cones

(continued)

### Cone Options

|   |             |
|---|-------------|
| Skimmer Cone Guard                        | 70-803-1004 |
| Graphite Gasket (PKT 3)                   | AT7703      |
| Long Life Shield Plate                    | AT5004      |
| Brass Skimmer Base Agilent 7900 X Lens    | AT7905X-BR  |
| Captive Screw M4 for Skimmer Base (PKT 3) | 70-803-2061 |



## Common Accessories

### Elegra Argon Humidifier

|  |             |
|--|-------------|
| Elegra Dual Two-channel Argon Humidifier | 70-803-1273 |
|--|-------------|



|              |             |
|--------------|-------------|
| Elegra Stand | 70-803-1581 |
|--------------|-------------|



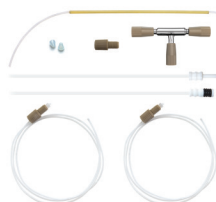
### Guardian In-Line Filters

|   |             |
|---|-------------|
| Guardian DC in-line non-return gas filter | 70-803-1942 |
| Guardian in-line sample filter            | 70-803-1108 |



### Trident Internal Standard Kits

|                         |             |
|-------------------------|-------------|
| Trident CT Standard Kit | 60-703-1179 |
| Standard Kit for HF     | 60-808-1150 |



## Autosampler Probes

(See page 16-17 for complete list of probes)

### For Agilent® I-AS

|                                      |           |             |
|--------------------------------------|-----------|-------------|
| PTFE Encapsulated Carbon Fibre Probe | 0.25mm ID | 60-703-1010 |
| PTFE Encapsulated Carbon Fibre Probe | 0.3mm ID  | 60-703-1009 |

### For Cetac ASX-200/500/800 Series

|                                      |                             |              |
|--------------------------------------|-----------------------------|--------------|
| Guardian Probe 0.75mm                | Probe Connecting Line (Red) | 70-803-1803  |
| Polyimide sheathed Autosampler Probe | 0.5mm ID                    | 60-808-1186L |
| PTFE Encapsulated Carbon Fibre Probe | 0.5mm ID                    | 70-803-0784  |
| PTFE Encapsulated Carbon Fibre Probe | 0.75mm ID                   | 70-803-1443  |
| PTFE Encapsulated Carbon Fibre Probe | 1.0mm ID                    | 70-803-0793  |



### For SPS 3/SPS 4

|                                      |                             |             |
|--------------------------------------|-----------------------------|-------------|
| Guardian Probe 0.75mm                | Probe Connecting Line (Red) | 70-803-1957 |
| PTFE Encapsulated Carbon Fibre Probe | 0.75mm ID                   | 70-803-0908 |
| PTFE Encapsulated Carbon Fibre Probe | 1.0mm ID                    | 70-803-0853 |



### Glass DC Nebulizers

#### SeaSpray

400µL/min uptake      A13-1-USS04X

#### MicroMist

400µL/min uptake      A13-1-UM04X

200µL/min uptake      A13-1-UM02X

100µL/min uptake      A13-1-UM01Q

50µL/min uptake      A13-1-UM005Q

#### Conikal

1mL/min uptake      A13-1-UC1X



### Quartz DC Nebulizers

#### SeaSpray

1mL/min uptake      A13-1-QSS1



### DC Nebulizers for HF

#### OpalMist

400µL/min uptake      A13-1-PFA04X

200µL/min uptake      A13-1-PFA02X

100µL/min uptake      A13-1-PFA01Q

50µL/min uptake      A13-1-PFA005Q



### DC Nebulizers for Single Cell

#### MicroMist HE

200µL/min uptake      C13-1-UFT02



### Peltier Controlled Cyclonic Spray Chambers

Glass Spray Chamber      KT-1116

Quartz Spray Chamber      KT-1116Q

PFA Spray Chamber      KT-1116P



### Spray Chambers

#### Single-Cell Spray Chamber Kit

High Sensitivity Single-Cell Sample Introduction System      KT-1155



### Spray Chambers

#### HydraMist Simultaneous Cold Vapor/ Pneumatic Nebulization Spray Chamber

Hydride Kit      KT-1168



#### \*Twister

50mL Cyclonic with Aux.      20-809-2574HE



#### \*Cinnabar

20mL Cyclonic with Aux.      20-809-2575HE



#### Quartz Scott Style

For 7900 UHMI      20-809-4144

### Spray Chambers for HF

#### \*Tracey PFA44

44ml Cyclonic with Aux.      20-809-2578

Spray Chamber Adaptor      KT-1104



\*Requires adaptor KT-1104.

### Torches

#### Quartz Torches

with 1.0mm Injector      30-807-0558

with 1.5mm Injector      30-807-0557

with 2.0mm Injector      30-807-3608

with 2.5mm Injector      30-807-0556



#### Torch Options

Quartz Torch Bonnet      31-808-2577

Quartz Connector with Dilution Port      31-808-3217

Quartz Connector with 45deg Dilution Port      31-808-3280

Straight Quartz Connector      31-808-3288

Clamp (PKT 2)      70-803-0846



**Torches**

(continued)

**Semi-Demountable Torch**

with 2.4mm Quartz Injector 30-808-3853



**Torch Options**

Semi-Demountable Torch body 31-808-3857

2.4mm Tapered Quartz Injector 31-808-4168



2.4mm Tapered Alumina Injector 31-808-3855



2.4mm Sapphire Capillary Injector 31-808-4159



Injector Adaptor 31-808-4129

Viton O-rings for FDT/SDT ball joints (PKT 10) 70-V-011



**RF Coils**

Copper 70-900-7800C



Silver 70-900-7800S



Gold 70-900-7800G



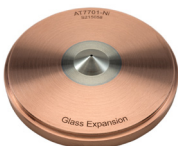
**RF Coil Installation Kit** 70-900-7500T



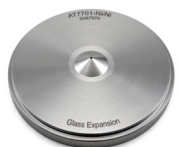
**Cones**

**Sampler Cones**

Nickel Sampler AT7701-Ni



Nickel Sampler with Nickel plated base AT7701-Ni/Ni



**Cones**

(continued)

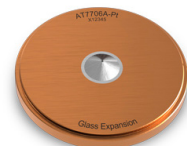
**Sampler Cones (continued)**

Aluminium Sampler AT7701-Al



Platinum Sampler AT7706-Pt

Platinum Sampler (18 mm Insert) AT7706A-Pt



Platinum Sampler with Nickel plated base AT7706-Pt/NiP



Platinum Sampler with solid Nickel base AT7706-Pt/Ni

Platinum Sampler (15mm insert) with Nickel base AT7706B-Pt/Ni



Platinum Sampler with Nickel plated base (Extended Life) AT7706L-Pt/NiP

**Skimmer Cones**

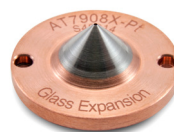
Nickel Skimmer for x-lens AT7902X-Ni



Aluminium Skimmer for x-lens AT7902X-Al



Platinum Skimmer for x-lens AT7908X-Pt



Platinum Skimmer with Nickel base for x-lens AT7908X-Pt/Ni





**Cones**

(continued)

Nickel Skimmer for s-lens AT8902S-Ni



Copper Skimmer for s-lens AT8902S-Cu

Platinum Skimmer for s-lens AT8908S-Pt/Cu

Platinum Skimmer with Nickel base for s-lens AT8908S-Pt/Ni

Platinum Skimmer with Nickel base for m-lens AT8908M-Pt/Ni



**Cone Options**

Skimmer Cone Guard 70-803-1004

Graphite Gasket (PKT 3) AT7703

Long Life Shield Plate AT5004



**Common Accessories**

**Elegra Argon Humidifier**

Elegra Dual Two-channel Argon Humidifier 70-803-1273



Elegra Stand 70-803-1581



**Guardian In-Line Filters**

Guardian DC in-line non-return gas filter 70-803-1942

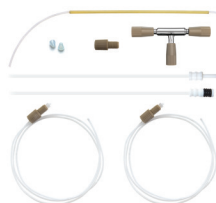
Guardian in-line sample filter 70-803-1108



**Trident Internal Standard Kits**

Trident CT Standard Kit 60-703-1179

Standard Kit for HF 60-808-1150



**Autosampler Probes**

(See page 16-17 for complete list of probes)

**For Agilent® I-AS**

PTFE Encapsulated Carbon Fibre Probe  
0.25mm ID 60-703-1010

PTFE Encapsulated Carbon Fibre Probe  
0.3mm ID 60-703-1009

**For Cetac ASX-200/500/800 Series**

Guardian Probe 0.75mm  
Probe Connecting Line (Red) 70-803-1803

Polyimide sheathed Autosampler Probe  
0.5mm ID 60-808-1186L

PTFE Encapsulated Carbon Fibre Probe  
0.5mm ID 70-803-0784

PTFE Encapsulated Carbon Fibre Probe  
0.75mm ID 70-803-1443

PTFE Encapsulated Carbon Fibre Probe  
1.0mm ID 70-803-0793

**For SPS 3/SPS 4**

Guardian Probe 0.75mm  
Probe Connecting Line (Red) 70-803-1957

PTFE Encapsulated Carbon Fibre Probe  
0.75mm ID 70-803-0908

PTFE Encapsulated Carbon Fibre Probe  
1.0mm ID 70-803-0853



### Glass DC Nebulizers

**SeaSpray**

400µL/min uptake      A13-1-USS04X

**MicroMist**

400µL/min uptake      A13-1-UM04X  
 200µL/min uptake      A13-1-UM02X  
 100µL/min uptake      A13-1-UM01Q  
 50µL/min uptake      A13-1-UM005Q



**Conikal**

1mL/min uptake      A13-1-UC1X

### Quartz DC Nebulizers

**SeaSpray**

1mL/min uptake      A13-1-QSS1



### DC Nebulizers for HF

**OpalMist**

400µL/min uptake      A13-1-PFA04X  
 200µL/min uptake      A13-1-PFA02X  
 100µL/min uptake      A13-1-PFA01Q  
 50µL/min uptake      A13-1-PFA005Q



### DC Nebulizers for Single Cell

**MicroMist HE**

200µL/min uptake      C13-1-UFT02



### Peltier Controlled Cyclonic Spray Chambers

Glass Spray Chamber      KT-1116  
 Quartz Spray Chamber      KT-1116Q  
 PFA Spray Chamber      KT-1116P



### Spray Chambers

**Single-Cell Spray Chamber Kit**

High Sensitivity Single-Cell Sample Introduction System      KT-1155



### Spray Chambers

(continued)

**HydraMist Simultaneous Cold Vapor/ Pneumatic Nebulization Spray Chamber**

Hydride Kit      KT-1168



**\*Twister**

20mL Cyclonic with Aux.      20-809-2574HE

**\*Cinnabar**

20mL Cyclonic with Aux.      20-809-2575HE



### Spray Chambers for HF

**\*Tracey PFA44**

44ml Cyclonic with Aux.      20-809-2578  
 Spray Chamber Adaptor      KT-1104



\*Requires adaptor KT-1104.

### Torches

**Quartz Torches**

with 1.0mm Injector      30-807-0558  
 with 1.5mm Injector      30-807-0557  
 with 2.0mm Injector      30-807-3608  
 with 2.5mm Injector      30-807-0556



**Torch Options**

Quartz Torch Bonnet      31-808-2577  
 Quartz Connector with Dilution Port      31-808-3217  
 Quartz Connector with 45deg Dilution Port      31-808-3280  
 Straight Quartz Connector      31-808-3288  
 Clamp (PKT 2)      70-803-0846



**Torches**

(continued)

**Semi-Demountable Torch**

with 2.4mm Quartz Injector 30-808-3853



**Torch Options**

Semi-Demountable Torch body 31-808-3857

2.4mm Tapered Quartz Injector 31-808-4168



2.4mm Tapered Alumina Injector 31-808-3855



2.4mm Sapphire Capillary Injector 31-808-4159



Injector Adaptor 31-808-4129

Viton O-rings for FDT/SDT ball joints (PKT 10) 70-V-011



**RF Coils**

Copper 70-900-7800C



Silver 70-900-7800S



Gold 70-900-7800G



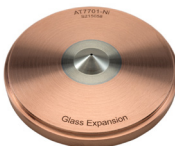
**RF Coil Installation Kit** 70-900-7500T



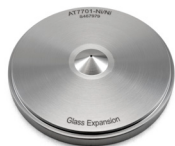
**Cones**

**Sampler Cones**

Nickel Sampler AT7701-Ni



Nickel Sampler with Nickel plated base AT7701-Ni/Ni



**Cones**

(continued)

**Sampler Cones (continued)**

Aluminium Sampler AT7701-Al

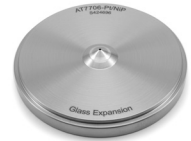


Platinum Sampler AT7706-Pt



Platinum Sampler (18 mm Insert) AT7706A-Pt

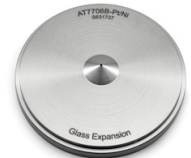
Platinum Sampler with Nickel plated base AT7706-Pt/NiP



Platinum Sampler with solid Nickel base AT7706-Pt/Ni

Platinum Sampler (15mm insert) with Nickel base AT7706B-Pt/Ni

Platinum Sampler with Nickel plated base (Extended Life) AT7706L-Pt/NiP



**Skimmer Cones**

Nickel Skimmer for x-lens AT7702X-Ni

Aluminium Skimmer for x-lens AT7702X-Al



Platinum Skimmer for x-lens AT7708X-Pt



Platinum Skimmer with Nickel base for x-lens AT7708X-Pt/Ni

Platinum Skimmer with Boron Free for x-lens AT7708X-Pt-BF

**Cone Options**

Skimmer Cone Guard 70-803-1008

Graphite Gasket (PKT 3) AT7703

Long Life Shield Plate AT5004



**Common Accessories**

**Elegra Argon Humidifier**

Elegra Dual Two-channel Argon Humidifier 70-803-1273



Elegra Stand 70-803-1581



**Guardian In-Line Filters**

Guardian DC in-line non-return gas filter 70-803-1942

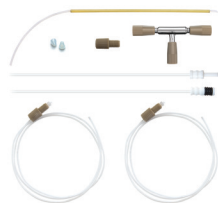
Guardian in-line sample filter 70-803-1108



**Trident Internal Standard Kits**

Trident CT Standard Kit 60-703-1179

Standard Kit for HF 60-808-1150



**Autosampler Probes** (See page 16-17 for complete list of probes)

**For Agilent® I-AS**

PTFE Encapsulated Carbon Fibre Probe 0.25mm ID 60-703-1010

PTFE Encapsulated Carbon Fibre Probe 0.3mm ID 60-703-1009

**For Cetac ASX-200/500/800 Series**

Guardian Probe 0.75mm Probe Connecting Line (Red) 70-803-1803

Polyimide sheathed Autosampler Probe 0.5mm ID 60-808-1186L

PTFE Encapsulated Carbon Fibre Probe 0.5mm ID 70-803-0784

PTFE Encapsulated Carbon Fibre Probe 0.75mm ID 70-803-1443

PTFE Encapsulated Carbon Fibre Probe 1.0mm ID 70-803-0793



**For SPS 3/SPS 4**

Guardian Probe 0.75mm Probe Connecting Line (Red) 70-803-1957

PTFE Encapsulated Carbon Fibre Probe 0.75mm ID 70-803-0908

PTFE Encapsulated Carbon Fibre Probe 1.0mm ID 70-803-0853



## Glass DC Nebulizers

### SeaSpray

400µL/min uptake      A13-1-USS04X

### MicroMist

400µL/min uptake      A13-1-UM04X

200µL/min uptake      A13-1-UM02X

100µL/min uptake      A13-1-UM01Q

50µL/min uptake      A13-1-UM005Q

### Conikal

1mL/min uptake      A13-1-UC1X



## Quartz DC Nebulizers

### SeaSpray

1mL/min uptake      A13-1-QSS1



## DC Nebulizers for HF

### OpalMist

400µL/min uptake      A13-1-PFA04X

200µL/min uptake      A13-1-PFA02X

100µL/min uptake      A13-1-PFA01Q

50µL/min uptake      A13-1-PFA005Q



## DC Nebulizers for Single Cell

### MicroMist HE

200µL/min uptake      C13-1-UFT02



## Peltier Controlled Cyclonic Spray Chambers

Glass Spray Chamber      KT-1116

Quartz Spray Chamber      KT-1116Q

PFA Spray Chamber      KT-1116P



## Spray Chambers

### Single-Cell Spray Chamber Kit

High Sensitivity Single-Cell Sample Introduction System      KT-1155



## Spray Chambers

### HydraMist Simultaneous Cold Vapor/ Pneumatic Nebulization Spray Chamber

Hydride Kit      KT-1168



### \*Twister

50mL Cyclonic with Aux.      20-809-2574HE

### \*Cinnabar

20mL Cyclonic with Aux.      20-809-2575HE



## Spray Chambers for HF

### \*Tracey PFA44

44ml Cyclonic with Aux.      20-809-2578

Spray Chamber Adaptor      KT-1104

\*Requires adaptor KT-1104.



## Torches

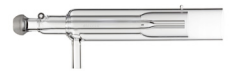
### Quartz Torches

with 1.0mm Injector      30-807-0558

with 1.5mm Injector      30-807-0557

with 2.0mm Injector      30-807-3608

with 2.5mm Injector      30-807-0556



### Torch Options

Quartz Torch Bonnet      31-808-2577

Quartz Connector with Dilution Port      31-808-3217

Quartz Connector with 45deg Dilution Port      31-808-3280

Straight Quartz Connector      31-808-3288

Clamp (PKT 2)      70-803-0846



**Torches**

(continued)

**Semi-Demountable Torch**

with 2.4mm Quartz Injector 30-808-3853



**Torch Options**

Semi-Demountable Torch body 31-808-3857

2.4mm Tapered Quartz Injector 31-808-4168



2.4mm Tapered Alumina Injector 31-808-3855



2.4mm Sapphire Capillary Injector 31-808-4159



Injector Adaptor 31-808-4129

Viton O-rings for FDT/SDT ball joints (PKT 10) 70-V-011



**RF Coils**

Copper 70-900-7700C



Silver 70-900-7700S



Gold 70-900-7700G



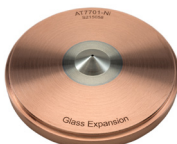
**RF Coil Installation Kit** 70-900-7500T



**Cones**

**Sampler Cones**

Nickel Sampler AT7701-Ni



Nickel Sampler with Nickel plated base AT7701-Ni/Ni



**Cones**

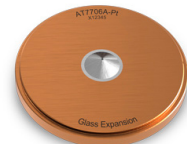
(continued)

**Sampler Cones (continued)**

Aluminium Sampler AT7701-Al



Platinum Sampler AT7706-Pt



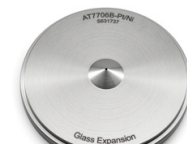
Platinum Sampler (18 mm Insert) AT7706A-Pt



Platinum Sampler with Nickel plated base AT7706-Pt/NiP

Platinum Sampler with solid Nickel base AT7706-Pt/Ni

Platinum Sampler (15mm insert) with Nickel base AT7706B-Pt/Ni



Platinum Sampler with Nickel plated base (Extended Life) AT7706L-Pt/NiP

**Skimmer Cones**

Nickel Skimmer for x-lens AT7702X-Ni



Aluminium Skimmer for x-lens AT7702X-Al

Platinum Skimmer for x-lens AT7708X-Pt



Platinum Skimmer with Nickel base for x-lens AT7708X-Pt/Ni

Platinum Skimmer with Boron Free for x-lens AT7708X-Pt-BF

Nickel Skimmer for s-lens AT7702S-Ni

Platinum Skimmer for s-lens AT7708S-Pt

Platinum Skimmer with Nickel base for s-lens AT7708S-Pt/Ni

**Cone Options**

Skimmer Cone Guard for x-lens 70-803-1008

Skimmer Cone Guard for s-lens 70-803-1004

Retaining Ring AT7704

Graphite Gasket (PKT 3) AT7703

Long Life Shield Plate AT5004



**Common Accessories**

**Elegra Argon Humidifier**

Elegra Dual Two-channel Argon Humidifier 70-803-1273



Elegra Stand 70-803-1581



**Guardian In-Line Filters**

Guardian DC in-line non-return gas filter 70-803-1942

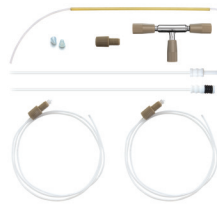
Guardian in-line sample filter 70-803-1108



**Trident Internal Standard Kits**

Trident CT Standard Kit 60-703-1179

Standard Kit for HF 60-808-1150



**Autosampler Probes** (See page 16-17 for complete list of probes)

**For Agilent® I-AS**

PTFE Encapsulated Carbon Fibre Probe 0.25mm ID 60-703-1010

PTFE Encapsulated Carbon Fibre Probe 0.3mm ID 60-703-1009

**For Cetac ASX-200/500/800 Series**

Guardian Probe 0.75mm Probe Connecting Line (Red) 70-803-1803

Polyimide sheathed Autosampler Probe 0.5mm ID 60-808-1186L

PTFE Encapsulated Carbon Fibre Probe 0.5mm ID 70-803-0784

PTFE Encapsulated Carbon Fibre Probe 0.75mm ID 70-803-1443

PTFE Encapsulated Carbon Fibre Probe 1.0mm ID 70-803-0793



**For SPS 3/SPS 4**

Guardian Probe 0.75mm Probe Connecting Line (Red) 70-803-1957

PTFE Encapsulated Carbon Fibre Probe 0.75mm ID 70-803-0908

PTFE Encapsulated Carbon Fibre Probe 1.0mm ID 70-803-0853





**Glass DC Nebulizers**

**SeaSpray**

2mL/min uptake            A13-07-USS2  
 400µL/min uptake        A13-07-USS04

**MicroMist**

400µL/min uptake        A13-07-UM04  
 200µL/min uptake        A13-07-UM02

**Conikal**

2mL/min uptake            A13-07-UC2  
 1mL/min uptake            A13-07-UC1

**Slurry**

4mL/min uptake            A13-07-US6



**Spray Chambers**

**Twister**

50mL Cyclonic              20-809-9199HE



**Tracey**

50mL Cyclonic              20-808-8882HE



**DC Nebulizers for HF**

**DuraMist**

1mL/min uptake            A13-07-DM1  
 400µL/min uptake        A13-07-DM04



**OpalMist**

2mL/min uptake            A13-07-PFA2  
 600µL/min uptake        A13-07-PFA06  
 200µL/min uptake        A13-07-PFA02  
 100µL/min uptake        A13-07-PFA01  
 50µL/min uptake            A13-07-PFA005



**VeeSpray**

0.6 - 3mL/min uptake      A13-07-CV6



**HydraMist Simultaneous Cold Vapor/  
 Pneumatic Nebulization Spray  
 Chamber**

Hydride Kit                      KT-1157



**Spray Chambers for HF**

**Twister TFE Spray Chamber**

50mL Cyclonic              20-809-3452



**Tracey TFE Spray Chamber**

50mL Cyclonic              20-809-2507



**IsoMist XR**

**Programmable Temperature  
 Cyclonic Spray Chamber**

Glass Spray Chamber        KT-1137-XR  
 Quartz Spray Chamber      KT-1137Q-XR  
 PFA Spray Chamber         KT-1137P-XR



## Torches

### D-Torch

SVDV/VDV 30-808-3560

#### Comprises:

Base and Inner Tube 31-808-3568  
 Quartz Outer Tube 31-808-3570  
 Retaining Ring 31-808-3566  
 Injector Ferrule 31-808-2962  
 Injector Adaptor 31-808-3578



RV 30-808-3590

#### Comprises:

Base and Inner Tube 31-808-3568  
 Quartz Outer Tube 31-808-3582  
 Retaining Ring 31-808-3566  
 Injector Ferrule 31-808-2962  
 Injector Adaptor 31-808-3578

#### D-Torch Options:

Ceramic Outer Tube for SVDV/VDV 31-808-3580  
 Ceramic Outer Tube for RV 31-808-3586  
 Quartz Outer Tube for SVDV/VDV 31-808-3570  
 Quartz Outer Tube for RV 31-808-3582  
 O-ring Kit 70-803-1500  
 Ignition Enhancer 31-808-4020



### Quartz Torch

SVDV/VDV 31-808-3557

RV 31-808-3556



### Tapered Injectors

Quartz Injector 0.8mm 31-808-3738  
 Quartz Injector 1.4mm 31-808-3583  
 Quartz Injector 1.8mm 31-808-3576  
 Quartz Injector 2.4mm 31-808-3584  
 Alumina Injector 1.5mm 31-808-3725  
 Alumina Injector 1.8mm 31-808-3585  
 Alumina Injector 2.4mm 31-808-3722



## RF Coils

Silver 70-900-5100S  
 Gold 70-900-5100G  
 RF Coil Installation Kit 70-803-1415



## Common Accessories

### Elegra Argon Humidifier

Elegra Argon Humidifier 70-803-1268



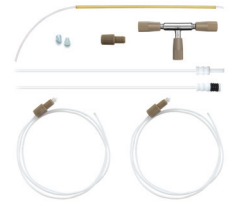
### Guardian In-Line Filters

Guardian DC in-line non-return gas filter 70-803-1942  
 Guardian in-line sample filter 70-803-1108



### Trident Internal Standard Kits

Trident CT Standard Kit 60-703-1179  
 Standard Kit for HF 60-808-1150



## Autosampler Probes (See page 16-17 for complete list of probes)

### For Cetac ASX-200/500/800 Series

Guardian Probe 0.75mm Probe Connecting Line (Red) 70-803-1803  
 Polyimide sheathed Autosampler Probe 0.5mm ID 60-808-1186L  
 PTFE Encapsulated Carbon Fibre Probe 0.5mm ID 70-803-0784  
 PTFE Encapsulated Carbon Fibre Probe 0.75mm ID 70-803-1443  
 PTFE Encapsulated Carbon Fibre Probe 1.0mm ID 70-803-0793



### For SPS 3/SPS 4

Guardian Probe 0.75mm Probe Connecting Line (Red) 70-803-1957  
 PTFE Encapsulated Carbon Fibre Probe 0.75mm ID 70-803-0908  
 PTFE Encapsulated Carbon Fibre Probe 1.0mm ID 70-803-0853



### Glass DC Nebulizers

#### SeaSpray

|                  |             |
|------------------|-------------|
| 2mL/min uptake   | A23-1-USS2  |
| 1mL/min uptake   | A23-1-USS1  |
| 400µL/min uptake | A23-1-USS04 |

#### MicroMist

|                  |             |
|------------------|-------------|
| 400µL/min uptake | A23-1-UM04  |
| 200µL/min uptake | A23-1-UM02  |
| 100µL/min uptake | A23-1-UM01  |
| 50µL/min uptake  | A23-1-UM005 |



### Quartz DC Nebulizers

#### SeaSpray

|                |            |
|----------------|------------|
| 1mL/min uptake | A23-1-QSS1 |
|----------------|------------|



### DC Nebulizers for HF

#### OpalMist

|                  |              |
|------------------|--------------|
| 400µL/min uptake | A23-1-PFA04  |
| 200µL/min uptake | A23-1-PFA02  |
| 100µL/min uptake | A23-1-PFA01  |
| 50µL/min uptake  | A23-1-PFA005 |



### DC Nebulizers for Single Cell

#### MicroMist HE

|                  |             |
|------------------|-------------|
| 200µL/min uptake | C23-1-UFT02 |
|------------------|-------------|



### Spray Chambers

#### Twister

|                  |               |
|------------------|---------------|
| 50mL Cyclonic    | 20-809-4417HE |
| 50mL Cyclonic    | 20-809-4560   |
| With Matrix Port |               |



#### Tracey

|               |               |
|---------------|---------------|
| 50mL Cyclonic | 20-809-4419HE |
|---------------|---------------|



### Spray Chambers

#### Twinnabar

|               |               |
|---------------|---------------|
| 20mL Cyclonic | 20-809-4482HE |
|---------------|---------------|

#### Cinnabar

|               |               |
|---------------|---------------|
| 20mL Cyclonic | 20-809-4480HE |
|---------------|---------------|



#### Single-Cell Spray Chamber Kit

|   |         |
|---|---------|
| High Sensitivity Single-Cell Sample Introduction System | KT-1184 |
|---|---------|



### Torches

#### D-Torch

|             |
|-------------|
| 30-808-3927 |
|-------------|

#### Comprises:

|                     |             |
|---------------------|-------------|
| Base and Inner Tube | 31-808-3928 |
| Quartz Outer Tube   | 31-808-3942 |
| Retaining Ring      | 31-808-2818 |
| Injector Adaptor    | 31-808-3980 |
| Injector Ferrule    | 31-808-2962 |
| Fastener Assembly   | 31-808-4130 |



#### Quartz Injectors

|               |             |
|---------------|-------------|
| Tapered 1.0mm | 31-808-3423 |
| Tapered 1.5mm | 31-808-4004 |
| Tapered 1.8mm | 31-808-4005 |
| Tapered 2.0mm | 31-808-4006 |
| Tapered 2.5mm | 31-808-3302 |



#### HF Resistant Injectors

|                       |             |
|-----------------------|-------------|
| Tapered Alumina 2.4mm | 31-808-3205 |
| Sapphire 2.4mm        | 31-808-3378 |



**Cones**

**Sampler Cones**

Nickel Sampler PE3011-Ni



Platinum Sampler PE3013-Pt

Platinum Sampler (18mm) PE3013A-Pt

Platinum Sampler PE3013-Pt-BF

Boron Free



**Skimmer Cones**

Nickel Skimmer PE4012-Ni

Platinum Skimmer PE4014-Pt

Nickel Hyper Skimmer PE4015-Ni



**O-ring for NexION Hyper Skimmer Cone (pack of 5)**

PE5125



**ConeGuard Thread Protectors**

Sampler Cone Guard For NexION 70-803-1024



**Gasket for Sampler Cone (pack of 5)**

PE5111



**Common Accessories**

**Elegra Argon Humidifier**

Elegra Dual Two-channel Argon Humidifier 70-803-1473



**Guardian In-Line Filters**

Guardian DC in-line non-return gas filter 70-803-1942

Guardian in-line sample filter 70-803-1108

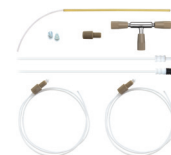
Fitting only connects to 1.3mm and 1.6mm Autosampler Tubing



**Trident Internal Standard Kits**

Trident CT Standard Kit 60-703-1179

Standard Kit for HF 60-808-1150



**Autosampler Probes** (See page 16-17 for complete list of probes)

**Suitable for Cetac ASX-200/500/800 Series and PerkinElmer S20 Series**

Guardian Probe 0.75mm Probe Connecting Line (Red) 70-803-1803 \*(suitable for Cetac only)

Polyimide sheathed Autosampler Probe 0.5mm ID 60-808-1186L

PTFE Encapsulated Carbon Fibre Probe 0.5mm ID 70-803-0784

PTFE Encapsulated Carbon Fibre Probe 0.75mm ID 70-803-1443

PTFE Encapsulated Carbon Fibre Probe 1.0mm ID 70-803-0793



### Glass DC Nebulizers

#### SeaSpray

|                  |             |
|------------------|-------------|
| 2mL/min uptake   | A23-1-USS2  |
| 1mL/min uptake   | A23-1-USS1  |
| 400µL/min uptake | A23-1-USS04 |

#### MicroMist

|                  |             |
|------------------|-------------|
| 400µL/min uptake | A23-1-UM04  |
| 200µL/min uptake | A23-1-UM02  |
| 100µL/min uptake | A23-1-UM01  |
| 50µL/min uptake  | A23-1-UM005 |



### Quartz DC Nebulizers

#### SeaSpray

|                |            |
|----------------|------------|
| 1mL/min uptake | A23-1-QSS1 |
|----------------|------------|



### DC Nebulizers for HF

#### OpalMist

|                  |              |
|------------------|--------------|
| 400µL/min uptake | A23-1-PFA04  |
| 200µL/min uptake | A23-1-PFA02  |
| 100µL/min uptake | A23-1-PFA01  |
| 50µL/min uptake  | A23-1-PFA005 |



### DC Nebulizers for Single Cell

#### MicroMist HE

|                  |             |
|------------------|-------------|
| 200µL/min uptake | C23-1-UFT02 |
|------------------|-------------|



### Spray Chambers

#### Twister

|                  |               |
|------------------|---------------|
| 50mL Cyclonic    | 20-809-4417HE |
| 50mL Cyclonic    | 20-809-4560   |
| With Matrix Port |               |



#### Tracey

|               |               |
|---------------|---------------|
| 50mL Cyclonic | 20-809-4419HE |
|---------------|---------------|



### Spray Chambers

#### Twinnabar

|               |               |
|---------------|---------------|
| 20mL Cyclonic | 20-809-4482HE |
|---------------|---------------|

#### Cinnabar

|               |               |
|---------------|---------------|
| 20mL Cyclonic | 20-809-4480HE |
|---------------|---------------|



#### Single-Cell Spray Chamber Kit

|   |         |
|---|---------|
| High Sensitivity Single-Cell Sample Introduction System | KT-1184 |
|---|---------|



### Torches

#### D-Torch

|             |
|-------------|
| 30-808-3927 |
|-------------|

#### Comprises:

|                     |             |
|---------------------|-------------|
| Base and Inner Tube | 31-808-3928 |
| Quartz Outer Tube   | 31-808-3942 |
| Retaining Ring      | 31-808-2818 |
| Injector Adaptor    | 31-808-3980 |
| Injector Ferrule    | 31-808-2962 |
| Fastener Assembly   | 31-808-4130 |



#### Quartz Injectors

|               |             |
|---------------|-------------|
| Tapered 1.0mm | 31-808-3423 |
| Tapered 1.5mm | 31-808-4004 |
| Tapered 1.8mm | 31-808-4005 |
| Tapered 2.0mm | 31-808-4006 |
| Tapered 2.5mm | 31-808-3302 |



#### HF Resistant Injectors

|                       |             |
|-----------------------|-------------|
| Tapered Alumina 2.4mm | 31-808-3205 |
| Sapphire 2.4mm        | 31-808-3378 |



**Cones**

**Sampler Cones**

Nickel Sampler PE3011-Ni



Aluminium Sampler PE3011-Al

Platinum Sampler PE3013-Pt



Platinum Sampler (18mm) PE3013A-Pt

Platinum Sampler Boron Free PE3013-Pt-BF

**Skimmer Cones**

Nickel Skimmer PE3012-Ni



Aluminium Skimmer PE3012-Al

Platinum Skimmer PE3014-Pt

Platinum Skimmer Boron Free PE3014-Pt-BF



Hyper Skimmer PE3015-Al

Platinum Hyper Skimmer PE3015-Pt/Ni

O-ring for NexION Hyper Skimmer Cone (pack of 5) PE5115



Screw for NexION Hyper Skimmer Cone (pack of 2) PE5116

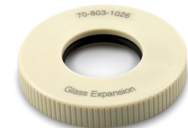


**ConeGuard Thread Protectors**

Sampler Cone Guard For NexION 70-803-1024



Skimmer Cone Guard For NexION 70-803-1026



Gasket for Sampler Cone (pack of 5) PE5111



**Common Accessories**

**Elegra Argon Humidifier**

Elegra Dual Two-channel Argon Humidifier 70-803-1473



**Guardian In-Line Filters**

Guardian DC in-line non-return gas filter 70-803-1942

Guardian in-line sample filter 70-803-1108

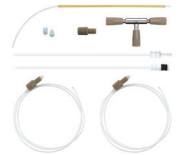
Fitting only connects to 1.3mm and 1.6mm Autosampler Tubing



**Trident Internal Standard Kits**

Trident CT Standard Kit 60-703-1179

Standard Kit for HF 60-808-1150



**Autosampler Probes** (See page 16-17 for complete list of probes)

**Suitable for Cetac ASX-200/500/800 Series and PerkinElmer S20 Series**

Guardian Probe 0.75mm Probe Connecting Line (Red) 70-803-1803 \*(suitable for Cetac only)



Polyimide sheathed Autosampler Probe 0.5mm ID 60-808-1186L

PTFE Encapsulated Carbon Fibre Probe 0.5mm ID 70-803-0784

PTFE Encapsulated Carbon Fibre Probe 0.75mm ID 70-803-1443

PTFE Encapsulated Carbon Fibre Probe 1.0mm ID 70-803-0793



## Glass DC Nebulizers

### SeaSpray

|                  |             |
|------------------|-------------|
| 1mL/min uptake   | A22-1-USS1  |
| 400µL/min uptake | A22-1-USS04 |

### MicroMist

|                  |             |
|------------------|-------------|
| 400µL/min uptake | A22-1-UM04  |
| 200µL/min uptake | A22-1-UM02  |
| 100µL/min uptake | A22-1-UM01  |
| 50µL/min uptake  | A22-1-UM005 |



## DC Nebulizers for HF

### OpalMist

|                  |              |
|------------------|--------------|
| 400µL/min uptake | A22-1-PFA04  |
| 200µL/min uptake | A22-1-PFA02  |
| 100µL/min uptake | A22-1-PFA01  |
| 50µL/min uptake  | A22-1-PFA005 |



## DC Nebulizers for Single Cell

### MicroMist HE

|                  |             |
|------------------|-------------|
| 200µL/min uptake | C22-1-UFT02 |
|------------------|-------------|



## IsoMist XR

### Programmable Temperature Cyclonic Spray Chamber

|                         |             |
|-------------------------|-------------|
| Glass Spray chamber     | KT-1096-XR  |
| Quartz spray chamber    | KT-1096Q-XR |
| PFA spray chamber       | KT-1096P-XR |
| Twinnabar spray chamber | KT-1096T-XR |



## Spray Chambers

### Twister

|   |               |
|---|---------------|
| 50mL Cyclonic<br>(2.4mm Aux. Port)<br>90deg Screw Mount | 20-809-3854HE |
|---|---------------|



### Twister

|                                   |               |
|-----------------------------------|---------------|
| 50mL Cyclonic<br>with Screw Mount | 20-809-3892HE |
|-----------------------------------|---------------|

### Twinnabar

|               |               |
|---------------|---------------|
| 20mL Cyclonic | 20-809-3650HE |
|---------------|---------------|



## Spray Chambers for HF

### Cinnabar

|               |               |
|---------------|---------------|
| 20mL Cyclonic | 20-809-3709HE |
|---------------|---------------|



### Tracey PFA44

|               |             |
|---------------|-------------|
| 44mL Cyclonic | 20-809-3713 |
|---------------|-------------|



### Single-Cell Spray Chamber Kit

|   |         |
|---|---------|
| High Sensitivity Single-Cell Sample Introduction System | KT-1204 |
|---|---------|



## Torches

### D-Torch

30-807-0540

#### Comprises:

|                     |             |
|---------------------|-------------|
| Base and Inner Tube | 31-808-2847 |
| Quartz Outer Tube   | 31-808-2848 |
| Retaining Ring      | 31-808-2818 |



### D-Torch for HF

30-808-2937

#### Comprises:

|                     |             |
|---------------------|-------------|
| Base and Inner Tube | 31-808-2847 |
| Ceramic Outer Tube  | 31-808-2849 |
| Retaining Ring      | 31-808-2818 |



#### D-Torch Options:

|                    |             |
|--------------------|-------------|
| Quartz Outer Tube  | 31-808-2848 |
| Ceramic Outer Tube | 31-808-2849 |



### Quartz Torch

|                              |             |
|------------------------------|-------------|
| Standard Quartz Torch        | 30-808-8107 |
| High Efficiency Quartz Torch | 31-808-2784 |



### Quartz Injectors (non DRC)

|                               |             |
|-------------------------------|-------------|
| Tapered Quartz Injector 1.0mm | 31-808-0370 |
| Tapered Quartz Injector 1.2mm | 31-808-0789 |
| Tapered Quartz Injector 1.5mm | 31-807-0006 |
| Tapered Quartz Injector 1.8mm | 31-807-0005 |
| Tapered Quartz Injector 2.0mm | 31-807-0004 |



These injectors are compatible with both D-Torch and standard torch. They are suitable for torch adaptor 31-808-2825.



**Torches**

(continued)

**Quartz Injectors (DRC Versions)**

- Tapered Quartz Injector with Ball Joint, 0.85mm 31-808-3125
- Tapered Quartz Injector with Ball Joint, 1.5mm 31-808-0851
- Tapered Quartz Injector with Ball Joint, 2.0mm 31-808-0806
- Tapered Quartz Injector with Ball Joint, 2.5mm 31-808-3463

These injectors are compatible with both D-Torch and standard torch. They are suitable for torch adaptor 31-808-2824.



**HF Resistant Injectors**

- Tapered Alumina Injector 1.5mm 31-807-0044
- Tapered Alumina Injector 1.8mm 31-807-0045
- Tapered Alumina Injector 2.0mm 31-807-0060
- Sapphire Injector 2.0mm 31-808-2803
- Platinum Injector 2.0mm 31-808-2972

These injectors are compatible with both D-Torch and standard torch. They are suitable for torch adaptor 31-808-2825.



**Torch Adaptor**

- Cassette Mount Adaptor for Ball Joint Injector 31-808-2824

This adaptor is suitable for injectors with a ball joint.



**Torch Adaptor**

- PFA Cassette Mount Adaptor 31-808-2825

This adaptor is suitable for injectors without a ball joint.



**Cones**

**Sampler Cones**

- Nickel Sampler PE3011-Ni
- Aluminium Sampler PE3011-Al
- Platinum Sampler PE3013-Pt
- Platinum Sampler Boron free PE3013-Pt-BF



**Cones**

(continued)

**Skimmer Cones**

- Nickel Skimmer PE3012-Ni
- Aluminium Skimmer PE3012-Al
- Platinum Skimmer PE3014-Pt
- Platinum Skimmer Boron free PE3014-Pt-BF
- Hyper Skimmer PE3015-Al
- Platinum Hyper Skimmer PE3015-Pt/Ni



**O-ring for NexION Hyper Skimmer Cone (pack of 5)**

PE5115



**Screw for NexION Hyper Skimmer Cone (pack of 2)**

PE5116

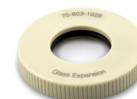


**ConeGuard Thread Protectors**

- Sampler Cone Guard For NexION 300/350 70-803-1024



- Skimmer Cone Guard For NexION 300/350 70-803-1026



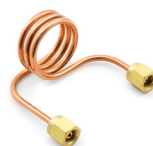
**Gasket for Sampler Cone (pack of 5)**

PE5111



**RF Coils**

- Copper 70-900-2006C



- RF Coil Installation Kit 70-900-2006T



## Common Accessories

### Elegra Argon Humidifier

Elegra Dual Two-channel  
Argon Humidifier 70-803-1274



### Guardian In-Line Filters

Guardian DC in-line non-return  
gas filter 70-803-1942

Guardian in-line sample filter 70-803-1108

Fitting only connects to 1.3mm and 1.6mm  
Autosampler Tubing



### Trident Internal Standard Kits

Trident CT Standard Kit 60-703-1179

Standard Kit for HF solutions 60-808-1150



## Autosampler Probes (See page 16-17 for complete list of probes)

### Suitable for Cetac ASX-200/500/800 Series

Guardian Probe 0.75mm  
Probe Connecting Line (Red) 70-803-1803

Polyimide sheathed Autosampler Probe  
0.5mm ID 60-808-1186L

PTFE Encapsulated Carbon Fibre Probe  
0.5mm ID 70-803-0784

PTFE Encapsulated Carbon Fibre Probe  
0.75mm ID 70-803-1443

PTFE Encapsulated Carbon Fibre Probe  
1.0mm ID 70-803-0793



### Suitable for PE S10 or AS93+

PTFE Encapsulated Carbon Fibre Probe  
0.25mm ID 70-803-1071

PTFE Encapsulated Carbon Fibre Probe  
0.5mm ID 70-803-1440

PTFE Encapsulated Carbon Fibre Probe  
1.0mm ID 70-803-0816

### Glass DC Nebulizers

#### SeaSpray

2mL/min uptake            A21-07-USS2  
 400µL/min uptake        A21-07-USS04

#### MicroMist

600µL/min uptake        A21-07-UM06  
 200µL/min uptake        A21-07-UM02  
 100µL/min uptake        A21-07-UM01  
 50µL/min uptake         A21-07-UM005



#### Slurry

4mL/min uptake            A21-07-US6

#### Conikal

2mL/min uptake            A21-07-UC2  
 1mL/min uptake            A21-07-UC1

### DC Nebulizers for HF

#### DuraMist

1mL/min uptake            A21-07-DM1  
 400µL/min uptake        A21-07-DM04



#### OpalMist

2mL/min uptake            A21-07-PFA2  
 600µL/min uptake        A21-07-PFA06  
 200µL/min uptake        A21-07-PFA02  
 100µL/min uptake        A21-07-PFA01  
 50µL/min uptake         A21-07-PFA005



#### VeeSpray

0.6-3mL/min uptake        A21-07-CV6



### IsoMist XR

#### Programmable Temperature Cyclonic Spray Chamber

Glass Spray Chamber        KT-1147-XR  
 Quartz Spray Chamber        KT-1147Q-XR  
 PFA Spray Chamber          KT-1147P-XR



### Spray Chambers

#### Twister

50mL Cyclonic              20-809-0495HE



#### Tracey

50mL Cyclonic              20-808-8882HE



#### Cinnabar

20mL Cyclonic              20-809-0164HE



#### Twinnabar

20mL Cyclonic              20-809-0498HE



#### HydraMist Simultaneous Cold Vapor/Pneumatic Nebulization Spray Chamber

Hydride Kit                    KT-1157



### Spray Chambers for HF

#### Twister TFE

50mL Cyclonic              20-809-3452



#### Tracey TFE

50mL Cyclonic              20-809-2507



## Torches

### D-Torch for Avio 200

D-Torch 30-808-3800



#### Comprises:

Base and Inner Tube 31-808-3802

Quartz Outer Tube 31-808-3792

Retaining Ring 31-808-2818

#### D-Torch Options:

Ceramic Outer Tube 31-808-3820

Injector Adapter 31-808-3782

Viton O-Rings (Pkt 10) 70-803-1576



### D-Torch for Avio 500

D-Torch 30-808-3882



#### Comprises:

Base and Inner Tube 31-808-3883

Quartz Outer Tube 31-808-3792

Retaining Ring 31-808-2818

#### D-Torch Options:

Ceramic Outer Tube 31-808-3894

Injector Adapter 31-808-3782

Viton O-Rings (Pkt 10) 70-803-1576



### Tapered Injectors for D-Torch

Quartz Injector 0.8mm 31-808-3785

Quartz Injector 1.2mm 31-808-3786

Quartz Injector 1.6mm 31-808-3788

Quartz Injector 2.0mm 31-808-3789

Alumina Injector 1.25mm 31-808-3799

Alumina Injector 2.0mm 31-808-3783



### Capillary Injectors for D-Torch

Sapphire Injector 1.5mm 31-808-4296

Sapphire Injector 2.0mm 31-808-3784

### Fixed Torch for Avio 200/500

Quartz Torch with single slot 31-808-3776

Quartz Torch with 3 slots 31-808-4233



### Purge Windows for Avio 500

Radial Purge Extension 70-803-2033



## Common Accessories

### Elegra Argon Humidifier

Elegra Argon Humidifier 70-803-1269



### Guardian In-Line Filters

Guardian DC in-line non-return gas filter 70-803-1942

Guardian in-line sample filter 70-803-1108

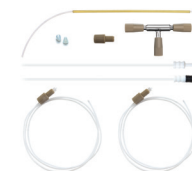
Fitting only connects to 1.3mm and 1.6mm Autosampler Tubing



### Trident Internal Standard Kits

Trident CT Standard Kit 60-703-1179

Standard Kit for HF 60-808-1150



## Autosampler Probes (See page 16-17 for complete list of probes)

### Suitable for Cetac ASX-200/500/800 Series

Guardian Probe 0.75mm Probe Connecting Line (Red) 70-803-1803

Polyimide sheathed Autosampler Probe 0.5mm ID 60-808-1186L

PTFE Encapsulated Carbon Fibre Probe 0.5mm ID 70-803-0784

PTFE Encapsulated Carbon Fibre Probe 0.75mm ID 70-803-1443

PTFE Encapsulated Carbon Fibre Probe 1.0mm ID 70-803-0793

Suitable for PE S10 or AS93+

PTFE Encapsulated Carbon Fibre Probe 0.25mm ID 70-803-1071

PTFE Encapsulated Carbon Fibre Probe 0.5mm ID 70-803-1440

PTFE Encapsulated Carbon Fibre Probe 1.0mm ID 70-803-0816



### Glass DC Nebulizers

#### SeaSpray

|                  |              |
|------------------|--------------|
| 2mL/min uptake   | A21-07-USS2  |
| 400µL/min uptake | A21-07-USS04 |

#### MicroMist

|                  |              |
|------------------|--------------|
| 600µL/min uptake | A21-07-UM06  |
| 200µL/min uptake | A21-07-UM02  |
| 100µL/min uptake | A21-07-UM01  |
| 50µL/min uptake  | A21-07-UM005 |



#### Conikal

|                |            |
|----------------|------------|
| 2mL/min uptake | A21-07-UC2 |
| 1mL/min uptake | A21-07-UC1 |

#### Slurry

|                |            |
|----------------|------------|
| 4mL/min uptake | A21-07-US6 |
|----------------|------------|

### DC Nebulizers for HF

#### DuraMist

|                  |             |
|------------------|-------------|
| 1mL/min uptake   | A21-07-DM1  |
| 400µL/min uptake | A21-07-DM04 |



#### OpalMist

|                  |               |
|------------------|---------------|
| 2mL/min uptake   | A21-07-PFA2   |
| 600µL/min uptake | A21-07-PFA06  |
| 200µL/min uptake | A21-07-PFA02  |
| 100µL/min uptake | A21-07-PFA01  |
| 50µL/min uptake  | A21-07-PFA005 |



#### VeeSpray

|                      |            |
|----------------------|------------|
| 0.6 - 3mL/min uptake | A21-07-CV6 |
|----------------------|------------|



### IsoMist XR

#### Programmable Temperature Cyclonic Spray Chamber

|                      |             |
|----------------------|-------------|
| Glass spray chamber  | KT-1012-XR  |
| Quartz Spray Chamber | KT-1021Q-XR |
| PFA spray chamber    | KT-1012P-XR |



### Spray Chambers

#### Tracey

|               |               |
|---------------|---------------|
| 50mL Cyclonic | 20-809-0434HE |
|---------------|---------------|



#### Twister

|  |               |
|--|---------------|
| 50mL Cyclonic (Aqueous)<br>With 7mm baffle | 20-809-0208HE |
|--|---------------|



#### Twister

|   |               |
|---|---------------|
| 50mL Cyclonic (Organics)<br>With 4mm baffle | 20-809-0446HE |
|---|---------------|



#### Twister

|                           |               |
|---------------------------|---------------|
| 50mL Cyclonic (Aux. Port) | 20-809-0004HE |
|---------------------------|---------------|



#### Cinnabar

|               |               |
|---------------|---------------|
| 20mL Cyclonic | 20-809-9121HE |
|---------------|---------------|



#### HydraMist Simultaneous Cold Vapor/ Pneumatic Nebulization Spray Chamber

|               |         |
|---------------|---------|
| HydraMist Kit | KT-1162 |
|---------------|---------|

### Spray Chambers for HF

#### Tracey TFE

|                                    |             |
|------------------------------------|-------------|
| 50mL Cyclonic                      | 20-809-2510 |
| Plugs directly into cassette mount |             |



## Torches

**D-Torch** 30-808-3300



**Comprises:**

- Base and Inner Tube 31-808-3292
- Quartz Outer Tube 31-808-3294
- Retaining Ring 31-808-2818

**D-Torch Options**

- Ceramic Outer Tube 31-808-2990
- Quartz Outer Tube (No Slot) 31-808-3407
- Copper Foils (PKT 12) for Cermic Outer Tube 31-808-3356
- O-Ring Kit 70-803-0762



**Quartz Torch**

- Without slots 31-808-3254
- With single slot 31-808-3255
- With 3 slots 31-808-3256

**Quartz Torch Options:**

- Copper Foil for Quartz Torch or D-Torch Quartz Outer Tube (pack of 12) 31-808-3289

**Tapered Quartz Injectors**

- Quartz Injector 0.8mm 31-808-3257
- Quartz Injector 2.0mm 31-808-3258
- Quartz Injector 2.5mm 31-808-3730
- Quartz Injector 3.0mm 31-808-3259
- Alumina Injector 1.2mm 31-808-3287
- Alumina Injector 2.0mm 31-808-3286



**Sapphire Injectors**

- Sapphire Injector 2mm 31-808-3528

**Purge Windows**

- Axial 17mm disk 31-808-0551
- Axial 32mm disk 31-808-2649
- Radial (Post Nov. 2004) 31-808-2788

## Common Accessories

**Elegra Argon Humidifier**

Elegra Argon Humidifier 70-803-1269



**Guardian In-Line Filters**

Guardian DC in-line non-return gas filter 70-803-1942

Guardian in-line sample filter 70-803-1108

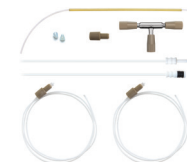
Fitting only connects to 1.3mm and 1.6mm Autosampler Tubing



**Trident Internal Standard Kits**

Trident CT Standard Kit 60-703-1179

Standard Kit for HF solutions 60-808-1150



**Autosampler Probes** (See page 16-17 for complete list of probes)

**Suitable for Cetac ASX-200/500/800 Series**

Guardian Probe 0.75mm Probe Connecting Line (Red) 70-803-1803

Polyimide sheathed Autosampler Probe 0.5mm ID 60-808-1186L

PTFE Encapsulated Carbon Fibre Probe 0.5mm ID 70-803-0784

PTFE Encapsulated Carbon Fibre Probe 0.75mm ID 70-803-1443

PTFE Encapsulated Carbon Fibre Probe 1.0mm ID 70-803-0793



**Suitable for PE S10 or AS93+**

PTFE Encapsulated Carbon Fibre Probe 0.25mm ID 70-803-1071

PTFE Encapsulated Carbon Fibre Probe 0.5mm ID 70-803-1440

PTFE Encapsulated Carbon Fibre Probe 1.0mm ID 70-803-0816

### Glass DC Nebulizers

|                  |              |
|------------------|--------------|
| <b>Conikal</b>   |              |
| 1mL/min uptake   | A41-1-UC1S   |
| <b>SeaSpray</b>  |              |
| 400µL/min uptake | A41-07-USS04 |
| <b>Slurry</b>    |              |
| 4mL/min uptake   | A41-1-US6    |
| <b>MicroMist</b> |              |
| 600µL/min uptake | A41-07-UM06S |
| 200µL/min uptake | A41-07-UM02  |
| 100µL/min uptake | A41-07-UM01  |
| 50µL/min uptake  | A41-07-UM005 |



### Quartz DC Nebulizers

|                 |            |
|-----------------|------------|
| <b>SeaSpray</b> |            |
| 1mL/min uptake  | A41-1-QSS1 |



### DC Nebulizers Compatible with HF

|                  |               |
|------------------|---------------|
| <b>OpalMist</b>  |               |
| 1mL/min uptake   | A41-1-PFA1S   |
| 400µL/min uptake | A41-07-PFA04  |
| 200µL/min uptake | A41-07-PFA02  |
| 100µL/min uptake | A41-07-PFA01  |
| 50µL/min uptake  | A41-07-PFA005 |



|                  |             |
|------------------|-------------|
| <b>DuraMist</b>  |             |
| 1mL/min uptake   | A41-1-DM1S  |
| 400µL/min uptake | A41-07-DM04 |



|                      |           |
|----------------------|-----------|
| <b>VeeSpray</b>      |           |
| 0.6 - 3mL/min uptake | A41-1-CV6 |



### Spray Chambers

|                        |             |
|------------------------|-------------|
| <b>Glass</b>           |             |
| 50mL Cyclonic          | 21-809-3994 |
| With B14 gravity drain |             |



|                        |             |
|------------------------|-------------|
| <b>Quartz</b>          |             |
| 50mL Cyclonic          | 21-809-3992 |
| With B14 gravity drain |             |



|                     |             |
|---------------------|-------------|
| <b>Drain Device</b> | 21-808-8214 |
|---------------------|-------------|



|                                |             |
|--------------------------------|-------------|
| <b>Extention Pipe</b>          |             |
| Glass Extention w/ right angle | 31-808-3920 |



### Spray Chambers Compatible with HF

|               |             |
|---------------|-------------|
| <b>PFA</b>    |             |
| 50mL Cyclonic | 21-809-3991 |



|                        |             |
|------------------------|-------------|
| <b>HF Drain Device</b> | 21-809-2540 |
|------------------------|-------------|



|                              |             |
|------------------------------|-------------|
| <b>Extention Pipe</b>        |             |
| PFA Extention w/ right angle | 21-809-4081 |

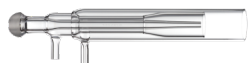




## Torches

### Quartz Torches

|  |             |
|--|-------------|
| Quartz Mini Torch<br>(Suitable for ICP-MS 2030)            | 30-807-0567 |
| Torch with 1.2mm Injector<br>(Suitable for ICP-MS 8500)    | 30-808-9986 |
| Torch with 1.5mm Injector<br>(Suitable for ICP-MS 8500)    | 30-808-1090 |
| Quartz Sleeve for Mini Torch<br>(Suitable for ICP-MS 2030) | 31-808-4214 |



## RF Coils

|        |              |
|--------|--------------|
| Copper | 70-900-6000C |
| Silver | 70-900-6000S |
| Gold   | 70-900-6000G |



### RF Coil Installation Kit

|                          |              |
|--------------------------|--------------|
| RF Coil Installation Kit | 70-900-6000T |
|--------------------------|--------------|

## Cones

### Sampler Cones

|                                       |               |   |
|---------------------------------------|---------------|---|
| Copper Sampler                        | SZ7001-Cu     |   |
| Nickel Sampler                        | SZ7001-Ni     |  |
| Nickel Sampler with<br>Copper Base    | SZ7001-Ni/Cu  |  |
| Platinum Sampler<br>(10mm Insert)     | SZ7003-Pt/Cu  |  |
| Platinum Sampler<br>(15mm Insert)     | SZ7003A-Pt/Cu |  |
| Gasket for Sampler Cone<br>(PKT 3)    | SZ5001        |  |
| Screw Kit for Sampler Cone<br>(PKT 4) | SZ5004        |  |
| O-Ring Kit                            | 70-803-1908   |  |

## Cones

(continued)

### Skimmer Cones



|                                       |              |   |
|---------------------------------------|--------------|---|
| Copper Skimmer                        | SZ7002-Cu    |  |
| Nickel Skimmer                        | SZ7002-Ni    |  |
| Nickel Skimmer with<br>Copper Base    | SZ7002-Ni/Cu |  |
| Platinum Skimmer                      | SZ7004-Pt/Cu |  |
| Screw Kit for Skimmer Cone<br>(PKT 2) | SZ5002       |   |
| Cone Extraction Tool                  | 70-803-1573  |   |

## Common Accessories

### Elegra Argon Humidifier

|                         |             |  |
|-------------------------|-------------|--|
| Elegra Argon Humidifier | 70-803-1312 |  |
|-------------------------|-------------|--|

### Guardian In-Line Filters

|  |             |   |
|--|-------------|---|
| Guardian DC in-line non-return<br>gas filter | 70-803-1942 |  |
| Guardian in-line sample filter               | 70-803-1108 |  |

### Trident Internal Standard Kits

|                         |             |   |
|-------------------------|-------------|---|
| Trident CT Standard Kit | 60-703-1179 |  |
| Standard Kit for HF     | 60-808-1150 |  |

## Autosampler Probes (See page 16-17 for complete list of probes)

### For Shimadzu® ASC-6100F/9800

|  |             |   |
|--|-------------|---|
| PTFE Sheathed Carbon Fibre Probe<br>0.3mm ID with UniFit | 70-803-1200 |  |
|--|-------------|---|

### For Shimadzu® AS10

|   |             |
|---|-------------|
| PTFE Sheathed Carbon Fibre Probe<br>0.75mm ID with UniFit | 70-803-1477 |
|---|-------------|

## Glass DC Nebulizers

**Conikal**  
1mL/min uptake      A41-1-UC1S

**SeaSpray**  
2mL/min uptake      A41-1-USS2S

**Slurry**  
4mL/min uptake      A41-1-US6

**MicroMist**  
600µL/min uptake      A41-07-UM06S  
200µL/min uptake      A41-07-UM02  
100µL/min uptake      A41-07-UM01  
50µL/min uptake      A41-07-UM005



## DC Nebulizers for HF

**OpalMist**  
1mL/min uptake      A41-07-PFA1S  
600µL/min uptake      A41-07-PFA06S  
200µL/min uptake      A41-07-PFA02  
100µL/min uptake      A41-07-PFA01  
50µL/min uptake      A41-07-PFA005



**DuraMist**  
1mL/min uptake      A41-07-DM1S  
400µL/min uptake      A41-07-DM04



**VeeSpray**  
0.6 - 3mL/min uptake      A41-1-CV6



## IsoMist XR

### Programmable Temperature Cyclonic Spray Chamber

Glass spray chamber      KT-1067-XR  
Quartz spray chamber      KT-1067Q-XR  
PFA spray chamber      KT-1067P-XR



## Spray Chambers

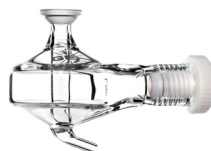
**Tracey**  
50mL Cyclonic      20-808-8881HE  
With B14 gravity drain



**Twister**  
50mL Cyclonic      20-809-9119HE  
With B14 gravity drain



**Twister**  
50mL Cyclonic      20-809-0222HE



**Cinnabar**  
20mL Cyclonic      20-809-0164HE



### HydraMist Simultaneous Cold Vapor/ Pneumatic Nebulization Spray Chamber

Hydride Kit      KT-1157



**Drain Device**      21-808-8214



### Transfer Tube, Spray Chamber to ICPE-9000/9800 Torch

Glass Transfer Tube 86mm      21-809-2846



**Spray Chambers for HF**

**Tracey TFE**

50mL Cyclonic 20-809-2508  
 With B14 gravity drain  
 Suitable for use with HF



**HF Drain Device**

21-809-2540



**Mounting bracket for HF Spray Chamber**

21-809-2839



**Transfer Tube, Spray Chamber to ICPE-9000/9800 Torch**

PFA Transfer Tube 82.5mm 31-808-3071



**Torches**

**Semi Demountable Torch (HF)**

30-808-8039

Suitable for ICPS-7500/8100 and ICPE-9000/9800

**Comprises:**

Torch Body 31-808-1258  
 Torch Adaptor 31-808-1260  
 Tapered Alumina Injector 1.5mm 31-808-0013  
 Joint Clip 14/23 KCP-14  
 GazFit Connectors (PKT 4) for 4mm OD side arms GAZ-04



**Injectors for Semi Demountable Torch**

Alumina Injector 1.0mm 31-808-0835  
 Alumina Injector 1.5mm 31-808-0013  
 Alumina Injector 1.8mm 31-808-0015  
 Alumina Injector 2.0mm 31-808-0027  
 Alumina Injector 2.4mm 31-808-0385  
 Sapphire Injector 2.0mm 31-808-3001



**Torches**

**D-Torch**

30-808-3910

Suitable for ICPE-9000/9800

**Comprises:**

Torch Body 31-808-3998  
 Torch Adaptor 31-808-3072  
 Injector Ferrule 6.0mm 31-808-2962  
 Quartz Outer Tube 31-808-3912  
 Outer Tube Retainer 31-808-2818  
 GazFit Connectors (PKT 4) for 4mm OD side arms GAZ-04

**D-Torch Options:**

Quartz Outer Tube 31-808-3912

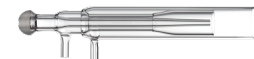
**Tapered Injectors for D-Torch**

Alumina Injector 1.5mm 31-808-3964  
 Quartz Injector 1.0mm 31-808-3965  
 Quartz Injector 1.5mm 31-808-3966  
 Quartz Injector 1.8mm 31-808-3967



**Quartz Torches**

Quartz Torch Standard 1.5mm Injector (Suitable for 7500/8100) 30-808-1179  
 Quartz Torch for Organics, 1.0mm Injector (Suitable for 7500/8100/9000/9800) 30-807-0519  
 Quartz Torch for High TDS, 1.8mm Injector (Suitable for 7500/8100/9000/9800) 30-807-0518  
 Quartz Torch for High TDS, 2.0mm Injector (Suitable for 7500/8100/9000/9800) 30-807-0564  
 Quartz Mini Torch 1.5mm Injector (Suitable for ICPE-9000/9800) 30-807-0534



## RF Coils

|        |              |
|--------|--------------|
| Copper | 70-900-6100C |
| Silver | 70-900-6100S |
| Gold   | 70-900-6100G |



|                                 |              |
|---------------------------------|--------------|
| <b>RF Coil Installation Kit</b> | 70-900-6100T |
|---------------------------------|--------------|

## Common Accessories

### Elegra Argon Humidifier

|                         |             |
|-------------------------|-------------|
| Elegra Argon Humidifier | 70-803-1312 |
|-------------------------|-------------|



### Guardian In-Line Filters

|   |             |
|---|-------------|
| Guardian DC in-line non-return gas filter | 70-803-1942 |
| Guardian in-line sample filter            | 70-803-1108 |



### Trident Internal Standard Kits

|                         |             |
|-------------------------|-------------|
| Trident CT Standard Kit | 60-703-1179 |
| Standard Kit for HF     | 60-808-1150 |



## Autosampler Probes (See page 16-17 for complete list of probes)

### For Shimadzu® ASC-6100F/9800

|  |             |
|--|-------------|
| PTFE Sheathed Carbon Fibre Probe<br>0.3mm ID with UniFit | 70-803-1200 |
|--|-------------|

### For Shimadzu® AS10

|  |             |
|--|-------------|
| PTFE Coated Vitcon O-rings<br>(PKT 10) With UniFit | 70-803-1477 |
|--|-------------|



## Glass DC Nebulizers

### SeaSpray

2mL/min uptake A21-1-USS2

### MicroMist

400µL/min uptake A21-1-UM04

### Slurry

4mL/min uptake A21-1-US6

### Conikal

2mL/min uptake A21-1-UC2



## DC Nebulizers for HF

### DuraMist

1mL/min uptake A21-1-DM1  
400µL/min uptake A21-1-DM04



### VeeSpray

0.6-3mL/min uptake A21-1-CV6



## IsoMist XR

### Programmable Temperature Cyclonic Spray Chamber

#### For ARCOS II EOP

Glass Spray Chamber KT-1146-XR  
Quartz Spray Chamber KT-1146Q-XR  
PFA Spray Chamber KT-1146P-XR

#### For Blue TI/EOP

Glass Spray Chamber KT-1141-XR  
Quartz Spray Chamber KT-1141Q-XR  
PFA Spray Chamber KT-1141P-XR



## Spray Chambers

### Tracey

50mL Cyclonic 20-809-2665HE



### Twister

50mL Cyclonic 20-809-2951HE

### Scott Spray Chamber

20-809-4053

## Spray Chambers

(continued)

### HydraMist Simultaneous Cold Vapor/ Pneumatic Nebulization Spray Chamber

Hydride Kit KT-1160



### Quartz Adaptor

21-809-3772



### Quartz Adaptor with Aux Port

21-809-3771



## Spray Chambers for HF

### Tracey TFE

50mL Cyclonic 20-809-3717  
Suitable for use with HF.  
Requires Transfer Tube 21-809-3726.



### PuraFlex Transfer Tube

21-809-3726



## Torches

### D-Torch Blue EOP

30-808-3600

### D-Torch Blue TI

30-808-3629

#### Comprises:

Base and Inner Tube 31-808-3605  
Quartz Outer Tube 31-808-3630  
Injector Ferrule 31-808-2962  
Retaining Ring 31-808-3595  
Adaptor for D-Torch B19 31-808-3651  
Adaptor S19-B19-90deg 21-809-4045  
Metal Ball Joint Clip JC-19

#### D-Torch Options:

Sheath Gas Adaptor 21-809-4082  
Aux Gas Line 70-803-1424



## Torches

(continued)

**Tapered Injectors  
for Blue EOP/TI D-Torch**

|                        |             |
|------------------------|-------------|
| Quartz Injector 1.0mm  | 31-808-0009 |
| Quartz Injector 1.2mm  | 31-808-3643 |
| Quartz Injector 1.5mm  | 31-808-0007 |
| Quartz Injector 1.8mm  | 31-808-8146 |
| Quartz Injector 2.0mm  | 31-808-0008 |
| Quartz Injector 2.4mm  | 31-808-3541 |
| Quartz Injector 2.5mm  | 31-808-3645 |
| Alumina Injector 1.0mm | 31-808-0835 |
| Alumina Injector 1.5mm | 31-808-0013 |
| Alumina Injector 1.8mm | 31-808-0015 |
| Alumina Injector 2.0mm | 31-808-0027 |
| Alumina Injector 2.4mm | 31-808-0385 |

**Capillary Injectors  
for Blue EOP/TI D-Torch**

|                        |             |
|------------------------|-------------|
| Alumina Injector 1.8mm | 31-808-0087 |
|------------------------|-------------|

**D-Torch  
ARCOS II EOP**

30-808-3657

**Comprises:**

|                         |             |
|-------------------------|-------------|
| Base and Inner Tube     | 31-808-3660 |
| Quartz Outer Tube       | 31-808-3658 |
| Injector Ferrule        | 31-808-2962 |
| Retaining Ring          | 31-808-3595 |
| Adaptor for D-Torch B19 | 31-808-3651 |
| Adaptor S19-B19-90deg   | 21-809-4045 |
| Metal Ball Joint Clip   | JC-19       |

**D-Torch Options:**

|                       |             |
|-----------------------|-------------|
| Sheath Gas Adaptor    | 21-809-4082 |
| Adaptor S19-B13-90deg | 21-809-4048 |
| Adaptor assembly      | 21-809-4223 |

**Tapered Injectors  
for ARCOS II EOP D-Torch**

|                        |             |
|------------------------|-------------|
| Quartz Injector 1.8mm  | 31-808-3663 |
| Quartz Injector 2.0mm  | 31-808-3674 |
| Quartz Injector 2.5mm  | 31-808-3676 |
| Alumina Injector 2.0mm | 31-808-3699 |
| Alumina Injector 2.4mm | 31-808-3700 |

**Capillary Injectors  
for ARCOS II EOP D-Torch**

|                         |             |
|-------------------------|-------------|
| Sapphire Injector 2.0mm | 31-808-3718 |
| Sapphire Injector 2.4mm | 31-808-3850 |



## Torches

(continued)

**Quartz Torch**

|                 |             |
|-----------------|-------------|
| SpectroBlue EOP | 31-808-3394 |
| SpectroBlue TI  | 31-808-3468 |

**Injectors for Quartz Torch**

|                        |             |
|------------------------|-------------|
| Quartz Injector 1.2mm  | 31-808-3410 |
| Quartz Injector 1.8mm  | 31-808-3391 |
| Quartz Injector 2.0mm  | 31-808-3411 |
| Quartz Injector 3.0mm  | 31-808-3412 |
| Alumina Injector 1.8mm | 31-808-3409 |
| Alumina Injector 2.5mm | 31-808-3390 |



## Common Accessories

**Elegra Argon Humidifier**

|                         |             |
|-------------------------|-------------|
| Elegra Argon Humidifier | 70-803-1269 |
|-------------------------|-------------|



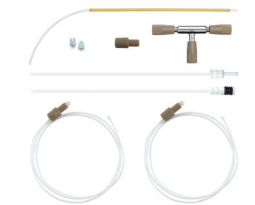
|              |             |
|--------------|-------------|
| Elegra Stand | 70-803-1581 |
|--------------|-------------|

**Guardian In-Line Filters**

|   |             |
|---|-------------|
| Guardian DC in-line non-return gas filter | 70-803-1942 |
| Guardian in-line sample filter            | 70-803-1108 |

**Trident Internal Standard Kits**

|                         |             |
|-------------------------|-------------|
| Trident CT Standard Kit | 60-703-1179 |
| Standard Kit for HF     | 60-808-1150 |

**Autosampler Probes** (See page 16-17 for complete list of probes)**For Cetac ASX-200/500/800 Series**

|  |              |
|--|--------------|
| Guardian Probe 0.75mm                          |              |
| Probe Connecting Line (Red)                    | 70-803-1803  |
| Polyimide sheathed Autosampler Probe 0.5mm ID  | 60-808-1186L |
| PTFE Encapsulated Carbon Fibre Probe 0.5mm ID  | 70-803-0784  |
| PTFE Encapsulated Carbon Fibre Probe 0.75mm ID | 70-803-1443  |
| PTFE Encapsulated Carbon Fibre Probe 1.0mm ID  | 70-803-0793  |





**Glass DC Nebulizers**

**SeaSpray**

2mL/min uptake      A21-1-USS2

**MicroMist**

400µL/min uptake      A21-1-UM04

**Slurry**

4mL/min uptake      A21-1-US6

**Conikal**

2mL/min uptake      A21-1-UC2



**Spray Chambers**

**Tracey**

50mL Cyclonic      20-809-2665HE

**Twister**

50mL Cyclonic      20-809-2951HE



**DC Nebulizers for HF**

**DuraMist**

1mL/min uptake      A21-1-DM1  
400µL/min uptake      A21-1-DM04

**VeeSpray**

0.6-3mL/min uptake      A21-1-CV6



**HydraMist Simultaneous Cold Vapor/  
Pneumatic Nebulization Spray Chamber**

Hydride Kit      KT-1160



**Straight Quartz Adaptor**      21-809-3773



**IsoMist XR**

**Programmable Temperature  
Cyclonic Spray Chamber**

**For ARCOS II SOP**

Glass Spray Chamber      KT-1154-XR  
Quartz Spray Chamber      KT-1154Q-XR  
PFA Spray Chamber      KT-1154P-XR

**For Blue SOP**

Glass Spray Chamber      KT-1141-XR  
Quartz Spray Chamber      KT-1141Q-XR  
PFA Spray Chamber      KT-1141P-XR



**Straight Quartz Adapter  
with Aux Port**

21-809-3804

**Spray Chambers for HF**

**Tracey TFE**

50mL Cyclonic      20-809-3717  
Suitable for use with HF.  
Requires Transfer Tube      21-809-3727



**Straight HF Resistant  
Adaptor**

21-809-3727

## Torches

**D-Torch** 30-808-3614

**Comprises:**

|                         |             |
|-------------------------|-------------|
| Base and Inner Tube     | 31-808-3605 |
| Quartz Outer Tube       | 31-808-3611 |
| Injector Ferrule        | 31-808-2962 |
| Retaining Ring          | 31-808-3595 |
| Adaptor for D-Torch B19 | 31-808-3651 |
| Adaptor for D-Torch B13 | 31-808-3596 |
| Metal Ball Joint Clip   | JC-19       |



**Options:**

Sheath Gas Adaptor 21-809-4083

**Tapered Injectors for D-Torch**

|                        |             |
|------------------------|-------------|
| Quartz Injector 1.0mm  | 31-808-0009 |
| Quartz Injector 1.2mm  | 31-808-3643 |
| Quartz Injector 1.5mm  | 31-808-0007 |
| Quartz Injector 1.8mm  | 31-808-8146 |
| Quartz Injector 2.0mm  | 31-808-0008 |
| Quartz Injector 2.4mm  | 31-808-3541 |
| Quartz Injector 2.5mm  | 31-808-3645 |
| Alumina Injector 1.0mm | 31-808-0835 |
| Alumina Injector 1.5mm | 31-808-0013 |
| Alumina Injector 1.8mm | 31-808-0015 |
| Alumina Injector 2.0mm | 31-808-0027 |
| Alumina Injector 2.4mm | 31-808-0385 |



**Capillary Injectors for D-Torch**

Alumina Injector 1.8mm 31-808-0087

**Quartz Torch**

SpectroBlue SOP 31-808-3405



**Injectors for Quartz Torch**

|                        |             |
|------------------------|-------------|
| Quartz Injector 1.0mm  | 31-808-4148 |
| Quartz Injector 1.2mm  | 31-808-3410 |
| Quartz Injector 1.5mm  | 31-808-4234 |
| Quartz Injector 1.8mm  | 31-808-3391 |
| Quartz Injector 2.0mm  | 31-808-3411 |
| Quartz Injector 2.5mm  | 31-808-4235 |
| Quartz Injector 3.0mm  | 31-808-3412 |
| Alumina Injector 1.8mm | 31-808-3409 |
| Alumina Injector 2.5mm | 31-808-3390 |



## Torches

**Fixed Quartz Torch**

Quartz Torch 1.8mm injector S19, SOP 30-808-4264



## Common Accessories

**Elegra Argon Humidifier**

Elegra Argon Humidifier 70-803-1269



Elegra Stand 70-803-1581



**Guardian In-Line Filters**

Guardian DC in-line non-return gas filter 70-803-1942

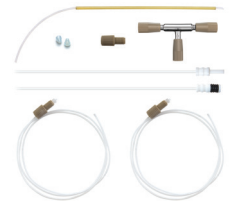
Guardian in-line sample filter 70-803-1108



**Trident Internal Standard Kits**

Trident CT Standard Kit 60-703-1179

Standard Kit for HF 60-808-1150



**Autosampler Probes** (See page 16-17 for complete list of probes)

**For Cetac ASX-200/500/800 Series**

Guardian Probe 0.75mm Probe Connecting Line (Red) 70-803-1803

Polyimide sheathed Autosampler Probe 0.5mm ID 60-808-1186L

PTFE Encapsulated Carbon Fibre Probe 0.5mm ID 70-803-0784

PTFE Encapsulated Carbon Fibre Probe 0.75mm ID 70-803-1443

PTFE Encapsulated Carbon Fibre Probe 1.0mm ID 70-803-0793



**Glass DC Nebulizers**

**SeaSpray**

400µL/min uptake      A31-1-USS04X

**MicroMist**

400µL/min uptake      A31-1-UM04X  
 200µL/min uptake      A31-1-UM02X  
 100µL/min uptake      A31-1-UM01Q  
 50µL/min uptake      A31-1-UM005Q



**Quartz DC Nebulizers**

**SeaSpray**

1mL/min uptake      A31-1-QSS1



**DC Nebulizers for HF**

**OpalMist**

400µL/min uptake      A31-1-PFA04X  
 200µL/min uptake      A31-1-PFA02X  
 100µL/min uptake      A31-1-PFA01Q  
 50µL/min uptake      A31-1-PFA005Q



**DC Nebulizers for Single Cell**

**MicroMist HE**

200µL/min uptake      C13-1-UFT02



**IsoMist XR**

**Programmable Temperature Cyclonic Spray Chamber**

Glass Spray chamber      KT-1027-XR  
 Quartz spray chamber      KT-1027Q-XR  
 PFA spray chamber      KT-1027P-XR  
 Elbow Adaptor with gas port      21-809-4155



**Spray Chambers**

**Single-Cell Spray Chamber Kit**

High Sensitivity Single-Cell Sample Introduction System      KT-1172



**Torches**

**Quartz Torch**

Base for Q Torch      31-808-3494

Quartz Tube Set      31-808-3357

**Ceramic Torch**

Ceramic Outer Tube Set      31-808-4048

**Torch Options:**

Quartz Injector 1.0mm      31-808-3440  
 Quartz Injector 2.0mm      31-808-3898  
 Quartz Injector 2.5mm      31-808-3428

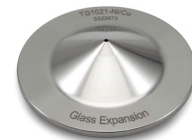
O-ring Kit for Q Torch base (31-808-3494)      70-803-1535



**Cones**

**Sampler Cones**

Nickel Sampler with Copper Core      TG1021-Ni/Cu  
 Aluminium Sampler      TG1021-Al  
 Platinum Sampler with Copper Core      TG1026A-Pt/Cu



**Skimmer Cones**

Nickel Skimmer Hot and Cold Plasma      TG1035-Ni  
 Platinum Skimmer Hot and Cold Plasma      TG1039-Pt



Nickel Skimmer (Robust Plasma)      TG1045-Ni

Eliminates need for insert.



Nickel Skimmer (High Matrix)      TG1044-Ni

Eliminates need for insert.



Platinum Skimmer (High Matrix)      TG1048-Pt

Eliminates need for insert.



**Graphite Sampler Cone Gasket**

TG5001



## Common Accessories

### Elegra Argon Humidifier

Elegra Argon Humidifier 70-803-1303



### Guardian In-Line Filters

Guardian DC in-line non-return gas filter 70-803-1942

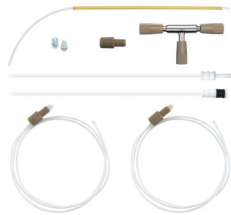
Guardian in-line sample filter 70-803-1108



### Trident Internal Standard Kits

Trident CT Standard Kit 60-703-1179

Standard Kit for HF 60-808-1150



## Autosampler Probes (See page 16-17 for complete list of probes)

### For Cetac ASX-200/500/800 Series

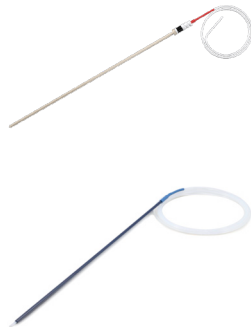
Guardian Probe 0.75mm  
Probe Connecting Line (Red) 70-803-1803

Polyimide sheathed Autosampler Probe  
0.5mm ID 60-808-1186L

PTFE Encapsulated Carbon Fibre Probe  
0.5mm ID 70-803-0784

PTFE Encapsulated Carbon Fibre Probe  
0.75mm ID 70-803-1443

PTFE Encapsulated Carbon Fibre Probe  
1.0mm ID 70-803-0793



**Glass DC Nebulizers**

**SeaSpray**

400µL/min uptake      A31-1-USS04X

**MicroMist**

400µL/min uptake      A31-1-UM04X

200µL/min uptake      A31-1-UM02X

100µL/min uptake      A31-1-UM01Q

50µL/min uptake      A31-1-UM005Q



**Quartz DC Nebulizers**

**SeaSpray**

1mL/min uptake      A31-1-QSS1



**DC Nebulizers for HF**

**OpalMist**

400µL/min uptake      A31-1-PFA04X

200µL/min uptake      A31-1-PFA02X

100µL/min uptake      A31-1-PFA01Q

50µL/min uptake      A31-1-PFA005Q



**DC Nebulizers for Single Cell**

**MicroMist HE**

200µL/min uptake      C13-1-UFT02



**Spray Chambers**

**Single-Cell Spray Chamber Kit**

High Sensitivity Single-Cell Sample Introduction System      KT-1172



**Torches**

**Quartz Torch**

Base for Q Torch      31-808-3494

Quartz Tube Set      31-808-3357

**Ceramic Torch**

Ceramic Tube Set      31-808-4048

**Torch Options:**

Quartz Injector 1.0mm      31-808-3440

Quartz Injector 2.0mm      31-808-3898

Quartz Injector 2.5mm      31-808-3428

Sapphire Injector 2.0mm      31-808-4014

O-ring Kit for Q Torch base (31-808-3494)      70-803-1535



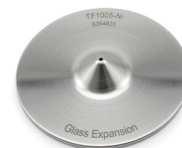
**Cones**

**Sampler Cones**

Nickel Jet Sampler      TF1005-Ni

Nickel Sampler with Copper Core      TF1001-Ni/Cu

Platinum Sampler with Copper Core      TF1006-Pt/Cu



**Skimmer Cones**

Nickel Skimmer      TF1002A-Ni

Nickel X Skimmer with Copper Core      TF1002X-Ni

Platinum Skimmer (H, boron-free)      TF1008-Pt



**Graphite Sampler Cone Gasket**

TG5001



## Common Accessories

### Elegra Argon Humidifier

Elegra Argon Humidifier 70-803-1303



### Guardian In-Line Filters

Guardian DC in-line non-return gas filter 70-803-1942

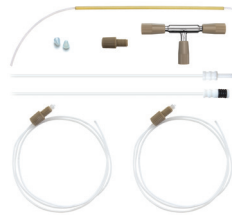
Guardian in-line sample filter 70-803-1108



### Trident Internal Standard Kits

Trident CT Standard Kit 60-703-1179

Standard Kit for HF 60-808-1150



### Magnifier Inspection Tool

70-803-1923



## Autosampler Probes (See page 16-17 for complete list of probes)

### For Cetac ASX-200/500/800 Series

Guardian Probe 0.75mm  
Probe Connecting Line (Red) 70-803-1803

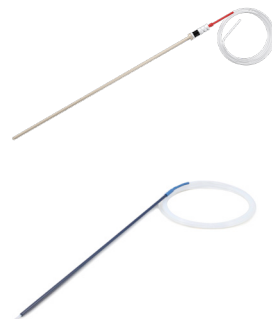
Guardian Probe ASX-112FR 70-803-2029

Polyimide sheathed Autosampler Probe  
0.5mm ID 60-808-1186L

PTFE Encapsulated Carbon Fibre Probe  
0.5mm ID 70-803-0784

PTFE Encapsulated Carbon Fibre Probe  
0.75mm ID 70-803-1443

PTFE Encapsulated Carbon Fibre Probe  
1.0mm ID 70-803-0793





Glass DC Nebulizers

SeaSpray

|                  |              |
|------------------|--------------|
| 2mL/min uptake   | A31-07-USS2  |
| 400µL/min uptake | A31-07-USS04 |

MicroMist

|                  |              |
|------------------|--------------|
| 600µL/min uptake | A31-07-UM06  |
| 200µL/min uptake | A31-07-UM02  |
| 100µL/min uptake | A31-07-UM01  |
| 50µL/min uptake  | A31-07-UM005 |



Conikal

|                |            |
|----------------|------------|
| 2mL/min uptake | A31-07-UC2 |
| 1mL/min uptake | A31-07-UC1 |

Slurry

|                |            |
|----------------|------------|
| 4mL/min uptake | A31-07-US6 |
|----------------|------------|

DC Nebulizers for HF

DuraMist

|                  |             |
|------------------|-------------|
| 1mL/min uptake   | A31-07-DM1  |
| 400µL/min uptake | A31-07-DM04 |



OpalMist

|                  |               |
|------------------|---------------|
| 2mL/min uptake   | A31-07-PFA2   |
| 600µL/min uptake | A31-07-PFA06  |
| 200µL/min uptake | A31-07-PFA02  |
| 100µL/min uptake | A31-07-PFA01  |
| 50µL/min uptake  | A31-07-PFA005 |



VeeSpray

|                      |            |
|----------------------|------------|
| 0.6 - 3mL/min uptake | A31-07-CV6 |
|----------------------|------------|



IsoMist XR

Programmable Temperature Cyclonic Spray Chamber

|                     |            |
|---------------------|------------|
| Glass Spray Chamber | KT-1166-XR |
|---------------------|------------|



Spray Chambers

HydraMist Simultaneous Cold Vapor/ Pneumatic Nebulization Spray Chamber

|             |         |
|-------------|---------|
| Hydride Kit | KT-1160 |
|-------------|---------|



Spray Chambers

Tracey

|               |               |
|---------------|---------------|
| 50mL Cyclonic | 20-809-2665HE |
|---------------|---------------|



Twister

|               |               |
|---------------|---------------|
| 50mL Cyclonic | 20-809-2951HE |
|---------------|---------------|



Straight Ball Joint Adaptor

|             |
|-------------|
| 21-809-2723 |
|-------------|



Spray Chambers for HF

Tracey TFE

|               |             |
|---------------|-------------|
| 50mL Cyclonic | 20-809-9198 |
|---------------|-------------|



Torches

D-Torch

|             |
|-------------|
| 30-808-4150 |
|-------------|

Comprises:

|                             |             |
|-----------------------------|-------------|
| Base and Inner Tube         | 31-808-4125 |
| Quartz Outer Tube with slot | 31-808-4152 |



D-Torch Options:

|                              |             |
|------------------------------|-------------|
| Ceramic Outer Tube with slot | 31-808-3996 |
|------------------------------|-------------|



|                |             |
|----------------|-------------|
| Retaining Ring | 31-808-2707 |
|----------------|-------------|

|                  |             |
|------------------|-------------|
| Injector Adaptor | 31-808-2895 |
|------------------|-------------|

|                  |             |
|------------------|-------------|
| Injector Ferrule | 31-808-2897 |
|------------------|-------------|

**Torches**

**D-Torch**

**D-Torch Options:**

PTFE Coated  
Viton O-rings (PKT 10)                      VT-007



O-ring kit for Thermo  
6000/7000/PRO D-Torch                      70-803-1921

O-ring and Seal kit for Thermo  
Torch & Windows                              70-803-1550



**Quartz Torch**

EMT Design                                      31-808-4158



**Tapered Injectors for  
D-Torch & EMT Torch**

Quartz Injector 0.75mm                      31-808-3511

Quartz Injector 1.0mm                        31-808-2833

Quartz Injector 1.5mm                        31-808-2834



**Capillary Injectors for  
D-Torch & EMT Torch**

Quartz Injector 1.0mm                        31-808-3510

Quartz Injector 2.0mm                        31-808-2836

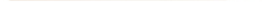
Quartz Injector 2.5mm                        31-808-3246

Quartz Injector 3.0mm                        31-808-3247

Alumina Injector 1.0mm                       31-808-3279

Alumina Injector 2.0mm                       31-808-2835

Sapphire Injector 2.0mm                      31-808-2977



**Common Accessories**

**Elegra Argon Humidifier**

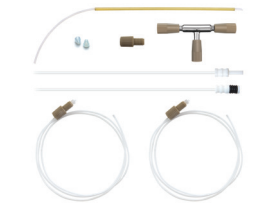
Elegra Argon Humidifier                      70-803-1303



**Guardian In-Line Filters**

Guardian DC in-line non-return  
gas filter    70-803-1942

Guardian in-line sample filter                70-803-1108



**Trident Internal Standard Kits**

Trident CT Standard Kit                        60-703-1179

Standard Kit for HF                              60-808-1150

**Autosampler Probes** (See page 16-17 for complete list of probes)

**For Cetac ASX-200/500/800 Series**

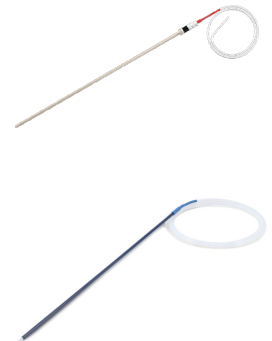
Guardian Probe 0.75mm  
Probe Connecting Line (Red)                70-803-1803

Polyimide sheathed Autosampler Probe  
0.5mm ID    60-808-1186L

PTFE Encapsulated Carbon Fibre Probe  
0.5mm ID    70-803-0784

PTFE Encapsulated Carbon Fibre Probe  
0.75mm ID    70-803-1443

PTFE Encapsulated Carbon Fibre Probe  
1.0mm ID    70-803-0793



## Glass DC Nebulizers

### SeaSpray

|                  |              |
|------------------|--------------|
| 2mL/min uptake   | A31-07-USS2  |
| 400µL/min uptake | A31-07-USS04 |

### MicroMist

|                  |              |
|------------------|--------------|
| 600µL/min uptake | A31-07-UM06  |
| 200µL/min uptake | A31-07-UM02  |
| 100µL/min uptake | A31-07-UM01  |
| 50µL/min uptake  | A31-07-UM005 |



### Conikal

|                |            |
|----------------|------------|
| 2mL/min uptake | A31-07-UC2 |
| 1mL/min uptake | A31-07-UC1 |

### Slurry

|                |            |
|----------------|------------|
| 4mL/min uptake | A31-07-US6 |
|----------------|------------|

## DC Nebulizers for HF

### DuraMist

|                  |             |
|------------------|-------------|
| 1mL/min uptake   | A31-07-DM1  |
| 400µL/min uptake | A31-07-DM04 |



### OpalMist

|                  |               |
|------------------|---------------|
| 2mL/min uptake   | A31-07-PFA2   |
| 600µL/min uptake | A31-07-PFA06  |
| 200µL/min uptake | A31-07-PFA02  |
| 100µL/min uptake | A31-07-PFA01  |
| 50µL/min uptake  | A31-07-PFA005 |



### VeeSpray

|                      |            |
|----------------------|------------|
| 0.6 - 3mL/min uptake | A31-07-CV6 |
|----------------------|------------|



## IsoMist XR

### Programmable Temperature Cyclonic Spray Chamber

|                     |            |
|---------------------|------------|
| Glass Spray chamber | KT-1166-XR |
|---------------------|------------|



## Spray Chambers

### HydraMist Simultaneous Cold Vapor/Pneumatic Nebulization Spray Chamber

|             |         |
|-------------|---------|
| Hydride Kit | KT-1160 |
|-------------|---------|



## Spray Chambers

### Tracey

|               |               |
|---------------|---------------|
| 50mL Cyclonic | 20-809-2665HE |
|---------------|---------------|



### Twister

|               |               |
|---------------|---------------|
| 50mL Cyclonic | 20-809-2951HE |
|---------------|---------------|



### Straight Ball Joint Adaptor

|             |
|-------------|
| 21-809-2723 |
|-------------|



## Spray Chambers for HF

### Tracey TFE

|               |             |
|---------------|-------------|
| 50mL Cyclonic | 20-809-9198 |
|---------------|-------------|



## Torches

### D-Torch

|             |
|-------------|
| 30-808-2877 |
|-------------|



### Comprises:

|                     |             |
|---------------------|-------------|
| Base and Inner Tube | 31-808-2932 |
| Quartz Outer Tube   | 31-808-2878 |

### D-Torch Options:

|                    |             |
|--------------------|-------------|
| Ceramic Outer Tube | 31-808-3836 |
|--------------------|-------------|



|  |             |
|--|-------------|
| PTFE Coated                                    |             |
| Viton O-rings (PKT 10)                         | VT-007      |
| Viton O-rings (PKT 10)                         | V-026       |
| O-ring kit for Thermo 6000/7000/PRO D-Torch    | 70-803-1921 |
| O-ring and Seal kit for Thermo Torch & Windows | 70-803-1550 |



|                  |             |
|------------------|-------------|
| Retaining Ring   | 31-808-2707 |
| Injector Adaptor | 31-808-2895 |
| Injector Ferrule | 31-808-2897 |

**Torches**

(continued)

**Quartz Torch**

EMT Design 31-808-2810



**Tapered Injectors for D-Torch & EMT Torch**

Quartz Injector 0.75mm 31-808-3511  
 Quartz Injector 1.0mm 31-808-2833  
 Quartz Injector 1.5mm 31-808-2834



**Capillary Injectors for D-Torch & EMT Torch**

Quartz Injector 1.0mm 31-808-3510  
 Quartz Injector 2.0mm 31-808-2836  
 Quartz Injector 2.5mm 31-808-3246  
 Quartz Injector 3.0mm 31-808-3247  
 Alumina Injector 1.0mm 31-808-3279  
 Alumina Injector 2.0mm 31-808-2835  
 Sapphire Injector 2.0mm 31-808-2977



**Common Accessories**

**Elegra Argon Humidifier**

Elegra Argon Humidifier 70-803-1303



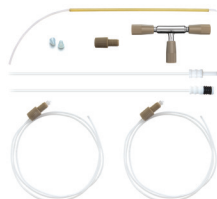
**Guardian In-Line Filters**

Guardian DC in-line non-return gas filter 70-803-1942  
 Guardian in-line sample filter 70-803-1108



**Trident Internal Standard Kits**

Trident CT Standard Kit 60-703-1179  
 Standard Kit for HF 60-808-1150



**Autosampler Probes**

(See page 16-17 for complete list of probes)

**For Cetac ASX-200/500/800 Series**

Guardian Probe 0.75mm  
 Probe Connecting Line (Red) 70-803-1803  
 Polyimide sheathed Autosampler Probe  
 0.5mm ID 60-808-1186L  
 PTFE Encapsulated Carbon Fibre Probe  
 0.5mm ID 70-803-0784  
 PTFE Encapsulated Carbon Fibre Probe  
 0.75mm ID 70-803-1443  
 PTFE Encapsulated Carbon Fibre Probe  
 1.0mm ID 70-803-0793



## Glass DC Nebulizers

### SeaSpray

|                  |              |
|------------------|--------------|
| 2mL/min uptake   | A31-07-USS2  |
| 400µL/min uptake | A31-07-USS04 |

### MicroMist

|                  |              |
|------------------|--------------|
| 600µL/min uptake | A31-07-UM06  |
| 200µL/min uptake | A31-07-UM02  |
| 100µL/min uptake | A31-07-UM01  |
| 50µL/min uptake  | A31-07-UM005 |



### Conikal

|                |            |
|----------------|------------|
| 2mL/min uptake | A31-07-UC2 |
| 1mL/min uptake | A31-07-UC1 |

### Slurry

|                |            |
|----------------|------------|
| 4mL/min uptake | A31-07-US6 |
|----------------|------------|

## DC Nebulizers for HF

### DuraMist

|                  |             |
|------------------|-------------|
| 1mL/min uptake   | A31-07-DM1  |
| 400µL/min uptake | A31-07-DM04 |



### OpalMist

|                  |               |
|------------------|---------------|
| 2mL/min uptake   | A31-07-PFA2   |
| 600µL/min uptake | A31-07-PFA06  |
| 200µL/min uptake | A31-07-PFA02  |
| 100µL/min uptake | A31-07-PFA01  |
| 50µL/min uptake  | A31-07-PFA005 |



### VeeSpray

|                      |            |
|----------------------|------------|
| 0.6 - 3mL/min uptake | A31-07-CV6 |
|----------------------|------------|



## IsoMist XR

### Programmable Temperature Cyclonic Spray Chamber

|                      |             |
|----------------------|-------------|
| Glass Spray Chamber  | KT-1015-XR  |
| Quartz Spray Chamber | KT-1015Q-XR |
| PFA Spray Chamber    | KT-1015P-XR |



## Spray Chambers

### HydraMist Simultaneous Cold Vapor/Pneumatic Nebulization Spray Chamber

|  |         |
|--|---------|
| Thermo® Duo 7600 Hydride Kit           | KT-1156 |
| Thermo Duo® 6000/7200/7400 Hydride Kit | KT-1179 |



## Spray Chambers

### Tracey

|               |               |
|---------------|---------------|
| 50mL Cyclonic | 20-809-2665HE |
|---------------|---------------|



### Twister

|               |               |
|---------------|---------------|
| 50mL Cyclonic | 20-809-2951HE |
|---------------|---------------|



### Adaptor

|                             |             |
|-----------------------------|-------------|
| Right Angle With Ball Joint | 21-809-2761 |
|-----------------------------|-------------|



## Spray Chambers for HF

### Tracey TFE

|               |             |
|---------------|-------------|
| 50mL Cyclonic | 20-809-3469 |
|---------------|-------------|



## Torches

### D-Torch

30-808-2844

#### Comprises:

|                     |             |
|---------------------|-------------|
| Base and Inner Tube | 31-808-2932 |
| Quartz Outer Tube   | 31-808-2840 |



#### D-Torch Options:

|                    |             |
|--------------------|-------------|
| Ceramic Outer Tube | 31-808-3834 |
| Optic Fibre 170mm  | 31-808-2933 |
| Optic Fibre 450mm  | 31-808-3117 |
| Retaining Ring     | 31-808-2707 |
| Injector Adaptor   | 31-808-2895 |
| Injector Ferrule   | 31-808-2897 |



## Torches

### D-Torch

#### D-Torch Options:

PTFE Coated  
Viton O-rings (PKT 10) VT-007



O-ring kit for Thermo  
6000/7000/PRO D-Torch 70-803-1921



O-ring and Seal kit for Thermo  
Torch & Windows 70-803-1550

### Ceramic Outer Tube and Optic Fibre for D-Torch

31-808-3079

#### Comprises:

Ceramic Outer Tube 31-808-3834

Optic Fibre 170mm 31-808-2933

Optic Fibre 450mm 31-808-3117



### Quartz Torch

EMT Design 31-808-2811



### Tapered Injectors for D-Torch & EMT Torch

Quartz Injector 1.0mm 31-808-2833

Quartz Injector 1.5mm 31-808-2834



### Capillary Injectors for D-Torch & EMT Torch

Quartz Injector 2.0mm 31-808-2836

Quartz Injector 2.5mm 31-808-3246

Quartz Injector 3.0mm 31-808-3247

Alumina Injector 1.0mm 31-808-3279

Alumina Injector 2.0mm 31-808-2835

Sapphire Injector 2.0mm 31-808-2977



**Duo Periscope Window** 31-808-2677

O-ring for Periscope Window  
(PKT 10) 70-803-1603



**Quartz Window** 70-803-1116



### Purged Optical Path (POP) Assembly

70-803-1571

Window & O-Ring for Purged  
Optical Path (POP) 70-803-1892



## RF Coils

### RF Coil for 6000

Silver, Teflon Coated 70-900-4002S

Gold, Teflon Coated 70-900-4002G



### RF Coil for 7000/6000 Mark II

Silver, Teflon Coated 70-900-4005S

Gold, Teflon Coated 70-900-4005G



**RF Coil Installation Kit** 70-900-4002T



## Common Accessories

### Elegra Argon Humidifier

Elegra Argon Humidifier 70-803-1303



### Guardian In-Line Filters

Guardian DC in-line non-return  
gas filter 70-803-1942

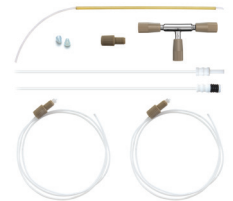
Guardian in-line sample filter 70-803-1108



### Trident Internal Standard Kits

Trident CT Standard Kit 60-703-1179

Standard Kit for HF 60-808-1150



## Autosampler Probes (See page 16-17 for complete list of probes)

### For Cetac ASX-200/500/800 Series

Guardian Probe 0.75mm  
Probe Connecting Line (Red) 70-803-1803

Polyimide sheathed Autosampler Probe  
0.5mm ID 60-808-1186L

PTFE Encapsulated Carbon Fibre Probe  
0.5mm ID 70-803-0784

PTFE Encapsulated Carbon Fibre Probe  
0.75mm ID 70-803-1443

PTFE Encapsulated Carbon Fibre Probe  
1.0mm ID 70-803-0793



## Glass DC Nebulizers

### SeaSpray

|                  |              |
|------------------|--------------|
| 2mL/min uptake   | A31-07-USS2  |
| 400µL/min uptake | A31-07-USS04 |

### MicroMist

|                  |              |
|------------------|--------------|
| 600µL/min uptake | A31-07-UM06  |
| 200µL/min uptake | A31-07-UM02  |
| 100µL/min uptake | A31-07-UM01  |
| 50µL/min uptake  | A31-07-UM005 |



### Conikal

|                |            |
|----------------|------------|
| 2mL/min uptake | A31-07-UC2 |
| 1mL/min uptake | A31-07-UC1 |

### Slurry

|                |            |
|----------------|------------|
| 4mL/min uptake | A31-07-US6 |
|----------------|------------|

## DC Nebulizers for HF

### DuraMist

|                  |             |
|------------------|-------------|
| 1mL/min uptake   | A31-07-DM1  |
| 400µL/min uptake | A31-07-DM04 |



### OpalMist

|                  |               |
|------------------|---------------|
| 2mL/min uptake   | A31-07-PFA2   |
| 600µL/min uptake | A31-07-PFA06  |
| 200µL/min uptake | A31-07-PFA02  |
| 100µL/min uptake | A31-07-PFA01  |
| 50µL/min uptake  | A31-07-PFA005 |



### VeeSpray

|                      |            |
|----------------------|------------|
| 0.6 - 3mL/min uptake | A31-07-CV6 |
|----------------------|------------|



## IsoMist XR

### Programmable Temperature Cyclonic Spray Chamber

|                         |             |
|-------------------------|-------------|
| Glass Spray chamber     | KT-1021-XR  |
| PFA spray chamber       | KT-1021P-XR |
| Twinnabar spray chamber | KT-1021T-XR |



## Spray Chambers

### Tracey

|               |               |
|---------------|---------------|
| 50mL Cyclonic | 20-809-2665HE |
|---------------|---------------|



### Twister

|               |               |
|---------------|---------------|
| 50mL Cyclonic | 20-809-2951HE |
|---------------|---------------|



### Straight Ball Joint Adaptor

|             |
|-------------|
| 21-809-2723 |
|-------------|



## Spray Chambers for HF

### Tracey TFE

|               |             |
|---------------|-------------|
| 50mL Cyclonic | 20-809-9198 |
|---------------|-------------|



## Torches

### D-Torch

|             |
|-------------|
| 30-808-2877 |
|-------------|

#### Comprises:

|                     |             |
|---------------------|-------------|
| Base and Inner Tube | 31-808-2932 |
| Quartz Outer Tube   | 31-808-2878 |
| Retaining Ring      | 31-808-2707 |
| Injector Adaptor    | 31-808-2895 |
| Injector Ferrule    | 31-808-2897 |



#### D-Torch Options:

|                    |             |
|--------------------|-------------|
| Ceramic Outer Tube | 31-808-3836 |
|--------------------|-------------|



|                        |        |
|------------------------|--------|
| PTFE Coated            |        |
| Viton O-rings (PKT 10) | VT-007 |
| Viton O-rings (PKT 10) | V-026  |



|  |             |
|--|-------------|
| O-ring kit for Thermo 6000/7000/PRO D-Torch    | 70-803-1921 |
| O-ring and Seal kit for Thermo Torch & Windows | 70-803-1550 |





**Torches**

**Quartz Torch**

EMT Design 31-808-2810



**Tapered Injectors for D-Torch & EMT Torch**

Quartz Injector 1.0mm 31-808-2833



Quartz Injector 1.5mm 31-808-2834

**Capillary Injectors for D-Torch & EMT Torch**

Quartz Injector 2.0mm 31-808-2836

Alumina Injector 1.0mm 31-808-3279

Alumina Injector 2.0mm 31-808-2835

Sapphire Injector 2.0mm 31-808-2977



**RF Coils**

**RF Coil for 6000 Mark I**

Silver, Teflon Coated 70-900-4002S

Gold, Teflon Coated 70-900-4002G



**RF Coil for 7000/6000 Mark II**

Silver, Teflon Coated 70-900-4005S

Gold, Teflon Coated 70-900-4005G



**RF Coil Installation Kit** 70-900-4002T



**Common Accessories**

**Elegra Argon Humidifier**

Elegra Argon Humidifier 70-803-1303



**Guardian In-Line Filters**

Guardian DC in-line non-return gas filter 70-803-1942

Guardian in-line sample filter 70-803-1108



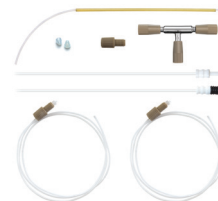
**Common Accessories**

(continued)

**Trident Internal Standard Kits**

Trident CT Standard Kit 60-703-1179

Standard Kit for HF 60-808-1150



**Autosampler Probes** (See page 16-17 for complete list of probes)

**For Cetac ASX-200/500/800 Series**

Guardian Probe 0.75mm  
Probe Connecting Line (Red) 70-803-1803

Polyimide sheathed Autosampler Probe  
0.5mm ID 60-808-1186L

PTFE Encapsulated Carbon Fibre Probe  
0.5mm ID 70-803-0784

PTFE Encapsulated Carbon Fibre Probe  
0.75mm ID 70-803-1443

PTFE Encapsulated Carbon Fibre Probe  
1.0mm ID 70-803-0793



## DC Nebulizer Gas Fitting Connectors

|   |             |
|---|-------------|
| Agilent® Vista/700-ES, 4100/4200                  | 70-803-0969 |
| Agilent® 7700/7800/7900/8800/8900                 | 70-803-1105 |
| Agilent® 5100/5110/5800/5900                      | 70-803-1105 |
| Analytik Jena® ICP-MS                             | 70-803-2002 |
| Analytik Jena® ICP-OES                            | 70-803-1105 |
| Horiba® Jobin Yvon (All models)                   | 70-803-1105 |
| Leeman (All models)                               | 70-803-0969 |
| Nu Instruments ICP-MS                             | 70-803-1858 |
| Nu Instruments TOF-ICP-MS                         | 70-803-2044 |
| PerkinElmer® Optima and Avio                      | 70-803-1070 |
| PerkinElmer® Elan/NexION 300/350                  | 70-803-1049 |
| PerkinElmer® NexION 1000/2000/5000                | 70-803-1449 |
| Radom MICAP – OES™ 1000                           | 70-803-2054 |
| Shimadzu® (All models)                            | 70-803-1311 |
| Spectro™ (All models)                             | 70-803-1070 |
| Thermo® PRO, 6000/7000, Q/RQ/TQ, X-Series & Neoma | 70-803-1105 |
| Thermo® Neptune                                   | 70-803-1468 |
| Elegra to DC Nebulizer                            | 70-803-1278 |
| ICP Gas Inlet Fitting                             | 70-803-1504 |
| ICP Gas Inlet Fitting                             | 70-803-1934 |

## LC Interface for Speciation Measurements

The high-pressure fitting kit is a quick and easy way to ensure a leak tight connection of 1/16" or 1.3mm OD sample capillary to a Glass Expansion concentric nebulizer such as the SeaSpray, Conikal, MicroMist, DuraMist or OpalMist nebulizers. If you need to make a leak tight seal to your nebulizer - whether it is to a HPLC for speciation or a high throughput switching valve use this kit.

|                                     |             |
|-------------------------------------|-------------|
| High Pressure nebulizer fitting kit | FT-16-8-X   |
| Tefzel Ferrule 1/8 inch (PKT 10)    | 70-803-1513 |
| Tefzel Ferrule 1/16 inch (PKT 10)   | 70-803-1315 |

## EzyLok Kit for Nebulizer Gas Side Arm

|                                 |             |
|---------------------------------|-------------|
| EzyLok Kit                      | EL-1        |
| <b>Comprises:</b>               |             |
| EzyLok Connector for 4mm Tubing | QSM-4       |
| EzyLok 6mm Hose Adaptor         | 70-808-0735 |
| Hose Clip, 6mm                  | SNP-1       |



## Tubing Connector

|                        |           |
|------------------------|-----------|
| 1.3mm to 1/16 inch     | FT-16-1.3 |
| 1/16 inch to 1/16 inch | FT-16-1.6 |

## Sample Tube Connectors (PKT 10)

|   | UniFit P/N | EzyFit P/N |
|---|------------|------------|
| 0.25mm ID x 1.27mm OD x 700mm long      | NFT-025    | EZT-025    |
| 0.25mm ID x 1.27mm OD x 2000mm long     | NFT2-025   | EZT2-025   |
| 0.50mm ID x 1.27mm OD x 700mm long      | NFT-050    | EZT-050    |
| 0.50mm ID x 1.27mm OD x 2000mm long     | NFT2-050   | EZT2-050   |
| 0.75mm ID x 1.27mm OD x 700mm long      | NFT-075    | EZT-075    |
| 0.75mm ID x 1.27mm OD x 2000mm long     | NFT2-075   | EZT2-075   |
| 0.75mm ID x 1.27mm OD x 1500mm long     | NFTS-075   | EZTS-075   |
| 0.07mm ID x 1/16" OD x 700mm long       | NFT-16-07  | EZT-16-07  |
| 0.13mm ID x 1/16" OD x 700mm long       | NFT-16-13  | EZT-16-13  |
| 0.18mm ID x 1/16" OD x 700mm long       | NFT-16-18  | EZT-16-18  |
| 0.25mm ID x 1/16" OD x 700mm long       | NFT-16-25  | EZT-16-25  |
| 0.25mm ID x 1/16" OD x 1500mm long      | NFTS-16-25 | EZTS-16-25 |
| 0.50mm ID x 1/16" OD x 700mm long       | NFT-16-50  | EZT-16-50  |
| 0.50mm ID x 1/16" OD x 1500mm long      | NFTS-16-50 | EZTS-16-50 |
| 0.75mm ID x 1/16" OD x 700mm long       | NFT-16-75  | EZT-16-75  |
| 0.75mm ID x 1/16" OD x 1500mm long      | NFTS-16-75 | EZTS-16-75 |
| Tefzel 0.5mm ID x 1.3mm OD x 700mm long | NFTFE-050  | EZTFE-050  |
| 0.3mm ID x 0.75mm OD x 700mm long       | NFT-0703   | EZT-0703   |

## Sample Tubing

|                                       |            |
|---------------------------------------|------------|
| 0.25mm ID x 1.27mm OD x 10m long      | STT-025    |
| 0.50mm ID x 1.27mm OD x 10m long      | STT-050    |
| 0.75mm ID x 1.27mm OD x 10m long      | STT-075    |
| 0.25mm ID x 1/16" OD x 10m long       | STT-16-25  |
| 0.50mm ID x 1/16" OD x 10m long       | STT-16-50  |
| 0.75mm ID x 1/16" OD x 10m long       | STT-16-75  |
| 1.0mm ID x 1/16" OD x 10m long        | STT-16-100 |
| 0.3mm ID x 0.75mm OD x 10m long       | STT-0703   |
| 0.13mm ID x 1.27mm OD x 10m long      | PFT-013    |
| 0.18mm ID x 1.27mm OD x 10m long      | PFT-018    |
| 0.07mm ID x 1/16" OD x 10m long       | PFT-16-07  |
| 0.13mm ID x 1/16" OD x 10m long       | PFT-16-13  |
| 0.18mm ID x 1/16" OD x 10m long       | PFT-16-18  |
| 1/8" ID x 1/4" OD x 1m long           | 1/4PFA-HW  |
| Tefzel 0.5mm ID x 1.3mm OD x 10m long | TFE-050    |

## Other Tubing

|   |             |
|---|-------------|
| Reagent tube 1.6mm OD x 1.0mm ID x 1400mm long with PTFE Sinkers (PKT. 3) | 70-803-0752 |
| Tygon Tubing 1/4 inch x 1m  | 1921-1M     |
| Tygon Tubing 700mm  | 70-803-0598 |

## Helix & Helix CT Spray Chambers

### Helix CT:

|   |             |
|---|-------------|
| Helix CT Locking Screw with Seal              | 70-803-1439 |
| Helix CT Locking Screw with Seal for MiraMist | 70-803-1470 |
| Helix CT Seal (PKT 4)                         | 70-803-1456 |

### Helix:

|                     |             |
|---------------------|-------------|
| Helix Locking Screw | 70-100-0152 |
| Helix Seal (PKT 4)  | 70-100-0237 |
| Nebulizer Spacer    | 21-100-0246 |



## O-Rings Spray Chambers

|   |             |
|---|-------------|
| O-ring set for Large Adaptor (Tracey, Twister)                                  | 70-808-0501 |
| O-ring set for Small Adaptor (Cinnabar, Twinnabar)                              | 21-808-0818 |
| Teflon coated Viton O-Rings for spray chamber, nebulizer seal (PKT 10)          | VT-009      |
| Teflon coated Viton O-Rings for spray chamber, 16mm large adaptor seal (PKT 10) | VT-10/2     |
| Silicon o-rings for spray chamber, nebulizer seal (PKT 10)                      | S-009       |

## GazFit Connectors for Torches

|   |          |
|---|----------|
| GazFit Connectors (PKT 2), for 8mm OD arm   | GAZ-08   |
| GazFit Connectors (PKT 4), for 6mm OD torch side arms                                 | GAZ-06   |
| GazFit Connectors (PKT 4), 2 for 6mm OD torch side arms, 2 for 4mm OD torch side arms | GAZ-0604 |
| GazFit Connectors (PKT 4), for 5mm OD torch side arms                                 | GAZ-05   |
| GazFit Connectors (PKT 4), for 4mm OD torch side arms                                 | GAZ-04   |

GazFit connectors are only suitable for torches with tolerances of no more than +/- 0.15mm on the diameter of the side arms.

All Glass Expansion torches meet this specification.



## Clips & Connectors for Spray Chambers

|   |             |
|---|-------------|
| Metal Ball Joint Clip<br>(to connect spray chamber and torch)                   | JC-13       |
| Nickel Joint Clip B14<br>(to connect spray chamber and drain adaptors)          | KCM-14      |
| Nickel Joint Clip KCM29<br>(to connect spray chamber and drain adaptors)        | KCM-29      |
| UniFit Connector with sample tube,<br>0.75mm ID x 1/16" OD x 700mm long (PKT 3) | UFT-16-75   |
| UniFit Connector with sample tube,<br>0.75mm ID x 1.3mm OD x 700mm long (PKT 3) | UFT-075     |
| UniFit Connector with sample tube,<br>0.86mm ID x 2mm OD x 480mm long (PKT 3)   | UFT-2-86    |
| UniFit Connector with sample tube,<br>0.86mm ID x 2mm OD x 700mm long (PKT 3)   | UFT-2-700   |
| Connector Assembly for Agilent® Scott<br>Spray Chamber                          | 70-803-1476 |
| HydraMist Drain (PKT 4)   | GAZ-08-4    |



## O-Rings for Torches

|  |          |
|--|----------|
| Viton O-Rings for demountable torch ball joint connectors (PKT 10) | 70-V-011 |
|--|----------|

## PVC Peristaltic Pump Tubing

All tubes made from Tygon R3603/R3607 or equivalent. Supplied in packs of 12 tubes.

### Special Properties:

- Inexpensive all-round tubing for general laboratory applications.

### Advantages:

- Resistant to almost all inorganic materials.
- Does not age.
- Low gas permeability.
- Smooth inner surface.

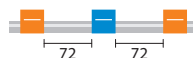
### Limitations:

- Potential leaching of plasticizers.



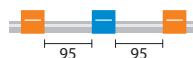
### PVC, 2 Bridged, 152mm (152mm between tags)

| Tag Colours   | ID (mm) | P/N       |
|---------------|---------|-----------|
| orange/black  | 0.13    | 0.13-OBLK |
| orange/red    | 0.19    | 0.19-OR   |
| orange/blue   | 0.25    | 0.25-OB   |
| orange/green  | 0.38    | 0.38-OG   |
| green/yellow  | 0.44    | 0.44-GY   |
| orange/yellow | 0.51    | 0.51-OY   |
| white/yellow  | 0.57    | 0.57-WY   |
| orange/white  | 0.64    | 0.64-OW   |
| black/black   | 0.76    | 0.76-BLK  |
| orange/orange | 0.89    | 0.89-ORG  |
| white/black   | 0.95    | 0.95-WBLK |
| white/white   | 1.02    | 1.02-WHT  |
| white/red     | 1.09    | 1.09-WR   |
| red/red       | 1.14    | 1.14-RED  |
| red/grey      | 1.22    | 1.22-RGRY |
| grey/grey     | 1.30    | 1.30-GRY  |
| yellow/yellow | 1.42    | 1.42-YLW  |
| yellow/blue   | 1.52    | 1.52-YB   |
| blue/blue     | 1.65    | 1.65-BLU  |
| blue/green    | 1.75    | 1.75-BG   |
| green/green   | 1.85    | 1.85-GRN  |
| purple/purple | 2.06    | 2.06-PUR  |
| purple/black  | 2.29    | 2.29-PBLK |
| purple/orange | 2.54    | 2.54-PO   |
| purple/white  | 2.79    | 2.79-PW   |
| black/white   | 3.17    | 3.17-BLKW |



### PVC, 3 Bridged, 72mm (72mm between tags)

| Tag Colours   | ID (mm) | P/N         |
|---------------|---------|-------------|
| orange/black  | 0.13    | 0.13-OBLK3B |
| orange/red    | 0.19    | 0.19-OR3B   |
| orange/blue   | 0.25    | 0.25-OB3B   |
| orange/green  | 0.38    | 0.38-OG3B   |
| green/yellow  | 0.44    | 0.44-GY3B   |
| orange/yellow | 0.51    | 0.51-OY3B   |
| white/yellow  | 0.57    | 0.57-WY3B   |
| orange/white  | 0.64    | 0.64-OW3B   |
| black/black   | 0.76    | 0.76-BLK3B  |
| orange/orange | 0.89    | 0.89-ORG3B  |
| white/black   | 0.95    | 0.95-WBLK3B |
| white/white   | 1.02    | 1.02-WHT3B  |
| white/red     | 1.09    | 1.09-WR3B   |
| red/red       | 1.14    | 1.14-RED3B  |
| red/grey      | 1.22    | 1.22-RGRY3B |
| grey/grey     | 1.30    | 1.30-GRY3B  |
| yellow/yellow | 1.42    | 1.42-YLW3B  |
| yellow/blue   | 1.52    | 1.52-YB3B   |
| blue/blue     | 1.65    | 1.65-BLU3B  |
| green/green   | 1.85    | 1.85-GRN3B  |
| purple/purple | 2.06    | 2.06-PUR3B  |
| purple/black  | 2.29    | 2.29-PBLK3B |
| purple/orange | 2.54    | 2.54-PO3B   |
| purple/white  | 2.79    | 2.79-PW3B   |
| black/white   | 3.17    | 3.17-BLKW3B |



### PVC, 3 Bridged, 95mm (95mm between tags)

| Tag Colours   | ID (mm) | P/N           |
|---------------|---------|---------------|
| orange/blue   | 0.25    | 0.25-OB3B-95  |
| orange/green  | 0.38    | 0.38-OG3B-95  |
| orange/yellow | 0.51    | 0.51-OY3B-95  |
| orange/white  | 0.64    | 0.64-OW3B-95  |
| black/black   | 0.76    | 0.76-BLK3B-95 |
| orange/orange | 0.89    | 0.89-ORG3B-95 |
| white/white   | 1.02    | 1.02-WHT3B-95 |
| grey/grey     | 1.30    | 1.30-GRY3B-95 |
| yellow/blue   | 1.52    | 1.52-YB3B-95  |
| green/green   | 1.85    | 1.85-GRN3B-95 |
| purple/white  | 2.79    | 2.79-PW3B-95  |

## Solva Peristaltic Pump Tubing

All tubes made from Tygon 4040 or equivalent. Supplied in packs of 12 tubes.

### Special Properties:

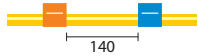
- Specially formulated for hydrocarbons, petroleum products and distillates.

### Advantages:

- Specially formulated to transport hydrocarbons, petroleum products and distillates.
- Ideal for gasoline, kerosene, heating oils, cutting liquids and coolants based on glycols.
- Low gas permeability.

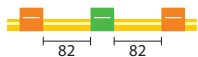
### Limitations:

- Not recommended for strong acids and alkalies, foodstuffs, beverages and medicines.
- Potential leaching of plasticizers.



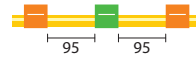
### Solva, 2 Bridged, 140mm (140mm between tags)

| Tag Colours | ID (mm) | P/N          |
|-------------|---------|--------------|
|             | 0.25    | 0.25-OB-SF   |
|             | 0.38    | 0.38-OG-SF   |
|             | 0.51    | 0.51-OY-SF   |
|             | 0.64    | 0.64-OW-SF   |
|             | 0.76    | 0.76-BLK-SF  |
|             | 0.89    | 0.89-ORG-SF  |
|             | 1.02    | 1.02-WHT-SF  |
|             | 1.14    | 1.14-RED-SF  |
|             | 1.30    | 1.30-GRY-SF  |
|             | 1.42    | 1.42-YLW-SF  |
|             | 1.52    | 1.52-YB-SF   |
|             | 1.65    | 1.65-BLU-SF  |
|             | 1.85    | 1.85-GRN-SF  |
|             | 2.06    | 2.06-PUR-SF  |
|             | 2.29    | 2.29-PBLK-SF |
|             | 2.54    | 2.54-PO-SF   |
|             | 2.79    | 2.79-PW-SF   |



### Solva, 3 Bridged, 82mm (82mm between tags)

| Tag Colours | ID (mm) | P/N           |
|-------------|---------|---------------|
|             | 0.38    | 0.38-OG3B-SF  |
|             | 0.76    | 0.76-BLK3B-SF |
|             | 0.89    | 0.89-ORG3B-SF |
|             | 1.02    | 1.02-WHT3B-SF |
|             | 1.14    | 1.14-RED3B-SF |
|             | 1.30    | 1.30-GRY3B-SF |



### Solva, 3 Bridged, 95mm (95mm between tags)

| Tag Colours | ID (mm) | P/N              |
|-------------|---------|------------------|
|             | 0.38    | 0.38-OG3B-95-SF  |
|             | 0.51    | 0.51-OY3B-95-SF  |
|             | 0.76    | 0.76-BLK3B-95-SF |
|             | 0.89    | 0.89-ORG3B-95-SF |
|             | 1.02    | 1.02-WHT3B-95-SF |
|             | 1.52    | 1.52-YB3B-95-SF  |

## Viton® Peristaltic Pump Tubing

All tubes made from Fluran HC F-5500-A or equivalent.

### Special Properties:

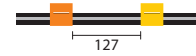
- Special tubing for concentrated acids and corrosive solvents.

### Advantages:

- High chemical resistance.
- Low gas permeability.
- Wide temperature range.

### Limitations:

- Limited service life.



### Viton®, 2 Bridged, 127mm (127mm between tags)

| Tag Colours | ID (mm) | P/N         |
|-------------|---------|-------------|
|             | 0.51    | VS0.51-OY   |
|             | 0.64    | VS0.64-OW   |
|             | 0.76    | VS0.76-BLK  |
|             | 0.89    | VS0.89-ORG  |
|             | 1.02    | VS1.02-WHT  |
|             | 1.14    | VS1.14-RED  |
|             | 1.30    | VS1.30-GRY  |
|             | 1.42    | VS1.42-YLW  |
|             | 1.52    | VS1.52-YB   |
|             | 1.65    | VS1.65-BLU  |
|             | 1.85    | VS1.85-GRN  |
|             | 2.06    | VS2.06-PUR  |
|             | 2.29    | VS2.29-PBLK |
|             | 2.54    | VS2.54-PO   |
|             | 2.79    | VS2.79-PW   |

Supplied in packs of 12 tubes

## Tygon® MH Peristaltic Pump Tubing

All tubes made from Tygon MHSL 2001.

### Special Properties:

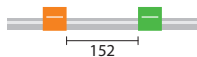
- Environmental-friendly tubing especially designed for solvents.
- Suitable for MIBK.

### Advantages:







- High chemical resistance.
- Low gas permeability.
- Wide temperature range.

### Limitations:

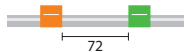
- Limited service life.









### Tygon® MH, 2 Bridged, 152mm (152mm between tags)

| Tag Colours  | ID (mm)       | P/N  |             |
|--|---------------|------|-------------|
|  | orange/green  | 0.38 | 0.38-ORG-MH |
|  | orange/white  | 0.64 | 0.64-OW-MH  |
|  | white/white   | 1.02 | 1.02-WHT-MH |
|  | yellow/blue   | 1.52 | 1.52-YB-MH  |
|  | purple/purple | 2.06 | 2.06-PUR-MH |
|  | purple/white  | 2.79 | 2.79-PW-MH  |

Supplied in packs of 6 tubes



### Tygon® MH, 2 Bridged, 72mm (72mm between tags)

| Tag Colours  | ID (mm)       | P/N  |              |
|--|---------------|------|--------------|
|  | orange/green  | 0.38 | 0.38-ORG-MH3 |
|  | orange/white  | 0.64 | 0.64-OW-MH3  |
|  | white/white   | 1.02 | 1.02-WHT-MH3 |
|  | yellow/blue   | 1.52 | 1.52-YB-MH3  |
|  | purple/purple | 2.06 | 2.06-PUR-MH3 |
|  | purple/white  | 2.79 | 2.79-PW-MH3  |

Supplied in packs of 6 tubes

It can be quite difficult to insert the sample tubing into the peristaltic pump tubes. This is particularly so for pump tubing with a small ID. To facilitate this connection, Glass Expansion supplies Contour flared-end pump tubing. The flared end of this pump tubing allows the larger capillary tubing to be inserted into the smaller pump tubing.

Any of the pump tubing that we normally supply can be supplied with flared end. Simply add "-F" to the end of the part number (eg. 0.38-OG-F). The flared-end tubing is supplied in packs of 6.

## Contour Flared-end PVC Peristaltic Pump Tubing

All tubes made from Tygon R3603/R3607 or equivalent. Supplied in packs of 6 tubes.

### Special Properties:

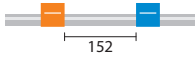
- Inexpensive all-round tubing for general laboratory applications.

### Advantages:

- Transparent.
- Resistant to almost all inorganic materials.
- Does not age.
- Low gas permeability.
- Smooth inner surface.

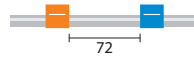
### Limitations:

- Potential leaching of plasticizers.



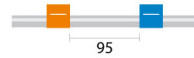
**PVC, 2 Bridged, 152mm**  
(152mm between tags)

| Tag Colours | ID (mm) | P/N         |
|-------------|---------|-------------|
|             | 0.13    | 0.13-OBLK-F |
|             | 0.19    | 0.19-OR-F   |
|             | 0.25    | 0.25-OB-F   |
|             | 0.38    | 0.38-OG-F   |
|             | 0.44    | 0.44-GY-F   |
|             | 0.51    | 0.51-OY-F   |
|             | 0.57    | 0.57-WY-F   |
|             | 0.64    | 0.64-OW-F   |
|             | 0.76    | 0.76-BLK-F  |
|             | 0.89    | 0.89-ORG-F  |
|             | 0.95    | 0.95-WBLK-F |
|             | 1.02    | 1.02-WHT-F  |
|             | 1.09    | 1.09-WR-F   |
|             | 1.14    | 1.14-RED-F  |
|             | 1.22    | 1.22-RGRY-F |
|             | 1.30    | 1.30-GRY-F  |
|             | 1.42    | 1.42-YLW-F  |
|             | 1.52    | 1.52-YB-F   |
|             | 1.65    | 1.65-BLU-F  |
|             | 1.75    | 1.75-BG-F   |
|             | 1.85    | 1.85-GRN-F  |
|             | 2.06    | 2.06-PUR-F  |
|             | 2.29    | 2.29-PBLK-F |
|             | 2.54    | 2.54-PO-F   |
|             | 2.79    | 2.79-PW-F   |
|             | 3.17    | 3.17-BLKW-F |



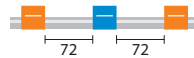
**PVC, 2 Bridged, 72mm**  
(72mm between tags)

| Tag Colours | ID (mm) | P/N          |
|-------------|---------|--------------|
|             | 0.19    | 0.19-OR-F-S  |
|             | 0.25    | 0.25-OB-F-S  |
|             | 0.76    | 0.76-BLK-F-S |
|             | 0.89    | 0.89-ORG-F-S |



**PVC, 2 Bridged, 95mm**  
(95mm between tags)

| Tag Colours | ID (mm) | P/N             |
|-------------|---------|-----------------|
|             | 0.19    | 0.19-OR-F-S     |
|             | 0.25    | 0.25-OB-F-S     |
|             | 0.38    | 0.38-OG-95-F-S  |
|             | 0.44    | 0.44-GY-95-F-S  |
|             | 0.51    | 0.51-OY-95-F-S  |
|             | 0.64    | 0.64-OW-95-F-S  |
|             | 0.76    | 0.76-BLK-95-F-S |
|             | 1.30    | 1.30-GRY-95-F-S |

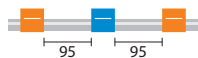


**PVC, 3 Bridged, 72mm**  
(72mm between tags)

| Tag Colours | ID (mm) | P/N           |
|-------------|---------|---------------|
|             | 0.13    | 0.13-OBLK3B-F |
|             | 0.19    | 0.19-OR3B-F   |
|             | 0.25    | 0.25-OB3B-F   |
|             | 0.38    | 0.38-OG3B-F   |
|             | 0.44    | 0.44-GY3B-F   |
|             | 0.51    | 0.51-OY3B-F   |
|             | 0.57    | 0.57-WY3B-F   |
|             | 0.64    | 0.64-OW3B-F   |
|             | 0.76    | 0.76-BLK3B-F  |
|             | 0.89    | 0.89-ORG3B-F  |
|             | 0.95    | 0.95-WBLK3B-F |
|             | 1.02    | 1.02-WHT3B-F  |
|             | 1.09    | 1.09-WR3B-F   |
|             | 1.14    | 1.14-RED3B-F  |
|             | 1.22    | 1.22-RGRY3B-F |
|             | 1.30    | 1.30-GRY3B-F  |
|             | 1.42    | 1.42-YLW3B-F  |
|             | 1.52    | 1.52-YB3B-F   |
|             | 1.65    | 1.65-BLU3B-F  |
|             | 1.85    | 1.85-GRN3B-F  |
|             | 2.06    | 2.06-PUR3B-F  |
|             | 2.29    | 2.29-PBLK3B-F |
|             | 2.54    | 2.54-PO3B-F   |
|             | 2.79    | 2.79-PW3B-F   |
|             | 3.17    | 3.17-BLKW3B-F |

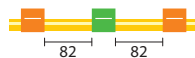


# Contour Flared-end Peristaltic Pump Tubing



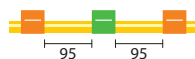
**PVC, 3 Bridged, 95mm**  
(95mm between tags)

| Tag Colours   | ID (mm) | P/N             |
|---------------|---------|-----------------|
| orange/blue   | 0.25    | 0.25-OB3B-95-F  |
| orange/green  | 0.38    | 0.38-OG3B-95-F  |
| orange/yellow | 0.51    | 0.51-OY3B-95-F  |
| black/black   | 0.76    | 0.76-BLK3B-95-F |
| orange/orange | 0.89    | 0.89-ORG3B-95-F |
| white/white   | 1.02    | 1.02-WHT3B-95-F |
| grey/grey     | 1.30    | 1.30-GRY3B-95-F |
| yellow/blue   | 1.52    | 1.52-YB3B-95-F  |
| green/green   | 1.85    | 1.85-GRN3B-95-F |
| purple/white  | 2.79    | 2.79-PW3B-95-F  |



**Solva, 3 Bridged, 82mm**  
(82mm between tags)

| Tag Colours   | ID (mm) | P/N             |
|---------------|---------|-----------------|
| orange/green  | 0.38    | 0.38-OG3B-SF-F  |
| black/black   | 0.76    | 0.76-BLK3B-SF-F |
| orange/orange | 0.89    | 0.89-ORG3B-SF-F |
| red/red       | 1.14    | 1.14-RED3B-SF-F |
| grey/grey     | 1.30    | 1.30-GRY3B-SF-F |



**Solva, 3 Bridged, 95mm**  
(95mm between tags)

| Tag Colours   | ID (mm) | P/N                |
|---------------|---------|--------------------|
| orange/green  | 0.38    | 0.38-OG3B-95-SF-F  |
| orange/yellow | 0.51    | 0.51-OY3B-95-SF-F  |
| black/black   | 0.76    | 0.76-BLK3B-95-SF-F |
| orange/orange | 0.89    | 0.89-ORG3B-95-SF-F |
| white/white   | 1.02    | 1.02-WHT3B-95-SF-F |
| yellow/blue   | 1.52    | 1.52-YB3B-95-SF-F  |

## Contour Flared-end Solva Peristaltic Pump Tubing

All tubes made from Tygon 4040 or equivalent. Supplied in packs of 6 tubes.

### Special Properties:

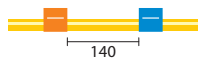
- Special tubing for hydrocarbons, petroleum products and distillates.

### Advantages:

- Specially formulated to transport hydrocarbons, petroleum products and distillates.
- Ideal for gasoline, kerosene, heating oils, cutting liquids and coolants based on glycols.
- Low gas permeability.

### Limitations:

- Not recommended for strong acids and alkalis, foodstuffs, beverages and medicines.
- Potential leaching of plasticizers.



**Solva, 2 Bridged, 140mm**  
(140mm between tags)

| Tag Colours   | ID (mm) | P/N            |
|---------------|---------|----------------|
| orange/blue   | 0.25    | 0.25-OB-SF-F   |
| orange/green  | 0.38    | 0.38-OG-SF-F   |
| orange/yellow | 0.51    | 0.51-OY-SF-F   |
| orange/white  | 0.64    | 0.64-OW-SF-F   |
| black/black   | 0.76    | 0.76-BLK-SF-F  |
| orange/orange | 0.89    | 0.89-ORG-SF-F  |
| white/white   | 1.02    | 1.02-WHT-SF-F  |
| red/red       | 1.14    | 1.14-RED-SF-F  |
| grey/grey     | 1.30    | 1.30-GRY-SF-F  |
| yellow/yellow | 1.42    | 1.42-YLW-SF-F  |
| yellow/blue   | 1.52    | 1.52-YB-SF-F   |
| blue/blue     | 1.65    | 1.65-BLU-SF-F  |
| green/green   | 1.85    | 1.85-GRN-SF-F  |
| purple/purple | 2.06    | 2.06-PUR-SF-F  |
| purple/black  | 2.29    | 2.29-PBLK-SF-F |
| purple/orange | 2.54    | 2.54-PO-SF-F   |
| purple/white  | 2.79    | 2.79-PW-SF-F   |

## Contour Flared-end Viton® Peristaltic Pump Tubing

All tubes made from Fluran HC F-5500-A or equivalent.

### Special Properties:

- Special tubing for concentrated acids and corrosive solvents.

### Advantages:

- High chemical resistance.
- Low gas permeability.
- Wide temperature range.

### Limitations:

- Limited service life.



### Viton®, 2 Bridged, 127mm (127mm between tags)

| Tag Colours | ID (mm) | P/N           |
|-------------|---------|---------------|
|             | 0.51    | VS0.51-OY-F   |
|             | 0.64    | VS0.64-OW-F   |
|             | 0.76    | VS0.76-BLK-F  |
|             | 0.89    | VS0.89-ORG-F  |
|             | 1.02    | VS1.02-WHT-F  |
|             | 1.14    | VS1.14-RED-F  |
|             | 1.30    | VS1.30-GRY-F  |
|             | 1.42    | VS1.42-YLW-F  |
|             | 1.52    | VS1.52-YB-F   |
|             | 1.65    | VS1.65-BLU-F  |
|             | 1.85    | VS1.85-GRN-F  |
|             | 2.06    | VS2.06-PUR-F  |
|             | 2.29    | VS2.29-PBLK-F |
|             | 2.54    | VS2.54-PO-F   |
|             | 2.79    | VS2.79-PW-F   |

Supplied in packs of 6 tubes

## Contour Flared-end Tygon® MH Peristaltic Pump Tubing

All tubes made from Tygon MHSL 2001.

### Special Properties

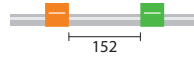
- Environmental-friendly tubing especially designed for solvents.
- Suitable for MIBK.

### Advantages:

- High chemical resistance.
- Low gas permeability.
- Wide temperature range.

### Limitations:

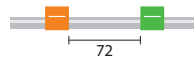
- Limited service life.



### Tygon® MH, 2 Bridged, 152mm (152mm between tags)

| Tag Colours | ID (mm) | P/N           |
|-------------|---------|---------------|
|             | 0.38    | 0.38-ORG-MH-F |
|             | 0.64    | 0.64-OW-MH-F  |
|             | 1.02    | 1.02-WHT-MH-F |
|             | 1.52    | 1.52-YB-MH-F  |
|             | 2.06    | 2.06-PUR-MH-F |
|             | 2.79    | 2.79-PW-MH-F  |

Supplied in packs of 6 tubes



### Tygon® MH, 2 Bridged, 72mm (72mm between tags)

| Tag Colours | ID (mm) | P/N            |
|-------------|---------|----------------|
|             | 0.38    | 0.38-ORG-MH3-F |
|             | 0.64    | 0.64-OW-MH3-F  |
|             | 1.02    | 1.02-WHT-MH3-F |
|             | 1.52    | 1.52-YB-MH3-F  |
|             | 2.06    | 2.06-PUR-MH3-F |
|             | 2.79    | 2.79-PW-MH3-F  |

Supplied in packs of 6 tubes







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**June 2023**