

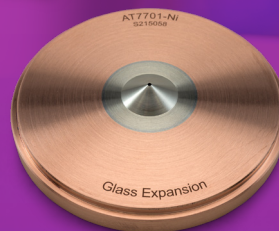


**GLASS EXPANSION**

Quality By Design

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

Issue 10



**UVISON**  
Technologies

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## 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 newly released 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	20	75	No	High	Good	Glass
MicroMist	15	40*	No	High	Good	Glass
Conikal	5	75	No	High	Good	Glass
Slurry	1	150	No	High	Good	Glass
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-ZZnnn**

- A** Gas pressure rating of 40 psi
- #** Gasline fitting type eg:  
13 = Suitable for Agilent 5100/5110
- 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:

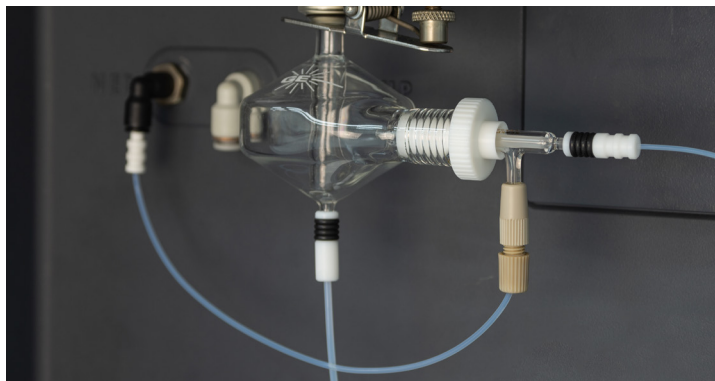
- Inert metal-free argon connector.
- Instrument-specific Direct Connect flexible argon line.
- Reliable ratchet fitting ensures leak-free gas connection.

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 5100/5110 ICP-OES, so part number A13-07-USS2 is a SeaSpray nebulizer configured for direct connection to the Agilent 5100.

#### 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	70-803-0969
Agilent MP-AES	70-803-0969
Agilent 4500/7500	70-803-1086
Agilent 7700/7800/7900/8800/8900	70-803-1105
Agilent 5100/5110	70-803-1105
Horiba Jobin Yvon (All models)	70-803-0911
Leeman (All models)	70-803-0969
PerkinElmer Optima	70-803-1070
PerkinElmer Elan/NexION 300/350	70-803-1049
PerkinElmer NexION 1000/2000	70-803-1449
Shimadzu 9000/9800	70-803-1311
Shimadzu 2030	70-803-1311
Spectro (All models)	70-803-1070
Thermo iCAP 6000/7000/Q & X-Series	70-803-1292
Thermo Neptune	70-803-1468
Analytik Jena ICP-MS	70-803-0969

## 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.

### Nebulizer with EzyFit connector

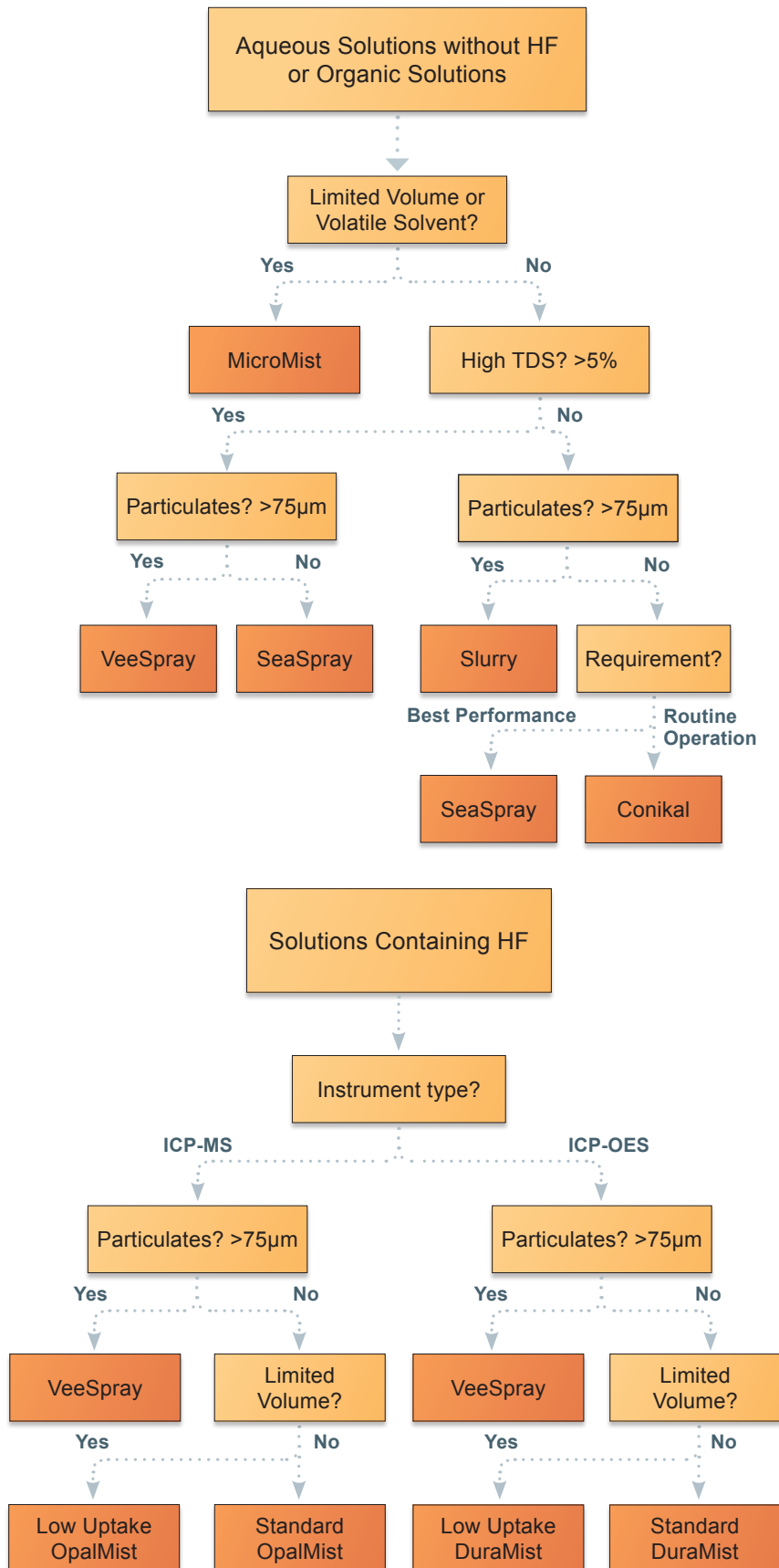


The EzyFit is a sample connector which slides into the nebulizer sample arm. It provides lower dead volume and faster washout times than earlier designs but is not quite as effective as the newer U-Series.

The SeaSpray, MicroMist, Conikal and Slurry nebulizers are available with EzyFit connection. They can be identified by the letter "F" in the part number, eg. AR30-07-FSS2E or AR30-1-FM04E




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
		Internal Baffle:	No
		HF-resistant:	No
		Precision:	Very Good
		Purity:	Good
		Material:	Glass


Twister		Internal Volume, mL:	50
		Internal Baffle:	Yes
		HF-resistant:	No
		Precision:	Excellent
		Purity:	Good
		Material:	Glass

Cinnabar		Internal Volume, mL:	20
		Internal Baffle:	No
		HF-resistant:	No
		Precision:	Very Good
		Purity:	Good
		Material:	Glass

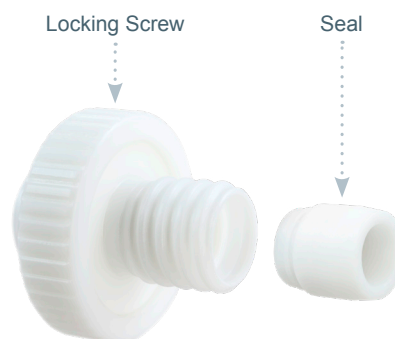
Twinnabar		Internal Volume, mL:	20
		Internal Baffle:	Yes
		HF-resistant:	No
		Precision:	Very Good
		Purity:	Good
		Material:	Glass

Tracey TFE		Internal Volume, mL:	50
		Internal Baffle:	No
		HF-resistant:	Yes
		Precision:	Good
		Purity:	Good
		Material:	PTFE

Twister TFE		Internal Volume, mL:	50
		Internal Baffle:	Yes
		HF-resistant:	Yes
		Precision:	Very Good
		Purity:	Good
		Material:	PTFE

Tracey PFA44		Internal Volume, mL:	44
		Internal Baffle:	No
		HF-resistant:	Yes
		Precision:	Good
		Purity:	Excellent
		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:

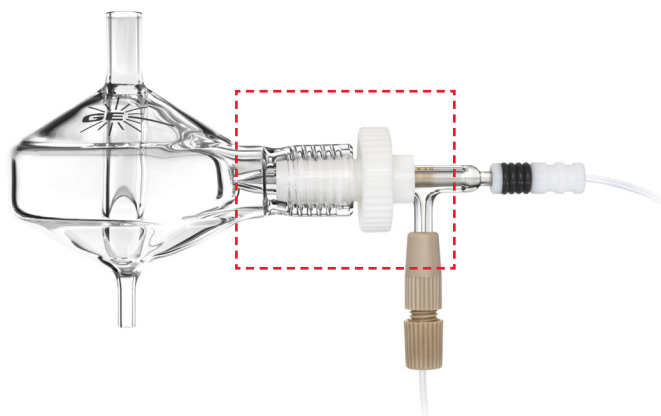
- Potential for contamination due to dead volume around the o-ring seal
- Chemical resistivity of strong acids and organic solvents
- The o-rings are difficult to replace, often requiring tools
- Bonding to the nebulizer can result in breakage

Glass Expansion is now pleased to introduce the new Helix CT spray chamber with ConstantTorque technology, which provides a constant, reproducible, inert, gas-tight seal between the nebulizer and spray chamber.

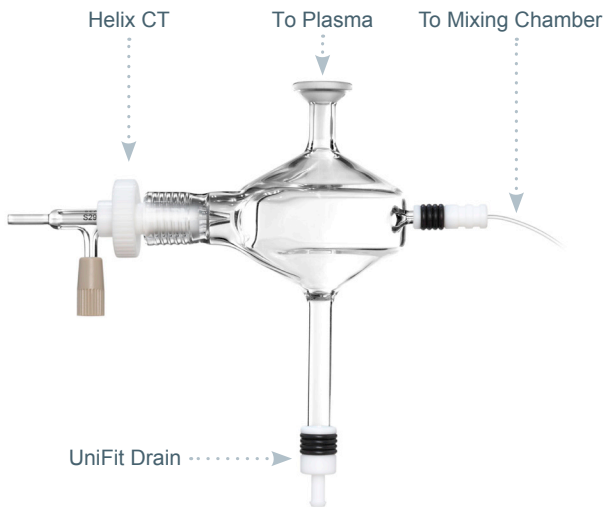
The main feature of the Helix CT spray chamber is a new Helix locking screw with built-in torque control mechanism that allows for a consistent seal of the PTFE ferrule against the nebulizer –making it impossible to overtighten or undertighten while ensuring a gas-tight seal each and every time.

A new 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 new 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



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

### Hydride Kit

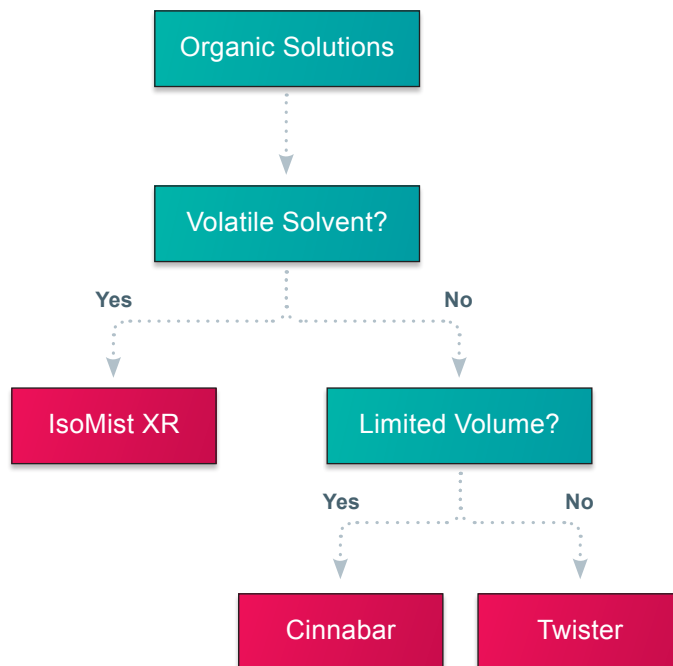
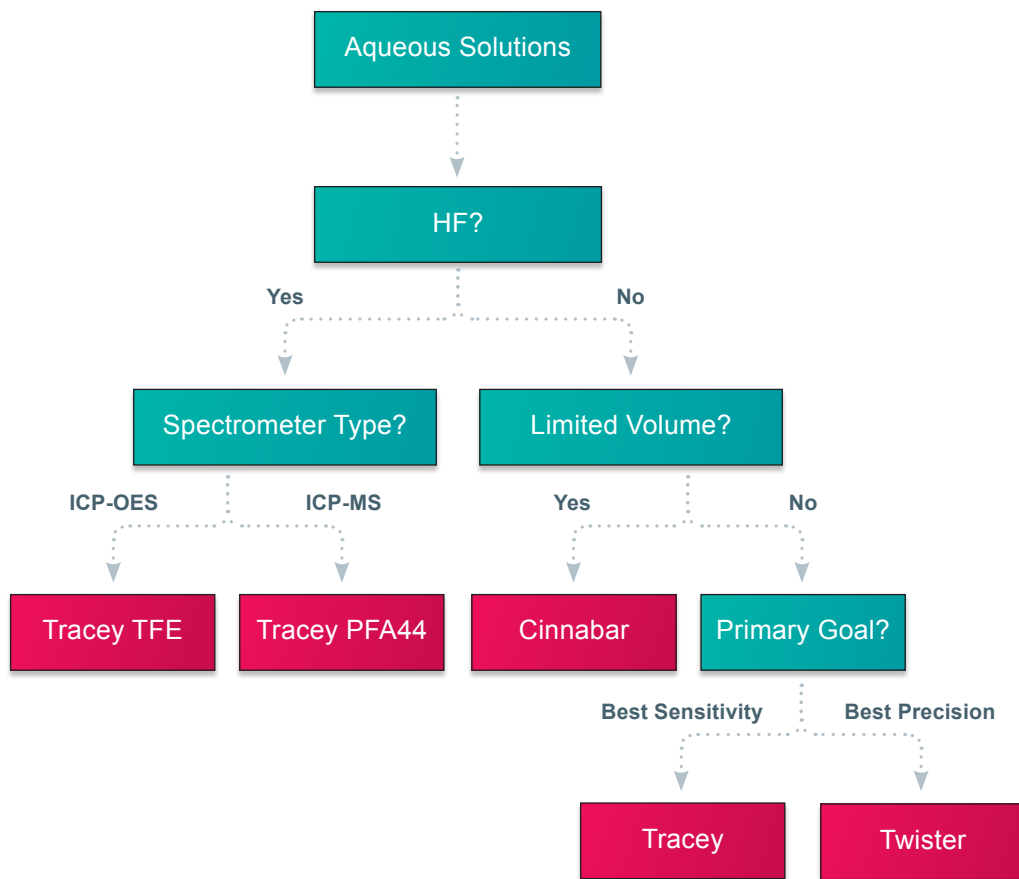
For Agilent 5100/5110

KT-1157

For Thermo iCAP 7000 Duo

KT-1156

## 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

Our new D-Torch models suited for the Agilent 5100/5110, PerkinElmer Avio 200/500 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



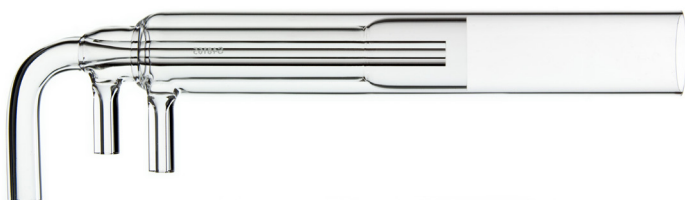
## Semi Demountable Torch



- 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



### 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

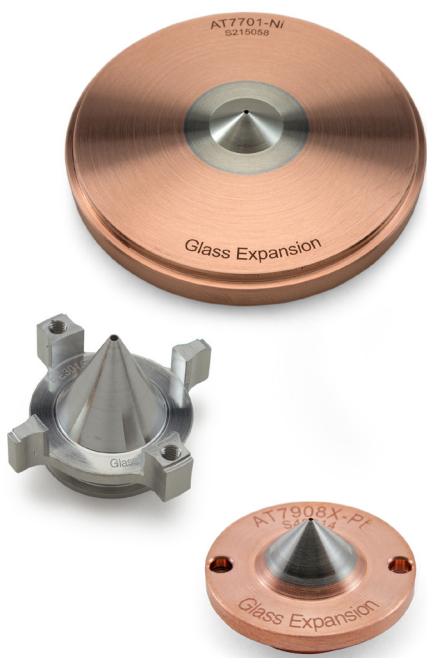
- Incorrect alignment of the torch in the coil will dramatically reduce torch life. The Glass Expansion Installation Kits help ensure correct alignment and maximum torch life.
- Correct alignment of the RF Coil with respect to the torch body reduces devitrification of the outer tube.
- Re-usable alignment 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 of the 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.

## 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

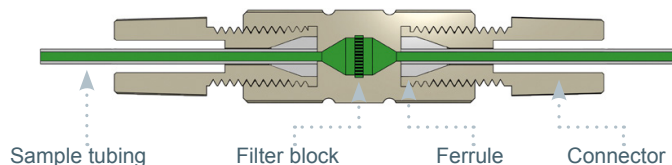


If there are particulates in your samples, there is a risk that they may get trapped in the narrow bore sample tubing or within the nebulizer. The Guardian In-Line Sample Filter provides a simple and effective way to eliminate this risk. This filter is easily inserted in the sample tubing between the 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 Adaptor 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

## Guardian In-Line Non-Return Gas Filter



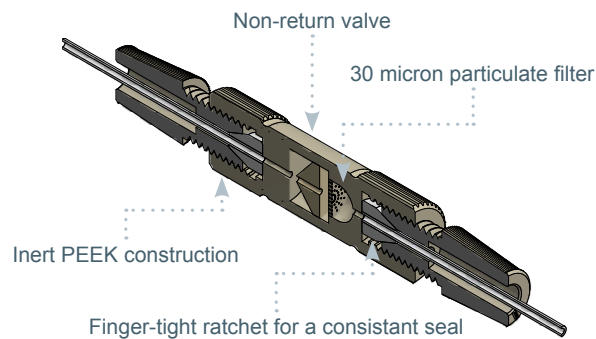
The new Guardian In-line Non-Return Gas Filter provides protection for your ICP system in two ways:

1. A non-return valve prevents acidified sample or rinse solution syphoning into the instrument gas box.
2. 30-micron 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 30-micron 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 In-Line Non-Return Gas Filter	70-803-1362
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## Eluo Nebulizer Cleaning Tool



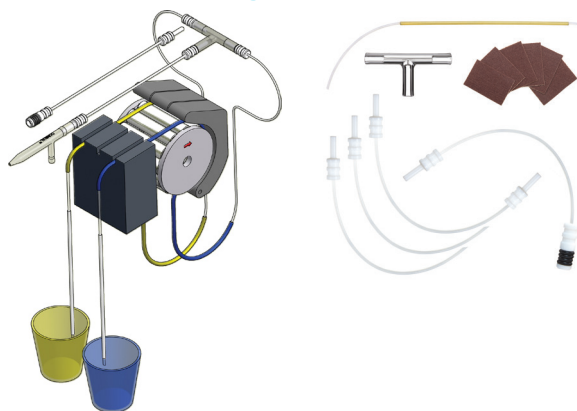
Particle build-up in a nebulizer capillary and tip causes sample flow to be constricted, reducing nebulizer efficiency and performance. Now, blocked nebulizers can be safely and easily restored to optimum performance with a revolutionary cleaning instrument – the Eluo.

The Eluo is designed to efficiently deliver a cleanser through the nebulizer capillary to dislodge particle build-up and thoroughly clean the nebulizer

### 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 In-Line Reagent Additions Kits



Internal standards are often used to improve stability. The internal standardization process involves the addition of a known concentration of a particular element to every sample. This 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, thus saving considerable sample preparation time.

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.

### Trident Internal Standard Kit

Trident Internal Standard Kit	60-808-1185
Trident Internal Standard Kit for HF	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

## High Sensitivity Single-Cell Sample Introduction System for ICP-MS



Single-cell analysis using an Inductively Coupled Plasma-Mass Spectrometer (SC-ICP-MS) is enhancing the fundamental understanding in cellular biology, oncology and drug discovery. SC-ICP-MS provides for the quantification of metals in individual biological cells and is used as a research tool to allow scientists to study disease aetiology, better understand diseased cell states and develop new drug treatments to give better patient outcomes.

In single-cell analysis, the sample introduction system converts a continuous stream of biological cells efficiently into an aerosol of individual cells and transfers the aerosol into the Inductively Coupled Plasma of the ICP-MS for analysis. A critical aspect of the sample introduction system is the cells must remain intact and unruptured during the nebulization process to ensure each individual cell produces a single ion burst inside the plasma that can be transferred into the mass analyser of the ICP-MS for quantification.

Conventional ICP-MS spray chambers have low transport efficiencies (typically < 5% TE) that filter out larger droplets (> 5µm) from the nebulizer aerosol. As most cell lines of interest are larger than 5µm, the secondary filtering mechanism of conventional spray chamber designs rejects a high proportion of the cells from passing to the plasma. To overcome this significant deficiency the Glass Expansion spray chamber design for single cell analysis is different from conventional ICP-MS spray chambers.

Glass Expansion have developed a high sensitivity Single-Cell Sample Introduction system which consists of:

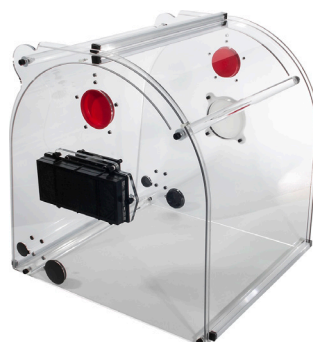
- High efficiency, low uptake, concentric glass nebulizer designed to efficiently nebulize single-cell suspensions without compromising cell integrity
- Low volume, on-axis, laminar-flow spray chamber directly coupled to the ICP for the highest transport efficiency of the nebulized single-cell
- Patent pending MicroJet gas adapter which entrains and shapes the aerosol plume to reduce cell deposition onto the spray chamber walls and increase sample transport efficiency suspension

### Single-Cell Sample Introduction System

For Agilent 7900 ICP-MS

KT-1155

## WindTunnel Autosampler Enclosure



Autosampler Enclosure



Autosampler Enclosure XLR8

The WindTunnel autosampler enclosure will protect your samples against airborne contaminants and also protect analysts from fumes and odours. Its versatile configuration makes it suitable for the most common laboratory situations:

**Filtered positive pressure enclosure.** When fitted with the optional fan and HEPA filter, the WindTunnel provides a positive pressure enclosure.

**Vented enclosure.** The addition of the optional flange, allows the fumes to be removed through a laboratory exhaust system (not supplied).

**Dust cover.** The WindTunnel can be used without the fan and filter to function as a convenient dust cover.

- Suitable for the Cetac 130, 260, 280, 520, 520HS and 560 plus PerkinElmer AS93+ and S10, and Agilent SPS-3 autosamplers
- Shatter-proof polycarbonate construction
- Easy access through front and rear roll-up doors
- Optional fan maintains positive pressure
- Optional HEPA filter
- Optional exhaust port flange
- Multiple ports for tubing and power cords
- Larger model suitable for Cetac XLR8 and XLR-860 autosampler

### WindTunnel Autosampler Enclosure

WindTunnel Autosampler Enclosure	70-803-1148
WindTunnel Autosampler Enclosure XLR8	70-803-1199
WindTunnel Fan Aus	70-803-1149
WindTunnel Fan Eur	70-803-1150
WindTunnel Fan USA	70-803-1151
WindTunnel Filter	70-803-1152
WindTunnel Flange	70-803-1153
WindTunnel Base	70-803-1178
WindTunnel Base for XLR8 Enclosure	70-803-1205

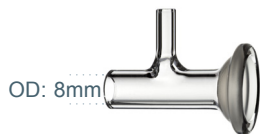
## Laser Ablation

### Standard cup size of 13mm

P/N: 21-809-4309



P/N: 21-809-4140



P/N: 31-808-3863  
(Compatible with iCAP Q/RQ/TQ)  
OD: 4mm  
ID: 2mm



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



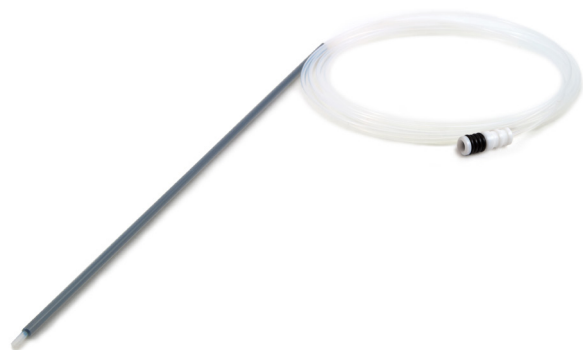
P/N: 31-808-3045  
ID: 4mm



P/N: 31-800-1007  
OD: 4mm  
ID: 2mm



## Autosampler Probes



### For Cetac 260, 280, 520, 520HS, 560, 860 and XLR8

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 0.5mm 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 70-803-1443

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

### 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 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 Coated Viton O-rings (PKT 10) With UniFit, for Shimadzu AS10 70-803-1477

## 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

## 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



## IsoMist XR

### Programmable Temperature Cyclonic Spray Chamber

Glass Spray Chamber      KT-1103-XR

Quartz Spray Chamber      KT-1103Q-XR

PFA Spray Chamber      KT-1103P-XR



## Peltier Controlled Cyclonic Spray Chambers

Glass Spray Chamber      KT-1116

Quartz Spray Chamber      KT-1116Q

PFA Spray Chamber      KT-1116P



## Spray Chambers

### Twister

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



### Cinnabar

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

### Twinnabar

20mL Cyclonic with Aux.      20-809-2577HE

## Spray Chambers for HF

### Tracey PFA44

44ml Cyclonic with Aux.      20-809-2578



## Torches

### D-Torch

30-808-3305

#### Comprises:

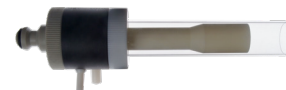
Base and Inner Tube      31-808-3196

Quartz Outer Tube      31-808-3022

Injector Adaptor      31-808-3072

Injector Ferrule      31-808-2962

Quartz Connector      31-808-3303



### D-Torch for HF

30-808-3467

#### Comprises:

Base and Inner Tube      31-808-3196

Quartz Outer Tube      31-808-3022

Injector Adaptor      31-808-3072

Injector Ferrule      31-808-2962

PFA Connector      31-808-3281

#### D-Torch Options:

PFA Connector with Dilution Port      31-808-3281

PFA Connector with 45° Dilution Port      31-808-3672

Gas Line for PFA Connector 31-808-3672      70-803-1290





## Torches

### Tapered Injectors for D-Torch

Quartz Injector 2.5mm	31-808-3302
Alumina Injector 2.4mm	31-808-3205



### Sapphire Injectors for D-Torch

Sapphire Injector 2.4mm	31-808-3378
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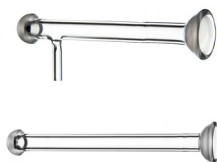
### Quartz Torches

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



## RF Coils

Copper	70-900-7700C
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Silver	70-900-7700S
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Gold	70-900-7700G
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<b>RF Coil Installation Kit</b>	70-900-7500T
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## Common Accessories

### Elegra Argon Humidifier

Elegra Dual Two-channel Argon Humidifier	70-803-1273
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### Guardian In-Line Filters

Guardian in-line non-return gas filter	70-803-1362
Guardian in-line sample filter	70-803-1108



### Trident Internal Standard Kit

Standard Kit	60-808-1185
Standard Kit for HF	60-808-1150



## Autosampler Probes

(See page 12 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-520

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

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

## 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



## IsoMist XR

### Programmable Temperature Cyclonic Spray Chamber

Glass Spray Chamber      KT-1140-XR

Quartz Spray Chamber      KT-1140Q-XR

PFA Spray Chamber      KT-1140P-XR



## Peltier Controlled Cyclonic Spray Chambers

Glass Spray Chamber      KT-1116

Quartz Spray Chamber      KT-1116Q

PFA Spray Chamber      KT-1116P



## Spray Chambers

### Twister

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

### Cinnabar

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

### Twinnabar

20mL Cyclonic with Aux.      20-809-2577HE



## Spray Chambers for HF

### Tracey PFA44

44ml Cyclonic with Aux.      20-809-2578



## Torches

### D-Torch

30-808-3305

#### Comprises:

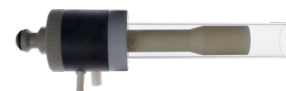
Base and Inner Tube      31-808-3196

Quartz Outer Tube      31-808-3022

Injector Adaptor      31-808-3072

Injector Ferrule      31-808-2962

Quartz Connector      31-808-3303



### D-Torchfor HF

30-808-3467

#### Comprises:

Base and Inner Tube      31-808-3196

Quartz Outer Tube      31-808-3022

Injector Adaptor      31-808-3072

Injector Ferrule      31-808-2962

PFA Connector      31-808-3281

#### D-Torch Options:

PFA Connector with Dilution Port      31-808-3281

PFA Connector with 45° Dilution Port      31-808-3672

Gas Line for PFA Connector 31-808-3672      70-803-1290



**Torches**

**Tapered Injectors for D-Torch**

Quartz Injector 2.5mm	31-808-3302
Alumina Injector 2.4mm	31-808-3205



**Sapphire Injectors for D-Torch**

Sapphire Injector 2.4mm	31-808-3378
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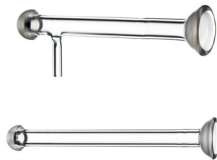
**Quartz Torches**

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



**RF Coils**

Copper	70-900-7800C
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Silver	70-900-7800S
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Gold	70-900-7800G
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<b>RF Coil Installation Kit</b>	70-900-7500T
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**Common Accessories**

**Elegra Argon Humidifier**

Elegra Dual Two-channel Argon Humidifier	70-803-1273
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**Guardian In-Line Filters**

Guardian in-line non-return gas filter	70-803-1362
Guardian in-line sample filter	70-803-1108



**Trident Internal Standard Kit**

Standard Kit	60-808-1185
Standard Kit for HF	60-808-1150



**Autosampler Probes**

(See page 12 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-520**

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**

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

## 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



## IsoMist XR

### Programmable Temperature Cyclonic Spray Chamber

Glass Spray Chamber      KT-1140-XR  
 Quartz Spray Chamber      KT-1140Q-XR  
 PFA Spray Chamber      KT-1140P-XR



## Peltier Controlled Cyclonic Spray Chambers

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



## Spray Chambers

### Twister

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



### Cinnabar

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

### Twinnabar

20mL Cyclonic with Aux.      20-809-2577HE

### Quartz Scott Style

For 7900 UHMI      20-809-4144

## Spray Chambers for HF

### Tracey PFA44

44ml Cyclonic with Aux.      20-809-2578



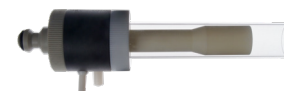
## Torches

### D-Torch

30-808-3305

#### Comprises:

Base and Inner Tube      31-808-3196  
 Quartz Outer Tube      31-808-3022  
 Injector Adaptor      31-808-3072  
 Injector Ferrule      31-808-2962  
 Quartz Connector      31-808-3303



### D-Torch for HF

30-808-3467

#### Comprises:

Base and Inner Tube      31-808-3196  
 Quartz Outer Tube      31-808-3022  
 Injector Adaptor      31-808-3072  
 Injector Ferrule      31-808-2962  
 PFA Connector      31-808-3281

#### D-Torch Options:

PFA Connector with Dilution Port      31-808-3281  
 PFA Connector with 45° Dilution Port      31-808-3672





## Torches

### Tapered Injectors for D-Torch

Quartz Injector 2.5mm	31-808-3302
Alumina Injector 2.4mm	31-808-3205



### Sapphire Injectors for D-Torch

Sapphire Injector 2.4mm	31-808-3378
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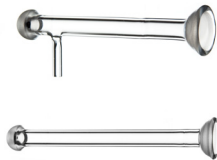
### Quartz Torches

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



## RF Coils

Copper	70-900-7800C
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Silver	70-900-7800S
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Gold	70-900-7800G
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RF Coil Installation Kit	70-900-7500T
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## Common Accessories

### Elegra Argon Humidifier

Elegra Dual Two-channel Argon Humidifier	70-803-1273
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### Guardian In-Line Filters

Guardian in-line non-return gas filter	70-803-1362
Guardian in-line sample filter	70-803-1108



### Trident Internal Standard Kit

Standard Kit	60-808-1185
Standard Kit for HF	60-808-1150



### Single-Cell SC-SIS

High Sensitivity Single-Cell Sample Introduction System	KT-1155
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## Autosampler Probes

(See page 12 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-520

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

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

## 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



## IsoMist XR

### Programmable Temperature Cyclonic Spray Chamber

Glass spray chamber      KT-1103-XR  
 Quartz spray chamber      KT-1103Q-XR  
 PFA spray chamber      KT-1103P-XR



## Peltier Controlled Cyclonic Spray Chambers

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



## Spray Chambers

### Twister

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



### Cinnabar

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

### Twinnabar

20mL Cyclonic with Aux.      20-809-2577HE

### Quartz Scott Style

For 7900 UHMI      20-809-4144

## Spray Chambers for HF

### Tracey PFA44

44ml Cyclonic with Aux.      20-809-2578



## Torches

### D-Torch

30-808-3305

#### Comprises:

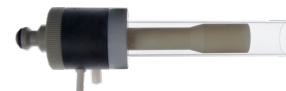
Base and Inner Tube      31-808-3196  
 Quartz Outer Tube      31-808-3022  
 Injector Adaptor      31-808-3072  
 Injector Ferrule      31-808-2962  
 Quartz Connector      31-808-3303

### D-Torch for HF

30-808-3467


#### Comprises:

Base and Inner Tube      31-808-3196  
 Quartz Outer Tube      31-808-3022  
 Injector Adaptor      31-808-3072  
 Injector Ferrule      31-808-2962  
 PFA Connector      31-808-3281





## Torches

### D-Torch Options:

PFA Connector with Dilution Port	31-808-3281	
PFA Connector with 45° Dilution Port	31-808-3672	
Gas Line for PFA Connector 31-808-3672	70-803-1290	


### Tapered Injectors for D-Torch

Quartz Injector 2.5mm	31-808-3302	
Alumina Injector 2.4mm	31-808-3205	



### Sapphire Injectors for D-Torch

Sapphire Injector 2.4mm	31-808-3378	
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### 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	

## RF Coils

Copper	70-900-7700C	
Silver	70-900-7700S	
Gold	70-900-7700G	


### RF Coil Installation Kit

70-900-7500T




## Common Accessories

### Elegra Argon Humidifier

Elegra Dual Two-channel Argon Humidifier	70-803-1273	
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### Gaurdian In-Line Filters

Guardian in-line non-return gas filter	70-803-1362	
Guardian in-line sample filter	70-803-1108	

### Trident Internal Standard Kit

Standard Kit	60-808-1185	
Standard Kit for HF	60-808-1150	


## Autosampler Probes

(See page 12 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-520

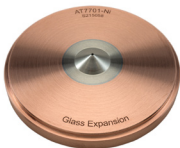


Polyimide sheathed Autosampler Probe 0.5mm ID	60-808-1186L	
PTFE Encapsulated Carbon Fibre Probe 0.5mm ID	70-803-0784	
PTFE Encapsulated Carbon Fibre Probe 0.75mm ID	70-803-1443	
PTFE Encapsulated Carbon Fibre Probe 1.0mm ID	70-803-0793	

### For SPS 3/SPS 4

PTFE Encapsulated Carbon Fibre Probe 0.75mm ID	70-803-0908
PTFE Encapsulated Carbon Fibre Probe 1.0mm ID	70-803-0853

## 7700/7800/7900/8800/8900 - Sampler Cones

### Sampler Cones

Nickel Sampler	AT7701-Ni	
Nickel Plated Sampler	AT7701-Ni/Ni	
Aluminium Sampler	AT7701-Al	
Platinum Sampler	AT7706-Pt	
Platinum Sampler (18mm insert)	AT7706A-Pt	
Platinum Sampler Boron free	AT7706-Pt-BF	
Platinum Nickel Plated Sampler	AT7706-Pt/NiP	
Platinum Sampler with Nickel Base	AT7706-Pt/Ni	
Platinum Sampler with Nickel Base (15mm insert)	AT7706B-Pt/Ni	



## 7700x/7800/8800 - Skimmer Cones

### Skimmer Cones

Nickel Skimmer	AT7702X-Ni	
Aluminium Skimmer	AT7702X-Al	
Platinum Skimmer with Copper Base	AT7708X-Pt	
Platinum Skimmer Cone with Copper Base Boron free	AT7708X-Pt-BF	
Platinum Skimmer Cone with Nickel Base	AT7708X-Pt/Ni	

Platinum Cones Require Brass Skimmer Base (Agilent P/N G3280-6063)

## 7700s - Skimmer Cones



Nickel Skimmer	AT7702S-Ni	
Platinum Skimmer Cone	AT7708S-Pt	
Platinum Skimmer Cone with Nickel Base	AT7708S-Pt/Ni	

## 7900/8900 - Skimmer Cones

Nickel Skimmer Cone	AT7902X-Ni	
Aluminium Skimmer Cone	AT7902X-Al	
Platinum Skimmer Cone with Copper Base	AT7908X-Pt	
Platinum Skimmer Cone with Nickel Base	AT7908X-Pt/Ni	

## Cone Options

### ConeGuard Thread Protectors

Skimmer Cone Guard For 7700s/7900	70-803-1004	
Skimmer Cone Guard For 7700x/7800/8800/8900	70-803-1008	

<b>Retaining Ring</b> For 7700 Sampler Cone	AT7704	
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<b>Graphite Gasket (PKT 3)</b> For 7700/7900/8800/8900 Sampler Cone	AT7703	
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<b>Long Life Shield Plate</b> For 7700/7800/7900/8800/8900	AT5004	
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### 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



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

Hydride Kit      KT-1157



### 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



### 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



### 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 31-808-3727  
 Alumina Injector 1.8mm 31-808-3585  
 Alumina Injector 2.4mm 31-808-3722



## RF Coils

Silver 70-900-5100S  
 Gold 70-900-5100G

## Common Accessories

### Elegra Argon Humidifier

Elegra Argon Humidifier 70-803-1268



### Gaurdian In-Line Filters

Guardian in-line non-return gas filter 70-803-1362  
 Guardian in-line sample filter 70-803-1108



### Trident Internal Standard Kit

Standard Kit 60-808-1185  
 Standard Kit for HF 60-808-1150



## Autosampler Probes

(See page 12 for complete list of probes)

### For Cetac ASX-520

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

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      A11-07-USS2  
 400µL/min uptake      A11-07-USS04

**MicroMist**

400µL/min uptake      A11-07-UM04  
 200µL/min uptake      A11-07-UM02

**Conikal**

2mL/min uptake      A11-07-UC2  
 1mL/min uptake      A11-07-UC1

**Slurry**

4mL/min uptake      A11-07-US6



**Spray Chambers**

**Tracey**

50mL Cyclonic      20-809-0600HE



**Twister**

50mL Cyclonic      20-809-0285HE



**Cinnabar**

20mL Cyclonic      20-809-0183HE



**Twinnabar**

20mL Cyclonic      20-809-0448HE



**DC Nebulizers for HF**

**DuraMist**

1mL/min uptake      A11-07-DM1  
 400µL/min uptake      A11-07-DM04



**OpalMist**

2mL/min uptake      A11-07-PFA2  
 600µL/min uptake      A11-07-PFA06  
 200µL/min uptake      A11-07-PFA02  
 100µL/min uptake      A11-07-PFA01  
 50µL/min uptake      A11-07-PFA005



**VeeSpray**

0.6 - 3mL/min uptake      A11-07-CV6



**IsoMist XR**

**Programmable Temperature Cyclonic Spray Chamber**

Glass Spray Chamber      KT-1014-XR  
 PFA Spray Chamber      KT-1014P-XR  
 All Glass System      KT-1054-XR  
 PFA Spray Chamber includes Niagara bracket      KT-1020P-XR



**Spray Chambers for HF**

**Tracey TFE**

50mL Cyclonic      20-809-9188



**Mounting Bracket for HF Spray Chamber**

21-100-0364



**PuraFlex Transfer Tube**      21-809-2831

Connects spray chamber to torch. Requires adjustable mount 21-100-0215, or for HF, 21-100-0364.



## Torches

### D-Torch 30-808-2919

#### Comprises:

Base and Inner Tube	31-808-2918
Quartz Outer Tube	31-808-2685
Retaining Ring for Outer Tube	31-808-2818
Retaining Ring for Injector	31-808-2921



#### D-Torch Options:

Ceramic Outer Tube	31-808-3027
PuraFlex Transfer Tube with bend	21-809-3707



### Tapered Injectors for D-Torch

Quartz Injector 0.8mm	31-808-3364
Quartz Injector 1.5mm	31-808-3591
Quartz Injector 1.8mm	31-808-3640
Quartz Injector 2.4mm	31-808-3043
Quartz Injector 2.4mm with Ball Joint	31-808-3110



### Alumina Injectors for D-Torch

Alumina Injector 1.8mm	31-808-3325
Alumina Injector 2.4mm	31-808-3133



### Sapphire Injectors for D-Torch

Sapphire Injector 2.0mm	31-808-3355
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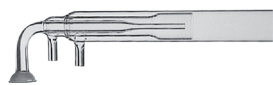
### Fixed Torches

Quartz Torch with 90° Bend and 2.3mm Injector	30-808-0478
Quartz Torch (High Solids, short) with 90° Bend and 2.3mm Injector	30-808-9983
Quartz Torch (High Solids, Full-Length) with 90° Bend and 2.3mm Injector	30-807-0528
Quartz Torch with 90° Bend and 1.8mm Injector	30-808-3315
Quartz Torch with 90° Bend and 0.8mm Injector	30-808-1346



### Fixed Torches for All Glass System

Quartz Torch with 2.3mm Injector and Right Angle Ball Joint	30-808-0540
Quartz Torch with 1.8mm Capillary Injector - (for oil analysis) and Right Angle Ball Joint	30-808-0887
Quartz Torch (High Solids) with 2.3mm Injector and Right Angle Ball Joint	30-808-1255
Quartz Torch (organics) with 0.8mm Injector and Right Angle Ball Joint	30-808-8216



## Torches

### Semi Demountable Torch with Quartz Injector 30-808-0379

#### Comprises:

Quartz Torch Body	31-808-0353
Tapered Quartz Injector 2.4mm	31-808-0400
Torch Adaptor	31-808-0863
GazFit Connectors (PKT 4) - for 6mm OD side arms	GAZ-06
GazFit Connectors (PKT 2) - for 8mm torch adaptor	GAZ-08



### Semi Demountable Torch with Alumina Injector 30-808-0383

#### Comprises:

Quartz Torch Body	31-808-0353
Tapered Alumina Injector 2.4mm	31-808-0401
Torch Adaptor	31-808-0863
GazFit Connectors (PKT 4) - for 6mm OD side arms	GAZ-06
GazFit Connectors (PKT 2) - for 8mm torch adaptor	GAZ-08



### Semi Demountable Torch Options

Quartz Torch Body - Short (for high solids)	31-808-0177
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### Tapered Injectors for Semi Demountable Torch

Quartz Injector 1.0mm	31-808-0544
Quartz Injector 1.5mm	31-808-0543
Quartz Injector 1.8mm	31-808-0545
Quartz Injector 2.4mm	31-808-0400
Alumina Injector 1.8mm	31-808-0814
Alumina Injector 2.4mm	31-808-0401



### Sapphire Injectors for Semi Demountable Torch

Sapphire Injector 2.4mm	31-808-1426
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**RF Coils**

**RF Coils for Vista Axial**

Gold 70-900-1000G



Silver 70-900-1000S



Silver, Teflon Coated 70-900-1000ST



**Installation kit** 70-900-1000T



**RF Coils for 700ES Axial**

Gold 70-900-1004G



Silver 70-900-1004S



Silver, Teflon Coated 70-900-1004ST



**Installation kit** 70-900-1004T



**Kits**

**Axial All Glass System** KT-8045A

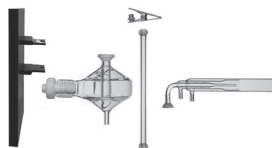
Kit Comprises:

Twister Spray Chamber 20-809-9199HE

Quartz Torch RA/FS13 & 2.3mm Injector 30-808-0540

Glass Transfer Tube-206, + JC-13 Clip 31-809-0274

Adjustable Mount 21-100-0215



**Common Accessories**

**Elegra Argon Humidifier**

Elegra Argon Humidifier 70-803-1265



**Gaurdian In-Line Filters**

Guardian in-line non-return gas filter 70-803-1362

Guardian in-line sample filter 70-803-1108



**Trident Internal Standard Kit**

Standard Kit 60-808-1185

Standard Kit for HF 60-808-1150



**Autosampler Probes**

(See page 12 for complete list of probes)

**For Cetac ASX-520**

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**

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	A11-07-USS2
400µL/min uptake	A11-07-USS04

### MicroMist

400µL/min uptake	A11-07-UM04
200µL/min uptake	A11-07-UM02

### Conikal

2mL/min uptake	A11-07-UC2
1mL/min uptake	A11-07-UC1

### Slurry

4mL/min uptake	A11-07-US6
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## DC Nebulizers for HF

### DuraMist

1mL/min uptake	A11-07-DM1
400µL/min uptake	A11-07-DM04



### OpalMist

2mL/min uptake	A11-07-PFA2
600µL/min uptake	A11-07-PFA06
200µL/min uptake	A11-07-PFA02
100µL/min uptake	A11-07-PFA01
50µL/min uptake	A11-07-PFA005



### VeeSpray

0.6 - 3mL/min uptake	A11-07-CV6
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## IsoMist

### Programmable Temperature Cyclonic Spray Chamber

Quartz Spray Chamber	KT-1022-XR
PFA Spray Chamber	KT-1022P-XR
All Glass System	KT-1055-XR



## Spray Chambers

### Tracey

50mL Cyclonic	20-809-0600HE
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### Twister

50mL Cyclonic	20-809-0285HE
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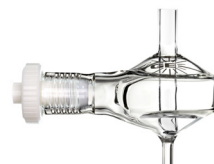
### Cinnabar

20mL Cyclonic	20-809-0183HE
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### Twinnabar

20mL Cyclonic	20-809-0448HE
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## Spray Chambers for HF

### Tracey TFE

50mL Cyclonic	20-809-9188
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### Mounting Bracket for HF Spray Chamber

21-809-2555
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### PuraFlex Transfer Tube

21-809-2735
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Connects spray chamber to torch.  
Requires adjustable mount 21-100-0200,  
or for HF, 21-809-2555.



## Torches

### D-Torch 30-808-3052

#### Comprises:

Base and Inner Tube	31-808-3146
Quartz Outer Tube	31-808-3062
Retaining Ring for Outer Tube	31-808-2818
Retaining Ring for Injector	31-808-2921



#### D-Torch Options:

Ceramic Outer Tube	31-808-3092
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### Tapered Injectors for D-Torch

Quartz Injector 0.8mm	31-808-3195
Quartz Injector 1.5mm	31-808-3058
Quartz Injector 1.5mm with Ball Joint	31-808-3150
Quartz Injector 2.4mm with Ball Joint	31-808-2925



### Alumina Injectors for D-Torch

Alumina Injector 1.5mm	31-808-3230
Alumina Injector 1.8mm	31-808-3160



### Sapphire Injectors for D-Torch

Sapphire Injector 2.0mm	31-808-3312
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### Semi Demountable Torch with Quartz Injector 30-808-0542

#### Comprises:

Torch Body, Quartz	31-808-0541
Torch Adaptor 8/44	31-808-2638
Tapered Quartz Injector 1.5mm	31-808-0543
GazFit Connectors (PKT 4) for 6mm OD side arms	GAZ-06



### Semi Demountable Torch HF with Alumina Injector 30-808-0942

#### Comprises:

Torch Body, Quartz	31-808-0541
Torch Adaptor 8/44	31-808-2638
Tapered Alumina Injector 1.8mm	31-808-0938
GazFit Connectors (PKT 4) for 6mm OD side arms	GAZ-06



### Tapered Injectors for Semi Demountable Torch

Quartz Injector 1.0mm	31-808-0544
Quartz Injector 1.5mm	31-808-0543
Quartz Injector 1.8mm	31-808-0545
Quartz Injector 2.4mm	31-808-0400



## Torches

### Fixed Torches

Quartz Torch, 0.8mm Injector	30-807-0539
Quartz Torch, Low Flow, 1.5mm Injector	30-800-0015
Quartz Torch, High Solids, 1.8mm Injector	30-808-1182



### Quartz Torch Bonnet 31-800-0003

31-800-0003



## RF Coils

### RF Coils for Vista Radial

Gold	70-900-1001G
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Silver	70-900-1001S
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Silver, Teflon Coated	70-900-1001ST
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Installation kit	70-900-1001T
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### RF Coils for 700ES Radial

Gold	70-900-1005G
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Silver	70-900-1005S
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Silver, Teflon Coated	70-900-1005ST
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Installation kit	70-900-1005T
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## Kits

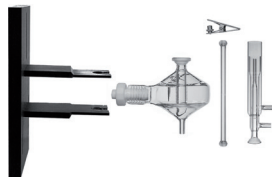
### Radial All Glass System Kit KT-8046A

#### Kit Comprises:

Twister Spray Chamber	20-809-9199HE
Radial Torch with Ball Joint and 1.5mm Injector	30-808-0875
Glass Transfer Tube-160, + JC-13 Clip	31-809-0549
Adjustable Mount	21-100-0200

#### All Glass System Options

Jacketed Spray Chamber	
Adjustable Mount	21-100-0217
Quartz Torch with Ball Joint and 1.8mm Injector High Solids	30-807-0536
Quartz Torch with Ball Joint and 2.4mm Injector High Solids	30-807-0569



## Autosampler Probes

(See page 12 for complete list of probes)

### For Cetac ASX-520

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

PTFE Encapsulated Carbon Fibre Probe	
0.75mm ID	70-803-0908
PTFE Encapsulated Carbon Fibre Probe	
1.0mm ID	70-803-0853



## Common Accessories

### Elegra Argon Humidifier

Elegra Argon Humidifier	70-803-1265
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### Gaurdian In-Line Filters

Guardian in-line non-return gas filter	70-803-1362
Guardian in-line sample filter	70-803-1108



### Trident Internal Standard Kit

Standard Kit	60-808-1185
Standard Kit for HF	60-808-1150





### 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



### 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 (Aux. Port)	20-809-3594HE
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#### Twister

50mL Cyclonic (2.4mm Aux. Port)	
Inline Screw Mount	20-809-3841HE

#### Twister

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

#### Twister

50mL Cyclonic with Screw Mount	20-809-3892HE
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### Spray Chambers

#### Twinnabar

20mL Cyclonic	20-809-3650HE
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#### Cinnabar

20mL Cyclonic	20-809-3709HE
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### Spray Chambers for HF

#### Tracey PFA44

44mL Cyclonic	20-809-3713
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### Torches

#### D-Torch

30-807-0540
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#### 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
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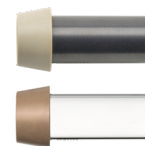
#### Comprises:

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



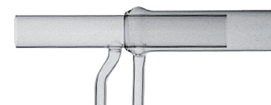
#### D-Torch Options:

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



## Torches

### 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.



### 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

### Skimmer Cones

Nickel Skimmer PE3012-Ni



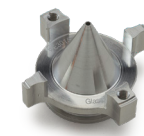
Aluminium Skimmer PE3012-Al

Platinum Skimmer PE3014-Pt



Platinum Skimmer Boron free PE3014-Pt-BF

Hyper Skimmer PE3015-Al



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



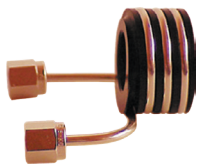
Skimmer Cone Guard For NexION 300/350 70-803-1026



Gasket for Sampler Cone 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



### Gaurdian In-Line Filters

Guardian in-line non-return gas filter 70-803-1362

Guardian in-line sample filter 70-803-1108

Fitting only connects to 1.3mm and 1.6mm Autosampler Tubing



### Trident Internal Standard Kit

Standard Kit 60-808-1185

Standard Kit for HF solutions 60-808-1150



## Autosampler Probes

(See page 12 for complete list of probes)

### Suitable for Cetac ASX-520

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	A23-1-USS2
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



## 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



## Cones

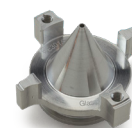
### Sampler Cones

Nickel Sampler	PE3011-Ni
Aluminium Sampler	PE3011-Al
Platinum Sampler	PE3013-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



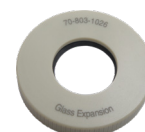
**O-ring for NexION Hyper Skimmer Cone (pack of 5)** PE5115

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

### ConeGuard Thread Protectors

Sampler Cone Guard For NexION 1000/2000 70-803-1024

Skimmer Cone Guard For NexION 1000/2000 70-803-1026



**Gasket for Sampler Cone** PE5111

## Common Accessories

### Elegra Argon Humidifier

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



### Gaurdian In-Line Filters

Guardian in-line non-return  
gas filter 70-803-1362

Guardian in-line sample filter 70-803-1108

Fitting only connects to 1.3mm and 1.6mm  
Autosampler Tubing



### Trident Internal Standard Kit

Standard Kit 60-808-1185

Standard Kit for HF 60-808-1150



## Autosampler Probes

(See page 12 for complete list of probes)

### Suitable for Cetac ASX-520

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
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### 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
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## 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
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### Tracey

50mL Cyclonic	20-808-8882HE
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### Cinnabar

20mL Cyclonic	20-809-0164HE
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### Twinnabar

20mL Cyclonic	20-809-0498HE
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## Spray Chambers for HF

### Twister TFE

50mL Cyclonic	20-809-3452
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### Tracey TFE

50mL Cyclonic	20-809-2507
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## 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



### 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



### 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

Quartz Injector 3.0mm 31-808-3790

Alumina Injector 1.25mm 31-808-3799



### Capillary Injectors for D-Torch

Quartz Injector 1.2mm 31-808-3787

Sapphire Injector 2.0mm 31-808-3784

### Fixed Torch for Avio 200/500

Quartz Torch with single slot 31-808-3776

## Common Accessories

### Elegra Argon Humidifier

Elegra Argon Humidifier 70-803-1269



### Gaurdian In-Line Filters

Guardian in-line non-return gas filter 70-803-1362

Guardian in-line sample filter 70-803-1108

Fitting only connects to 1.3mm and 1.6mm Autosampler Tubing



### Trident Internal Standard Kit

Standard Kit 60-808-1185

Standard Kit for HF 60-808-1150



## Autosampler Probes

(See page 12 for complete list of probes)

### Suitable for Cetac ASX-520

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
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## 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
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## IsoMist XR

### Programmable Temperature Cyclonic Spray Chamber

Glass Spray Chamber	KT-1012-XR
Quartz Spray Chamber	KT-1012Q-XR
PFA Spray Chamber	KT-1012P-XR



## Spray Chambers

### Tracey

50mL Cyclonic	20-809-0434HE
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### Twister

50mL Cyclonic (Aqueous) With 7mm baffle	20-809-0208HE
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### Twister

50mL Cyclonic (Organics) With 4mm baffle	20-809-0446HE
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### Twister

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

20mL Cyclonic	20-809-9121HE
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### Twinnabar

20mL Cyclonic	20-809-2120HE
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## Spray Chambers for HF

### Tracey TFE

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



**Torches**

**D-Torch** 30-808-2926

**Comprises:**

- Base and Inner Tube 31-808-2981
- Quartz Outer Tube 31-808-2986
- Retaining Ring 31-808-2818



**D-Torch Options:**

- Ceramic Outer Tube 31-808-3365
- Quartz Outer Tube (3 slots) 31-808-3436
- Copper Foils (PKT 12) for Ceramic Outer Tube 31-808-3377



**Quartz Torches**

- JAZ with single slot 30-808-0845
- Short, without slot 30-808-0845S
- Without slot 30-808-1122
- With 3 slots 30-808-1470



**Quartz Torch Options:**

- Copper Foils (PKT 12) for D-Torch Outer Tube and Quartz Torch 31-808-2645



**Tapered Injectors**

- Quartz Injector 1.2mm 31-808-1154
- Quartz Injector 2.0mm 31-807-0075
- Quartz Injector 3.0mm 31-808-2506
- Alumina Injector 2.0mm 31-808-1210
- Alumina Injector 2.4mm 31-808-2771
- Sapphire Injector 2.0mm 31-808-2774



**Capillary Injectors**

- Quartz Injector 1.0mm 31-808-0939
- Quartz Injector 1.8mm 31-808-0794



**Torch Bonnet** 31-800-0018

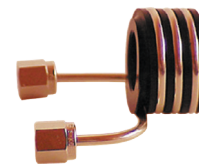


**Purge Windows**

- Axial 17mm disk for 4000/5000 7000/8000DV 31-808-0551
- Axial 32mm disk for 7000DV 31-808-2649
- Radial for 5000/7000DV (Post Nov. 2004) 31-808-2788

**RF Coils**

- Silver 70-900-2003S
- Gold 70-900-2003G



**RF Coil Installation Kit** 70-900-2003T



**Common Accessories**

**Elegra Argon Humidifier**

Elegra Argon Humidifier 70-803-1269



**Gaurdian In-Line Filters**

- Guardian in-line non-return gas filter 70-803-1362
- Guardian in-line sample filter 70-803-1108
- Fitting only connects to 1.3mm and 1.6mm Autosampler Tubing



**Trident Internal Standard Kit**

- Standard Kit 60-808-1185
- Standard Kit for HF solutions 60-808-1150



**Autosampler Probes**

(See page 12 for complete list of probes)

**Suitable for Cetac ASX-520**

- 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
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## 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
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## IsoMist XR

### Programmable Temperature Cyclonic Spray Chamber

Glass Spray Chamber	KT-1011-XR
Quartz Spray Chamber	KT-1011Q-XR
PFA Spray Chamber	KT-1011P-XR



## Spray Chambers

### Twister

50mL Cyclonic	20-809-0495HE
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## Spray Chambers for HF

### Tracey TFE

50mL Cyclonic	20-809-2507
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## Torches

### D-Torch

30-808-2832

#### Comprises:

Base and Inner Tube	31-808-2809
Quartz Outer Tube	31-808-2821
Retaining Ring	31-808-2818



#### D-Torch Options:

Ceramic Outer Tube	31-808-2815
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### Quartz Torch

With 3 slots	30-807-0064
With 3 slots (Long life)	30-808-3593



### Tapered Quartz Injectors

Quartz Injector 1.0mm	31-808-0119
Quartz Injector 1.5mm	31-808-0124
Quartz Injector 1.8mm	31-807-0008
Quartz Injector 2.0mm	31-807-0050



### Tapered Alumina Injectors

Alumina Injector 1.5mm	31-807-0051
Alumina Injector 1.8mm	31-807-0052
Alumina Injector 2.0mm	31-808-1352



### Capillary Alumina Injectors

Alumina Injector 2.0mm	31-808-2625
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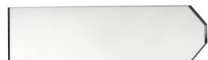


**Torches**

**Torch Bonnet** 31-800-0018



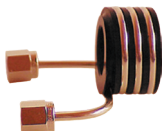
**Purge Extension Window for 4300/5300/7300V** 31-808-1345



**RF Coils**

Silver 70-900-2003S

Gold 70-900-2003G



**RF Coil Installation Kit** 70-900-2003T



**Common Accessories**

**Elegra Argon Humidifier**

Elegra Argon Humidifier 70-803-1269



**Gaurdian In-Line Filters**

Guardian in-line non-return gas filter 70-803-1362

Guardian in-line sample filter 70-803-1108

Fitting only connects to 1.3mm and 1.6mm Autosampler Tubing



**Trident Internal Standard Kit**

Standard Kit 60-808-1185

Standard Kit for HF solutions 60-808-1150



**Autosampler Probes**

(See page 12 for complete list of probes)

**Suitable for Cetac ASX-520**

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
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## 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
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## 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
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### Twister

50mL Cyclonic (Aqueous) With 7mm baffle	20-809-0208HE
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### Twister

50mL Cyclonic (Organics) With 4mm baffle	20-809-0446HE
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### Twister

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

20mL Cyclonic	20-809-9121HE
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### Twinnabar

20mL Cyclonic	20-809-9120HE
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## 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 Ceramic Outer Tube 31-808-3356



**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



**Gaurdian In-Line Filters**

Guardian in-line non-return gas filter 70-803-1362

Guardian in-line sample filter 70-803-1108

Fitting only connects to 1.3mm and 1.6mm Autosampler Tubing



**Trident Internal Standard Kit**

Standard Kit 60-808-1185

Standard Kit for HF solutions 60-808-1150



## Autosampler Probes

(See page 12 for complete list of probes)

**Suitable for Cetac ASX-520**

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

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

**SeaSpray**  
400µL/min uptake      A41-07-USS04

**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 Compatible with HF

**OpalMist**  
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



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



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



## Spray Chambers

**Glass**  
50mL Cyclonic      21-809-3994  
With B14 gravity drain



**Quartz**  
50mL Cyclonic      21-809-3992  
With B14 gravity drain



**Drain Device**      21-808-8214



**Extention Pipe**  
Glass Extention w/ right angle      31-808-3920

## Spray Chambers Compatible with HF

**PFA**  
50mL Cyclonic      21-809-3991



**HF Drain Device**      21-809-2540

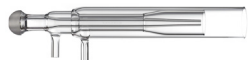


**Extention Pipe**  
PFA Extention w/ right angle      21-809-4081

## Torches

### Quartz Torches

Quartz Mini Torch (Suitable for ICP-MS 2030)	30-807-0567
Torch with 1.2mm Injector (Suitable for ICP-MS 8500)	30-808-9986
Torch with 1.5mm Injector (Suitable for ICP-MS 8500)	30-808-1090



## RF Coils

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

### RF Coil Installation Kit

RF Coil Installation Kit	70-900-6100T
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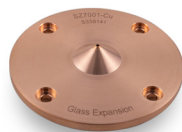
## Cones

### Sampler Cones

Nickel Sampler	SZ7001-Ni
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Copper Sampler	SZ7001-Cu
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Platinum Sampler	SZ7003-Pt/Cu
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### Skimmer Cones

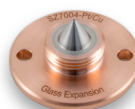
Copper Skimmer	SZ7002-Cu
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Nickel Skimmer	SZ7002-Ni
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Platinum Skimmer	SZ7004-Pt/Cu
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## Common Accessories

### Elegra Argon Humidifier

Elegra Argon Humidifier	70-803-1312
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### Gaurdian In-Line Filters

Guardian in-line non-return gas filter	70-803-1362
Guardian in-line sample filter	70-803-1108



### Trident Internal Standard Kit

Standard Kit	60-808-1185
Standard Kit for HF	60-808-1150



## Autosampler Probes

(See page 12 for complete list of probes)

### For Shimadzu ASC-6100F/9800

PTFE Sheathed Carbon Fibre Probe 0.3mm ID with UniFit	70-803-1200
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### For Shimadzu AS10

PTFE Coated Vitcon O-rings (PKT 10) With UniFit	70-803-1477
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## 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



**Drain Device**      21-808-8214



**Transfer Tube, Spray Chamber to ICPE-9000/9800 Torch**  
Glass Transfer Tube 86mm      21-809-2846



## Autosampler Probes

(See page 12 for complete list of probes)

### For Shimadzu ASC-6100F/9800

PTFE Sheathed Carbon Fibre Probe  
0.3mm ID with UniFit      70-803-1200

### For Shimadzu AS10

PTFE Coated Vitcon O-rings  
(PKT 10) With UniFit      70-803-1477

## 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 B14-Nickel KCM-14  
 GazFit Connectors (PKT 4) for 4mm OD side arms GAZ-04



### Tapered Injectors

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



## Torches

### Capillary Injectors

Sapphire Injector 2.0mm 31-808-3001

### Quartz Torches

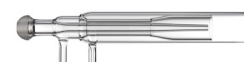
Quartz Torch Standard 1.5mm Injector (Suitable for 7500/8100) 30-808-1179

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

RF Coil Installation Kit 70-900-6000T

## Common Accessories

### Elegra Argon Humidifier

Elegra Argon Humidifier 70-803-1312



### Gaurdian In-Line Filters

Guardian in-line non-return gas filter 70-803-1362  
 Guardian in-line sample filter 70-803-1108



### Trident Internal Standard Kit

Standard Kit 60-808-1185  
 Standard Kit for HF 60-808-1150



## Glass DC Nebulizers

### SeaSpray

2mL/min uptake	A21-07-USS2
1mL/min uptake	A21-07-USS1
400µL/min uptake	A21-07-USS04
2mL/min with PEEK connector	A21-1-USS2

### 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
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### 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-PFA02
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
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## 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
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### Twister

50mL Cyclonic	20-809-2951HE
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### Scott Spray Chamber

20-809-4053
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### Quartz Adaptor

21-809-3772
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### Quartz Adaptor with Aux Port

21-809-3771
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## Spray Chambers for HF

### Tracey TFE

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



### PuraFlex Transfer Tube

21-809-3726
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## 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



### 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



## Torches

### 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

## Common Accessories

### Elegra Argon Humidifier

Elegra Argon Humidifier 70-803-1271



### Gaurdian In-Line Filters

Guardian in-line non-return gas filter 70-803-1362

Guardian in-line sample filter 70-803-1108



### Trident Internal Standard Kit

Standard Kit 60-808-1185

Standard Kit for HF 60-808-1150



## Autosampler Probes

(See page 12 for complete list of probes)

### For Cetac ASX-520

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	A21-07-USS2
1mL/min uptake	A21-07-USS1
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
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### 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-PFA02
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
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## 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



## Spray Chambers

### Tracey

50mL Cyclonic	20-809-2665HE
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### Twister

50mL Cyclonic	20-809-2951HE
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### Scott Spray Chamber

20-809-4053
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### Straight Quartz Adaptor

21-809-3773
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### Straight Quartz Adapter with Aux Port

21-809-3804
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## 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
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## 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
Safety Gloves, Medium	SAFEGLOVE-med

### Options:

Sheath Gas Adaptor	21-809-4083
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### Tapered Injectors for D-Torch

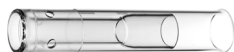
Quartz Injector 1.0mm	31-808-0009
Quartz Injector 1.2mm	31-808-3643
Quartz Injector 1.5mm	31-808-0007
Quartz Injector 1.8mm	31-808-8146
Quartz Injector 2.0mm	31-808-0008
Quartz Injector 2.4mm	31-808-3541
Quartz Injector 2.5mm	31-808-3645
Alumina Injector 1.0mm	31-808-0835
Alumina Injector 1.5mm	31-808-0013
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
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**Spectro Torch** 31-808-3405



### 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 70-803-1271



### Gaurdian In-Line Filters

Guardian in-line non-return gas filter 70-803-1362

Guardian in-line sample filter 70-803-1108



### Trident Internal Standard Kit

Standard Kit 60-808-1185

Standard Kit for HF [60-808-1150](#)



## Autosampler Probes

(See page 12 for complete list of probes)

### For Cetac ASX-520

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
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## 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
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## 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

Hydride Kit	KT-1156
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## Spray Chambers

### Tracey

50mL Cyclonic	20-809-2665HE
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### Twister

50mL Cyclonic	20-809-2951HE
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### Adaptor

Right Angle With Ball Joint	21-809-2761
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## Spray Chambers for HF

### Tracey TFE

50mL Cyclonic	20-809-3469
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## Torches

### D-Torch

30-808-2844

#### Comprises:

Base and Inner Tube	31-808-2932
Quartz Outer Tube	31-808-2840
Retaining Ring	31-808-2707
Injector Adaptor	31-808-2895
Injector Ferrule	31-808-2897



### D-Torch for HF

30-808-2862

#### Comprises:

Base and Inner Tube	31-808-2932
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

**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



**Quartz Torch**

Old Design 31-808-2676



**Tapered Injectors for Old Design Torch**

- Quartz Injector 1.0mm 31-808-2719
- Quartz Injector 1.5mm 31-808-2702
- Alumina Injector 1.5mm 31-808-2787



**Capillary Injectors for Old Design Torch**

- Quartz Injector 2.0mm 31-808-2675
- Alumina Injector 2.0mm 31-808-2786
- Sapphire Injector 2.0mm 31-808-2804



**Duo Periscope Window**

31-808-2677



**Quartz Window**

70-803-1116



**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



**Gaurdian In-Line Filters**

- Guardian in-line non-return gas filter 70-803-1362
- Guardian in-line sample filter 70-803-1108



**Trident Internal Standard Kit**

- Standard Kit 60-808-1185
- Standard Kit for HF 60-808-1150



**Autosampler Probes**

(See page 12 for complete list of probes)

**For Cetac ASX-520**

- 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
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## 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
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## 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
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### Twister

50mL Cyclonic	20-809-2951HE
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### Straight Ball Joint Adaptor

21-809-2723
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## Spray Chambers for HF

### Tracey TFE

50mL Cyclonic	20-809-9198
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## Torches

### D-Torch Demountable Torch

30-808-2877
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#### 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





**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



**Quartz Torch**

Old Design 31-808-2692



**Tapered Injectors for Old Design Torch**

Quartz Injector 1.0mm 31-808-2719



Quartz Injector 1.5mm 31-808-2702

Alumina Injector 1.5mm 31-808-2787

**Capillary Injectors for Old Design Torch**

Quartz Injector 2.0mm 31-808-2675



Alumina Injector 2.0mm 31-808-2786

Sapphire Injector 2.0mm 31-808-2804

**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



**Gaurdian In-Line Filters**

Guardian in-line non-return gas filter 70-803-1362

Guardian in-line sample filter 70-803-1108



**Trident Internal Standard Kit**

Standard Kit 60-808-1185

Standard Kit for HF 60-808-1150



**Autosampler Probes**

(See page 12 for complete list of probes)

**For Cetac ASX-520**

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	70-803-0969
Agilent MP-AES	70-803-0969
Agilent 4500/7500	70-803-1086
Agilent 7700/7800/7900/8800/8900	70-803-1105
Agilent 5100/5110	70-803-1105
Horiba Jobin Yvon (All models)	70-803-0911
Leeman (All models)	70-803-0969
PerkinElmer Optima and Avio	70-803-1070
PerkinElmer Elan/NexION 300/350	70-803-1049
PerkinElmer NexION 1000/2000	70-803-1449
Shimadzu 9000/9800	70-803-1311
Shimadzu 2030	70-803-1311
Spectro (All models)	70-803-1070
Thermo iCAP 6000/7000/Q & X-Series	70-803-1292
Thermo Neptune	70-803-1468
Analytik Jena ICP-MS	70-803-0969

## 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
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## EzyLok Kit for Nebulizer Gas Side Arm

EzyLok Kit	EL-1
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### Comprises:

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

Sample tubing 0.25mm ID x 1.27mm OD x 700mm long, for 0.05 and 0.1ml/min OpalMist and PolyCon (PKT 10)	70-808-0360
Reagent tube 1.6mm OD x 1.0mm ID x 1400mm long with PTFE Sinkers (PKT. 3)	70-808-0360
Tygon Tubing 1/4 inch x 1m	70-808-0360
Tygon Tubing 700mm	70-803-0598

## Helix & Helix CT Spray Chambers

### Helix CT:

Helix CT Locking Screw with Seal	70-803-1439
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, 12mm small adaptor seal (PKT 5)	VT-9/1.5
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

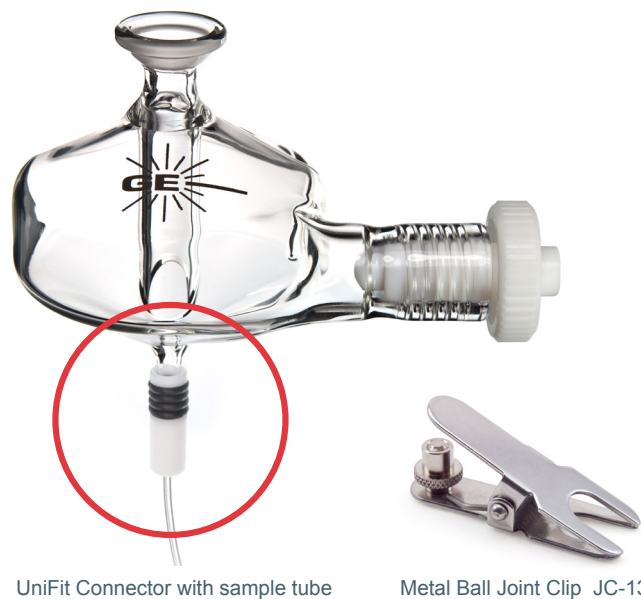
GazFit Connectors (PKT 2), for 8mm OD arm	GAZ-08
GazFit Connectors (PKT 4), for 6mm OD torch side arms	GAZ-06
GazFit Connectors (PKT 4), 2 for 6mm OD torch side arms, 2 for 4mm OD torch side arms	GAZ-0604
GazFit Connectors (PKT 4), for 5mm OD torch side arms	GAZ-05
GazFit Connectors (PKT 4), for 4mm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

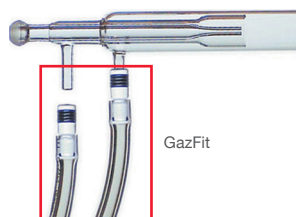
## Clips & Connectors for Spray Chambers

Metal Ball Joint Clip (to connect spray chamber and torch)	JC-13
Nickel Joint Clip B14 (to connect spray chamber and drain adaptors)	KCM-14
Nickel Joint Clip KCM29 (to connect spray chamber and drain adaptors)	KCM-29
UniFit Connector with sample tube, 0.75mm ID x 1/16" OD x 700mm long (PKT 3)	UFT-16-75
UniFit Connector with sample tube, 0.75mm ID x 1.3mm OD x 700mm long (PKT 3)	UFT-075
UniFit Connector with sample tube, 0.86mm ID x 2mm OD x 480mm long (PKT 3)	UFT-2-86
UniFit Connector with sample tube, 0.86mm ID x 2mm OD x 700mm long (PKT 3)	UFT-2-700



## O-Rings for Torches

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

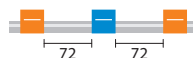
### Limitations:

- Potential leaching of plasticizers.



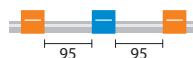
### PVC, 2 Bridged, 152mm (152mm between tags)

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



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

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



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

Tag Colours	ID (mm)	P/N
	0.25	0.25-OB3B-95
	0.38	0.38-OG3B-95
	0.51	0.51-OY3B-95
	0.64	0.64-OW3B-95
	0.76	0.76-BLK3B-95
	0.89	0.89-ORG3B-95
	1.02	1.02-WHT3B-95
	1.30	1.30-GRY3B-95
	1.52	1.52-YB3B-95
	1.85	1.85-GRN3B-95
	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:

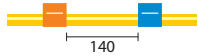
- Specially formulated for hydrocarbons, petroleum products and distillates.

### 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.

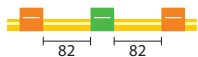
### Limitations:

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








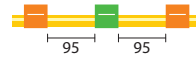
### Solva, 2 Bridged, 140mm (140mm between tags)

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









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

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



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

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

## Viton® Peristaltic Pump Tubing

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

### Special Properties:

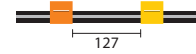
- Special tubing for concentrated acids and corrosive solvents.

### Advantages:















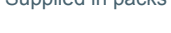
- High chemical resistance.
- Low gas permeability.
- Wide temperature range.

### Limitations:

- Limited service life.



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

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

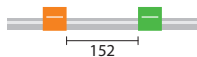
- Environmental-friendly tubing especially designed for solvents.
- Suitable for MIBK.

### Advantages:







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

### Limitations:

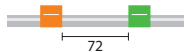
- Limited service life.









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

Tag Colours	ID (mm)	P/N
	0.38	0.38-ORG-MH
	0.64	0.64-OW-MH
	1.02	1.02-WHT-MH
	1.52	1.52-YB-MH
	2.06	2.06-PUR-MH
	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
	0.38	0.38-ORG-MH3
	0.64	0.64-OW-MH3
	1.02	1.02-WHT-MH3
	1.52	1.52-YB-MH3
	2.06	2.06-PUR-MH3
	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:

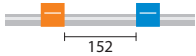
- Inexpensive all-round tubing for general laboratory applications.

### Advantages:

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

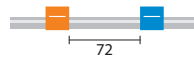
### Limitations:

- Potential leaching of plasticizers.



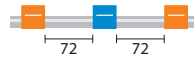
**PVC, 2 Bridged, 152mm**  
(152mm between tags)

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



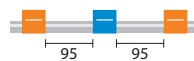
**PVC, 2 Bridged, 72mm**  
(72mm between tags)

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, 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



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

Tag Colours	ID (mm)	P/N
	0.25	0.25-OB3B-95-F
	0.38	0.38-OG3B-95-F
	0.51	0.51-OY3B-95-F
	0.76	0.76-BLK3B-95-F
	0.89	0.89-ORG3B-95-F
	1.02	1.02-WHT3B-95-F
	1.30	1.30-GRY3B-95-F
	1.52	1.52-YB3B-95-F
	1.85	1.85-GRN3B-95-F
	2.79	2.79-PW3B-95-F

## Contour Flared-end Solva Peristaltic Pump Tubing

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

### Special Properties:

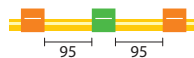
- Special tubing for hydrocarbons, petroleum products and distillates.

### 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.

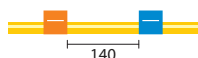
### Limitations:

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















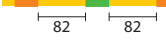




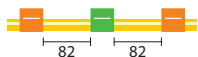
**Solva, 3 Bridged, 95mm**  
(95mm between tags)

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








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

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



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

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

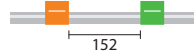
- Environmental-friendly tubing especially designed for solvents.
- Suitable for MIBK.

### Advantages:

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

### Limitations:

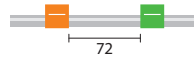
- Limited service life.



### 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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