



Agilent  
**CrossLab**

From Insight to Outcome

Agilent Supplies

# FOR PerkinElmer ICP-OES AND ICP-MS SPECTROMETERS



Agilent Technologies

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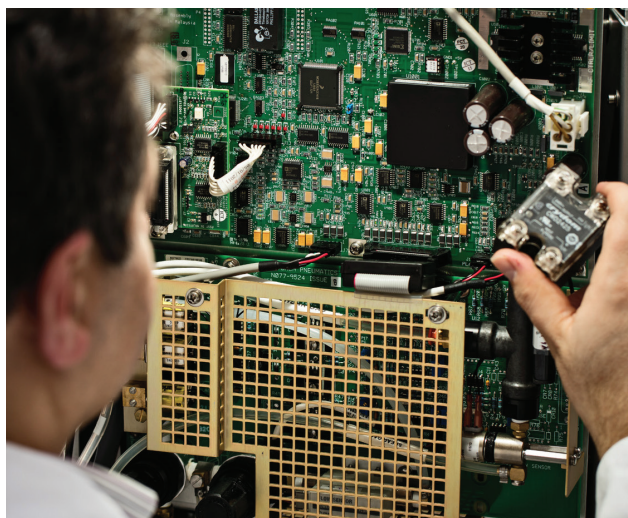
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#### The fastest ICP-OES... Ever

- The 5100 ICP-OES can run your samples faster, using less gas, without compromising performance
- The 5100 SVDV ensures the fastest sample throughput and lowest gas consumption per sample of any ICP-OES
- The vertical torch and robust solid state RF also handles your toughest samples with ease



### Agilent 7800 ICP-MS

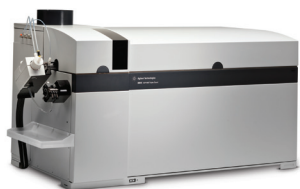
#### Solution-Ready

- Proven, robust hardware, auto-optimization tools, and pre-set methods simplify routine analysis
- High matrix tolerance, wide dynamic range, and effective control of interferences remove uncertainty when analyzing complex samples
- Fast setup and ease-of-use improve workflow efficiency

### Agilent 7900 Series ICP-MS

#### A new dimension in quadrupole ICP-MS

- 10x higher matrix tolerance, 10x wider dynamic range, and 10x better S/N, with software so powerful it can write your methods for you
- Matrix tolerance extends into the tens of % TDS range and linear dynamic range up to 11 orders of magnitude
- 7900 ICP-MS delivers superior data quality whatever your application



### Agilent 8800 Triple Quadrupole ICP-MS

#### Transforming ICP-MS technology

- The 8800 Triple Quadrupole ICP-MS handles even the most difficult samples and applications with ease
- With MS/MS, the 8800 unlocks the potential of reaction cell chemistry to remove spectral interferences
- Greater accuracy and more consistent results, particularly in complex matrices



## Atomic Absorption (AA) Spectrometers

Extend your productivity, performance, and output boundaries

- Agilent AA instruments for routine analysis where reliability and simple operation are vital
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- Agilent AA gives you answers you can trust

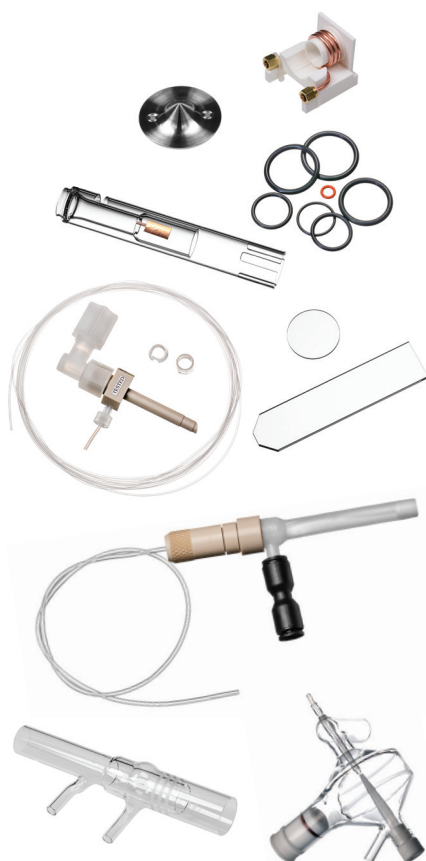


### Agilent 4200 MP-AES

The next generation of proven MP-AES

- The safer, cost-efficient 4200 MP-AES runs on air, not combustible gases
- Perform unattended analysis on a broader range of a samples while benefitting from the lowest cost of ownership
- Higher sensitivity, detection limits down to sub-ppb, and faster than flame AA

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## TABLE OF CONTENTS

<b>FEATURED PRODUCTS</b>	<b>4</b>
<b>ICP-OES SUPPLIES</b>	<b>8</b>
Torches and Supplies	8
Quick Change Torch Modules	9
Torch Injectors and Support Adaptors	10
Nebulizers and Supplies	11
Multimode Sample Introduction System (MSIS)	13
Spray Chambers	13
Purge Extension Windows	14
Peristaltic Pump Tubing	15
RF Load Coils and Accessories	15
Miscellaneous Supplies	15
<b>ICP-MS SUPPLIES</b>	<b>16</b>
Nebulizers and Supplies	16
Spray Chambers and Supplies	19
Torch Injectors	21
Torches and Supplies	24
Interface Cones and Supplies	25
Ion Lenses	26
Detectors	26
Sample Introduction Kits	26
RF Load Coil	27
Peristaltic Pump Tubing	27
Miscellaneous Supplies	27

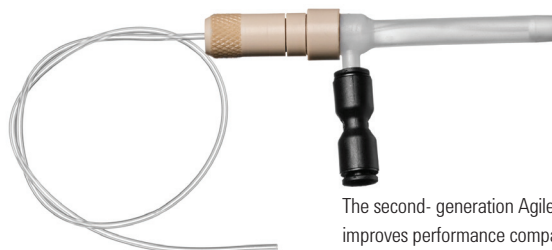
## FEATURED PRODUCTS

### The Agilent OneNeb nebulizer improves performance and simplifies operation

The OneNeb nebulizer is an inert, high-efficiency universal nebulizer that is virtually indestructible. OneNeb has superb tolerance to high levels of dissolved solids and most ICP-OES sample matrices, including aggressive acids, hydrofluoric acid digests, and organic solvents.

It is a direct replacement for most other nebulizers, including the conventional glass concentric and inert types used with PerkinElmer ICP-OES instruments, such as GemTip and GemCone. OneNeb is also compatible with most conventional glass cyclonic and inert spray chambers. The OneNeb is rugged and durable with a user-replaceable sample capillary, and is competitive in price with conventional concentric nebulizers.

OneNeb also simplifies method development by solving the challenge of nebulizer selection. Its superb performance with most samples matrices means that you only need OneNeb. This lets you focus on delivering results you can have confidence in, and eliminate system shutdown to swap out the nebulizer when switching between different sample types.

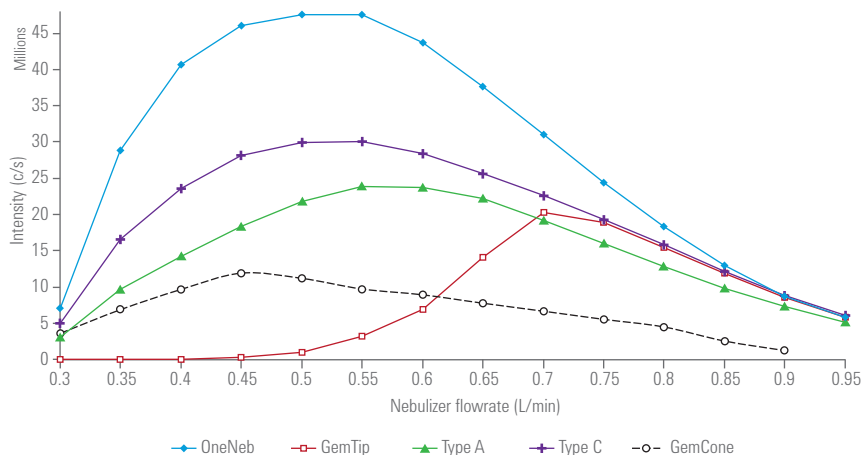


The second-generation Agilent OneNeb nebulizer (8003-0951) improves performance compared to glass concentric and inert types in PerkinElmer Optima ICP-OES instruments.

### Improved sensitivity and precision

The OneNeb uses Flow Blurring nebulization, rather than the traditional venturi effect. This creates a fine aerosol with a narrow size distribution, where most droplets are  $< 10 \mu\text{m}$ , enhancing efficiency. With efficient operation over a much wider range of flow rates, OneNeb is up to four times as sensitive as other nebulizers.

The fine aerosol created by OneNeb is also more efficiently desolvated and excited in the plasma, which helps to improve precision, typically less than 1% RSD even at low sample flow rates.



Comparing sensitivity response curves for different nebulizers on a PerkinElmer Optima 8000 ICP-OES. While each nebulizer needs different conditions to achieve optimum sensitivity, Agilent OneNeb provides better sensitivity at all gas flow rates.

### Lower detection limits

The tables show detection limits achieved for 5% NaCl using OneNeb with the PerkinElmer Optima 7300 DV ICP-OES. OneNeb improves sensitivity, reduces detection limits, and runs for longer due to reduced blockage when measuring challenging samples that have higher TDS.

#### With Axial View

Nebulizer Type	Tl 190.800 (nm)	As 193.696 (nm)	Se 196.026 (nm)	Pb 220.353 (nm)
OneNeb	4.3	1.4	5.7	2.8
GemCone	14.4	14.3	25.4	7.7
GemTip	14.0	13.8	22.3	4.5
VeeSpray	9.8	19.6	21.2	3.2

Concentrations in µg/L

#### With Radial View

Nebulizer Type	Mn 257.610 (nm)	La 379.478 (nm)	Ba 455.403 (nm)	Zn 213.856 (nm)
OneNeb	0.6	1.8	0.2	1.6
GemCone	0.9	5.5	0.6	7.5
GemTip	0.8	2.7	0.2	6.2
VeeSpray	1.3	4.7	0.4	4.2

Concentrations in µg/L

### Superior TDS tolerance and long-term stability

OneNeb is highly tolerant of dissolved solids, and so you can easily run samples that might cause blockage with conventional nebulizers, such as estuarine water or brine. OneNeb is also highly stable over long-term measurements, with excellent chemical resistance.

## FEATURED PRODUCTS

### The Multimode Sample Introduction System enables simultaneous vapor generation to improve performance and productivity

The Agilent Multimode Sample Introduction System (MSIS) enables simultaneous determination of routine elements using conventional nebulization, and the environmentally sensitive elements, including As, Se, and Hg, using hydride generation, with the same setup.



When used with PerkinElmer ICP-OES systems, the Agilent MSIS (8003-0817) enables simultaneous determination of routine and hydride elements using the same setup. This improves productivity and enables low ppb detection limits for hydride-forming elements.

#### Save time and eliminate changeover

With a choice of three modes (conventional nebulization, hydride only, or simultaneous hydride and conventional nebulization) routine elements can be determined using the same setup as hydride elements, eliminating changeover. This is more convenient and economical as it avoids the need to measure the hydride-forming elements in a separate measurement using a dedicated hydride system. This also saves time and simplifies your sample analysis workflow by eliminating the need for a second sample digest with prereduction of the sample specifically for hydride determinations.

#### High performance

MSIS delivers significantly better performance for environmentally sensitive elements, including As, Se, Hg, and other hydride-forming elements, compared to conventional nebulization. This is due to MSIS thin-film hydride technology, which enables low ppb detection limits for these elements.

The table shows detection limits achieved using MSIS with the PerkinElmer Optima 7300 DV ICP-OES. Working in simultaneous mode, detection limits for As, Se, and Hg were improved to low ppb levels, without affecting detection limits for the other elements measured using a concentric nebulizer.

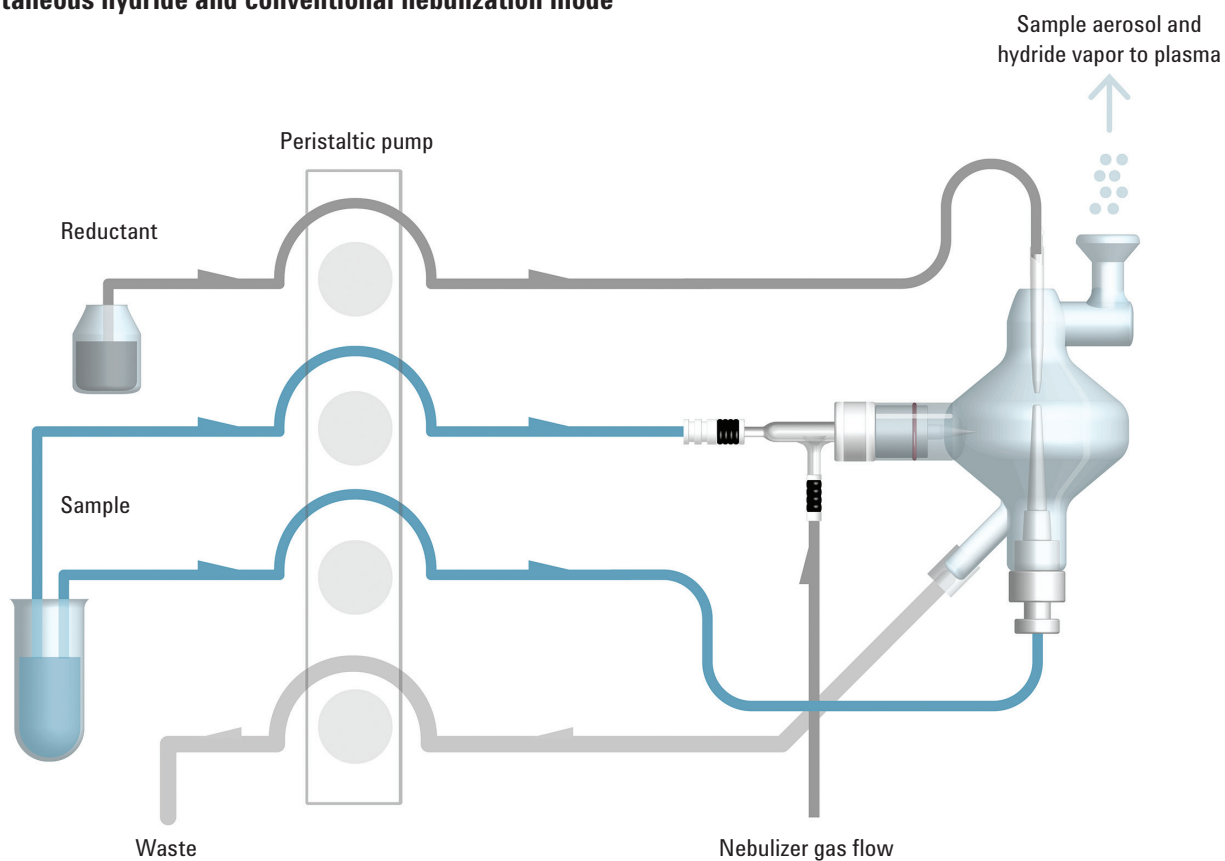
Element/Wavelength (nm)	Measured with glass concentric nebulizer in nebulization mode	Measured with glass concentric nebulizer in simultaneous mode
Al 394.401		5.0
As 193.696	11.0	1.5*
Ca 317.933		2.6
Cd 226.502		0.4
Co 230.786		0.8
Cr 267.716		0.6
Cu 327.393		1.4
Fe 259.939		0.4
Hg 194.168	1.3	0.2*
Li 670.784		0.04
Mg 280.271		0.3
Mn 257.610		0.05
Mo 204.597		2.4
Ni 231.604		1.4
Pb 220.353		3.3
Se 196.026	12.0	0.5*
V 292.402		0.9
Zn 213.857		0.4

\*Measured using hydride determination  
Concentrations in µg/L



## Operating principle of the MSIS

### Simultaneous hydride and conventional nebulization mode

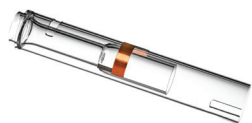


Agilent MSIS is based on a conventional glass cyclonic spray chamber, fitted with vertically opposed tubes in the center. Routine samples are introduced through the nebulizer in the usual manner. To enable determination of hydride- or vapor-forming elements such as As, Se, or Hg, the sample and reductant are introduced through the vertically opposed tubes. The volatile hydride species created by the reactions are stripped from the mixed solution and swept into the plasma with the sample aerosol, enabling simultaneous determination with conventional nebulization.

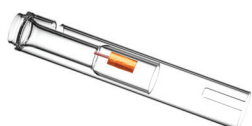
## ICP-OES SUPPLIES

### ICP-OES Torches

Available in a wide range of styles from 0 to 3 slots, depending on instrument and application needs. The slots in the side of the torch allow the plasma to be viewed through the slot and not the quartz. This ensures the best performance, while maintaining optimum shielding of the plasma from entrained air. Torches without slots are recommended for fusions and high TDS samples. One-slot torches are the standard torch for aqueous solutions. Three-slot torches are typically used for organic analysis.



ICP-OES torch, demountable, 1-slot, 8003-0344



ICP-OES torch, demountable, 1-slot, 8003-0346



ICP-OES torch, demountable, 3-slot, 8003-0347



ICP-OES torch, demountable, short, 8003-0348



O-ring kit, 8003-0360



O-ring kit, for vertical torch 8003-0361

### Torches and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 8x00	Torch, demountable, 1-slot, using 1-piece quartz tubing for plasma and auxiliary gas flow	N0780130	8003-0344
Optima 8x00	Torch, demountable, 0-slot, using 1-piece quartz tubing for plasma and auxiliary gas flow	N0780133	8003-0470
Optima 8x00	Torch, demountable, 3-slot, using 1-piece quartz tubing for plasma and auxiliary gas flow	N0780132	8003-0345
Optima 2/4/5/7x00 DV	Torch, demountable, 1-slot, using 1-piece quartz tubing for plasma and auxiliary gas flow	N0770338	8003-0346
Optima 2/4/5/7x00 DV	Torch, demountable, 3-slot, using 1-piece quartz tubing for plasma and auxiliary gas flow	N0772005	8003-0347
Optima 2/4/5/7x00 DV	Torch, demountable, 0-slot, short version, using 1-piece quartz tubing for plasma and auxiliary gas flow	N0770344	8003-0348
Optima 8x00	O-ring kit, complete, includes all O-rings used in the demountable torch	N0780437	8003-0359
Optima 2/4/5/7x00 DV	O-ring kit, complete, includes all O-rings used in the demountable torch	N0770437	8003-0360
Optima 4300V/5300V/7300V	O-ring kit, complete, for vertical torch	N0770916	8003-0361

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Torch igniter tape, copper, 8003-0362



Torch igniter tape, copper, squares, 8003-0363

### Torches and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 8x00	Torch igniter tape, copper, 50 pcs	N0781097	8003-0362
Optima 2/4/5/7x00 DV	Torch igniter tape, copper, 120 squares	N0775297	8003-0363
Optima 2/4/5/7x00 DV	Torch bonnet for Optima, used as spacer between torch and RF coil	N0775289	8003-0364

### Quick Change Torch Modules

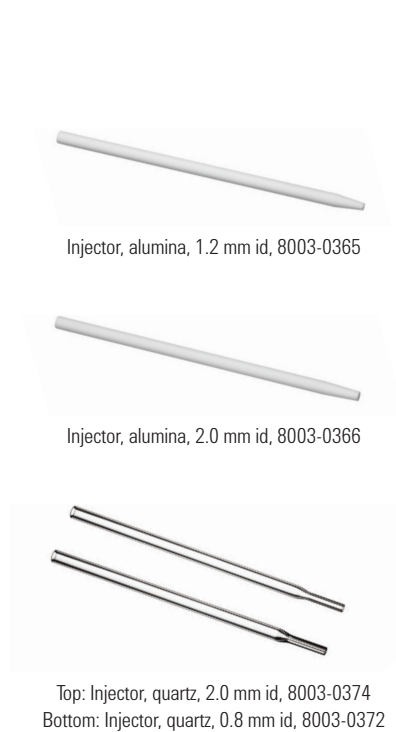
Complete torch and sample introduction module including single-slot demountable torch, mounting block, 2 mm alumina injector, spray chamber and nebulizer.

Having a second module provides a convenient and quick way to change the sample introduction system when switching between different sample types.

### Quick Change Torch Modules

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 8x00	Quick-change torch module Includes glass cyclonic spray chamber and concentric nebulizer	N0780607	8003-0336
Optima 8x00	Quick-change torch module Includes inert Scott spray chamber and GemTip Cross-Flow II nebulizer	N0780606	8003-0339
Optima 2x00/4x00/5x00/7x00/8x00	Mounting block, for quick-change torch, does not include torch, injector, spray chamber, or nebulizer	N0770600	8003-0338
Optima 2x00/4x00/5x00/7x00	Quick-change torch module Includes inert glass cyclonic spray chamber and concentric nebulizer	N0770607	8003-0337
Optima 2x00/4x00/5x00/7x00	Quick-change torch module Includes Scott spray chamber and GemTip Cross-Flow II nebulizer	N0770606	8003-0340
Optima 4300V/5300V/7300V/DV	Quick-change torch module for HF analysis Includes GemCone high dissolved solids nebulizer, alumina 2.0 mm id injector, quartz 3-slot torch, HF-resistant baffled cyclonic spray chamber.	N0770911	8003-0342
Optima 4300V/5300V/7300V	Quick-change torch module for oil analysis. Includes GemCone nebulizer, alumina 1.2 mm id injector, quartz 3-slot torch, baffled cyclonic spray chamber.	N0770910	8003-0343

## AGILENT SUPPLIES FOR PerkinElmer ICP-OES



### TIPS & TOOLS

Alumina injectors are corrosion-resistant to all mineral acids, including HF and aqua regia, but they can also be used with less volatile organic solvents, e.g., xylene. The 2.0 mm id alumina injector is the standard injector, but a range of other sizes are available.

### TIPS & TOOLS

Quartz injectors are recommended for organic solvents and non-HF matrices. Use narrow-bore injectors for more volatile organic solvents such as gasoline.

### Torch Injectors

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 8x00	Injector, alumina, 2.0 mm id	N0781014	8003-0366
Optima 8x00	Injector, quartz, 2.0 mm id	N0781050	8003-0370
Optima 8x00	Injector, quartz, 3.0 mm id	N0781017	8003-0371
Optima 8x00	Injector, alumina, 1.2 mm id	N0781015	8003-0952
Optima 8x00	Injector, alumina, 1.2 mm id (entire length of tube)	N0781007	8003-0365
Optima 8x00	Injector, quartz, 1.2 mm id	N0781019	8003-0369
Optima 8x00	Injector, quartz, 0.8 mm id	N0781018	8003-0368
Optima 2x00/4x00/5x00/7x00 DV	Injector, alumina, 2.0 mm id	N0775177	8003-0453
Optima 2x00/4x00/5x00/7x00/DV	Injector, quartz, 2.0 mm id	N0775014	8003-0374
Optima 2x00/4x00/5x00/7x00 DV	Injector, quartz, 3.0 mm id	N0775224	8003-0375
Optima 2x00/4x00/5x00/7x00 DV	Injector, alumina, 1.2 mm id (entire length of tube)	N0776093	8003-0367
Optima 2x00/4x00/5x00/7x00 DV	Injector, quartz, 1.2 mm id	N0775226	8003-0373
Optima 2x00/4x00/5x00/7x00	Injector, quartz, 0.8 mm id	N0775225	8003-0372

### Injector Support Adaptors

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 4300V/5300V/7300V	Injector support adaptor, bottom, for cyclonic spray chambers	N0771526	8003-0376
Optima 4300V/5300V/7300V	Injector support adaptor, top, for cyclonic spray chambers	N0771527	8003-0377
Optima 2x00/4x00/5x00/7x00/DV/8x00	O-ring kit, for injector support adapter	N0770438	8003-0378





OneNeb inert concentric nebulizer, 8003-0951



Nebulizer, GemCone, 8003-0321



Sample capillary adapter, 8003-0322



Nebulizer, GemTip, Cross-Flow II, 8003-0325

## Nebulizers and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 2x00/ 4x00/5x00/ 7x00 DV/8x00	Nebulizer, OneNeb, inert concentric nebulizer Includes sample connector and quick-release gas connector. Ideal for routine analysis of samples up to 25% TDS with good precision and better sensitivity than a SeaSpray; inert construction makes it suitable for most solution types. OneNeb nebulizer requires an end cap (8003-0335) for use with the Scott spray chamber	Not Applicable	8003-0951
Optima 2x00/ 3x00 XL/ 3x00 DV/ 3000SCX/ 4x00/5x00/ 7x00/8x00	Nebulizer, Conikal Includes Ezyfit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector. For routine analysis of organic solvents and samples to 5% TDS.	N0777487	2010106800
Optima 2x00/ 4x00/5x00/ 7x00/8x00	Nebulizer, GemCone GemCone nebulizers require an end cap for Scott spray chambers.	N0770358	8003-0320
Optima 2x00/ 4x00/5x00/ 7x00/8x00	Nebulizer, GemCone, high dissolved solids For samples (up to 20%). Allows you to handle samples with higher dissolved solids concentration than a Cross-Flow nebulizer. GemCone nebulizers require an end cap (8003-0335) for use with Scott spray chambers.	N0690670	8003-0321
Optima 2x00/ 4x00/5x00/ 7x00/8x00	Sample capillary adapter, for GemCone nebulizer	N0371505	8003-0322
Optima 2x00/ 4x00/5x00/ 7x00/8x00	Tubing, quick-disconnect with Swagelok, for GemCone nebulizer	N0770336	8003-0324
Optima 8000	Nebulizer, GemTip, Cross-Flow II, for analysis of strong mineral acids and samples with less than 5% dissolved solids. Features chemically resistant GemTips made of sapphire and ruby in a chemically resistant end cap.	N0780546	8003-0325
Optima 2x00/ 4x00/5x00/7x00	Nebulizer, GemTip, Cross-Flow II, for analysis of strong mineral acids and samples with less than 5% dissolved solids. Features chemically resistant GemTips made of sapphire and ruby in a chemically resistant end cap.	N0770546	8003-0326

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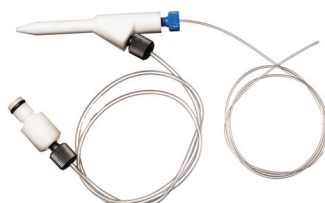
## AGILENT SUPPLIES FOR PerkinElmer ICP-OES



GemTip Cross-Flow II nebulizer tip kit, 8003-0328



Nebulizer, concentric, U-series, SeaSpray, 2.0 mL/min uptake, 8003-0461



Nebulizer, Mira Mist, PEEK, CP914506

### Nebulizers and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 8x00	Nebulizer, GemTip, Cross-Flow II tip kit Includes clear sapphire and red ruby argon tips for maximum corrosion resistance. The tips are constructed of PEEK with the gem insert.	N0780676	8003-0328
Optima 2x00/ 4x00/5x00/7x00	Nebulizer, GemTip, Cross-Flow II tip kit Includes clear sapphire and red ruby argon tips for maximum corrosion resistance. The tips are constructed of PEEK with the gem insert.	N0690676	8003-0327
Optima	Replacement Cross-Flow nebulizer tips, GemTip Not compatible with Cross-Flow II nebulizers	N0580624	8003-0454
Optima 5/7/8x00	O-ring kit for GemTip, Cross-Flow II nebulizers Includes all O-rings used in the Cross-Flow and Cross-Flow II nebulizers.	N9300067	8003-0456
Optima 2x00/ 3x00/4x00/ 5x00/7x00/8x00	Nebulizer, type C1, 1.0 mL/min uptake For samples with high dissolved solids	00472022	8003-0461
Optima 2x00/ 3x00/4x00/ 5x00/7x00/8x00	O-ring, small, for type A/C/K nebulizers	00473194	8003-0464
Optima 2x00/ 3x00/4x00/ 5x00/7x00/8x00	Nebulizer, Mira Mist, PEEK Includes 0.5 m sample capillary (0.044 inch od x 0.018 inch id) and gas connector. For routine analysis of samples to 20% TDS (not recommended for aggressive acids or organic solvents).	N0775330	CP914506
Optima 2x00/ 3x00 XL/ 3x00 DV/ 3000SCX/ 4x00/5x00/ 7x00/8x00	Nebulizer, concentric, U-series, SeaSpray, 2.0 mL/min uptake For routine analysis of samples to 20% TDS. Includes UniFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector.	N0775345	G8010-60255

### Multimode Sample Introduction System (MSIS)

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 2x00/4x00/5x00/7x00 DV/8x00	Multimode Sample Introduction System (MSIS) Provides simultaneous vapor generation of environmentally sensitive elements including As, Se, and Hg with low µg/L detection limits. It provides better performance than conventional nebulization through thin-film hydride technology, while offering a choice of three modes that eliminates changeover and allows routine and hydride elements to be determined using the same setup.	Not Applicable	8003-0817
	Peristaltic pump tubing, black/black, 12/pk. Required to pump reagents to MSIS.	Not Applicable	3710027200
	Peristaltic pump tubing, black/white, 12/pk. Required to pump waste from MSIS.	N8122012	3710068900

### Spray Chambers

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 2x00/4x00/5x00/7x00/8x00	Tracey, single-pass, cyclonic spray chamber for high-sensitivity analyses, 50 mL, borosilicate glass, O-ring-free	N0775351	8003-0329
Optima 2x00/4x00/5x00/7x00/8x00	Twister, double-pass, cyclonic spray chamber with helix nebulizer seal, 50 mL, borosilicate glass, O-ring-free	N0775352	8003-0330
Optima 2x00/4x00/5x00/7x00/8x00	Tracey, single-pass, TFE cyclonic spray chamber for high-sensitivity analyses, with helix nebulizer seal, 50 mL, inert (HF-resistant), O-ring-free	N0777496	8003-0331
Optima 2x00/4x00/5x00/7x00/8x00	Cyclonic spray chamber adapter	N0770614	8003-0332
Optima 2x00/4x00/5x00/7x00/8x00	Drain cap assembly, for drain bottle assembly	N0690271	8003-0333
Optima 2x00/4x00/5x00/7x00/8x00	Scott spray chamber assembly made from corrosion-resistant Ryton material, inert to most mineral acids including HF, aqua regia, and most organic solvents; helps to minimize pulsation from the peristaltic pump	N0770357	8003-0334
Optima 2x00/4x00/5x00/7x00/8x00	End cap, allows use of concentric nebulizers with Scott spray chamber	N0680504	8003-0335
Optima 2x00/4x00/5x00/7x00/8x00	Spray chamber drain fitting with tubing and drain adapter, to pump out waste solution through spray chamber drain (does not include peristaltic pump tubing)	N0690268	8003-0457
Optima 2x00/4x00/5x00/7x00/8x00	Tubing, PTFE, 1 mm id, for spray chamber drain, 12/pk	N8221152	8003-0460
Optima 2x00/4x00/5x00/7x00/8x00	Tracey single-pass, cyclonic spray chamber for high-sensitivity analyses, 50 mL, borosilicate glass, with bung fitting for nebulizer	N0776052	8003-0462
Optima 2x00/4x00/5x00/7x00 DV/8x00	Nebulizer adaptor, 16/6, for spray chambers that have a bung fitting for the nebulizer, not compatible with spray chambers that use the Helix seal	N0776006	8003-0953
Optima 5/7/8x00	End cap O-ring, for spray chamber with type A/C/K nebulizers	09902033	8003-0463



Multimode Sample Introduction System (MSIS),  
8003-0817

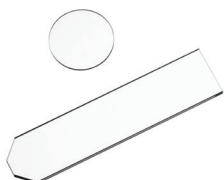


Scott spray chamber assembly, 8003-0334



End cap, for concentric nebulizers  
with Scott spray chamber, 8003-0335

## AGILENT SUPPLIES FOR PerkinElmer ICP-OES



Top: Window, radial, 8003-0472  
Bottom: Window, axial, 8003-0385



Window tube, 8003-0386



O-ring, for dual-view radial purge tube, 8003-0388



O-ring for dual-view axial purge window, 8003-0389



O-ring for torch clamp on vertical torch module, 8003-0390



O-ring for dual-view radial purge tube, 8003-0391



O-ring for dual-view axial purge window, 8003-0392

### Purge Extension Windows

The axial view purge extension window fits into the purge extension between the torch and the optics.

The radial view purge extension is a replaceable tube that fits into the mount between the torch and the optics for the radial view.

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 2x00/7000/8000	Window, dual-view, axial, quartz	09992731	8003-0383
Optima 2x00/7000/8000	Window tube, dual-view, radial, short tube, quartz	N0690672	8003-0384
Optima 3x00/4x 00/5x00/7100/7200/7300 DV/8300	Window, dual-view, axial, quartz	N0771116	8003-0385
Optima 5x00/7100/7200/7300 DV/8300	Window tube, dual-view, radial, quartz	N0770944	8003-0386
Optima 3000/3000 SCR/3x00 RL/4300V/5300V/7300V	Window tube, radial view	N0581497	8003-0387
Optima 3000/3000 SCR/3x00 RL/4300V/5300V/7300V	Purge extension, ceramic	N0581455	8003-0394
Optima 4x00 DV/5x00 DV Pre November 2004	Window, dual-view radial	N0770322	8003-0472
Optima 5x00/7100/7200/7300 DV/8300	O-ring, for dual-view radial purge tube	09200064	8003-0388
Optima 5x00/7100/7200/7300 DV/8300	O-ring, for dual-view axial purge window	09902143	8003-0389
Optima 5x00/7100/7200/7300 DV/8300	O-ring, for torch clamp on vertical torch module	09902155	8003-0390
Optima 2100/7000/8000	O-ring, for dual-view radial purge tube	09921036	8003-0391
Optima 2100/7000/8000	O-ring, for dual-view axial purge window	09921062	8003-0392
Optima 2100/7000/8000	O-ring, purge outlet	09921057	8003-0393



## AGILENT SUPPLIES FOR PerkinElmer ICP-OES

### Peristaltic Pump Tubing

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 5/7/8x00	Peristaltic pump tubes, PVC, 2 stop, black/black, for sample, 12/pk	09908587	3710027200
Optima 5/7/8x00	Peristaltic pump tubes, PVC, 2 stop, red/red, for drain, 12/pk	09908585	8003-0459



Load coil, 8003-0379



Load coil, 8003-0380

### RF Load Coils and Accessories

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 2x00/4x00/5x00/7x00 DV	Load coil	N0775300	8003-0379
Optima 4300V/5300V/7300V	Load coil	N0771536	8003-0380
Optima 5/7/8x00	Nylon igniter standoff	09989859	8003-0381
	Igniter spark gap assembly, for type II demountable torch	N0680275	8003-0382

### Miscellaneous Supplies

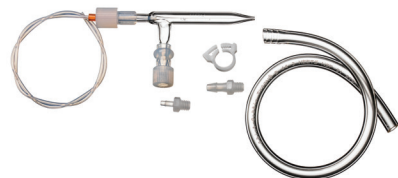
Instrument	Description	Similar to OEM Part No.	Agilent Part No.
Optima 3x00	Filter, air, for RF generator inlet	02509115	8003-0455
Optima 2x00/3x00/4x00/5x00/7x00	Filter cartridge, cooling water	09904846	8003-0469
Optima	ICP-OES chiller coolant mix, 5 half-gallon bottles	N0776099	8003-0473

### TIPS & TOOLS

For a listing of supplies for AS-90/90A/90plus/91/93plus/S10 Autosamplers, please see the *Agilent supplies for PerkinElmer AA spectrometers catalog*, publication number 5991-6431EN

## ICP-MS SUPPLIES

### Nebulizers and Supplies



Nebulizer, glass, concentric, type K3, 8003-0476



Clip for type A/C/K nebulizers, 8003-0480



Sample inlet fitting for type A/C/K nebulizers, 8003-0481



Connector, low-dead-volume, PEEK, 8003-0482



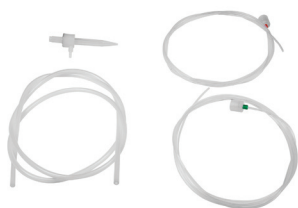
Nebulizer, U-series, MicroMist micro-uptake, 8003-0489

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
ELAN 9000/6xX00/DRC/NexION	Nebulizer, glass, concentric, type C3, for samples that have high TDS, argon flow, 1 L/min, uptake 3 mL/min	N8102011	8003-0475
	Nebulizer, GemClean Cross-Flow II with an end cap, a GemTip clear sapphire sample tip and a GemTip red ruby argon tip, optimized for ICP-MS (0.009 and 0.013 inch orifices), specially manufactured and cleaned for ultratrace analysis	N8120516	8003-0483
ELAN 9000/6xX00/DRC	Nebulizer, quartz, type A3, high-sensitivity, for ultra-trace applications, argon flow, 1 L/min, uptake 3 mL/min	WE024371	8003-0477
NexION	Nebulizer, quartz, type A0.5, high-sensitivity, for ultra-trace applications, argon flow, 1 L/min, uptake 0.5 mL/min	N8145011	8003-0478
	Nebulizer, glass, type C0.5, for samples that have high TDS, argon flow, 1 L/min, uptake 0.5 mL/min	N8145012	8003-0479
	Nebulizer, glass, concentric, type K3, for samples that have high TDS, argon flow, 1 L/min, uptake 3 mL/min	N0681574	8003-0476
ELAN 9000/6xX00/DRC/NexION	Clip for type A/C/K concentric nebulizers	N0777460	8003-0480
	Sample inlet fitting for type A/C/K concentric nebulizers, 4 inch x 0.020 inch id, 0.062 inch od, flanged onto female CTFE fitting, with male barb CTFE fitting	N8145016	8003-0481
ELAN 9000/6xX00/DRC	Connector, low-dead-volume, PEEK, for type A/C/K concentric nebulizer, requires 0.062 inch (1.59 mm) od tubing	WE024372	8003-0482
ELAN 9000/6xX00/DRC/NexION	Nebulizer, U-series, MicroMist micro-uptake, glass, concentric, uptake 0.4 mL/min, with EzyFit connector with 700 mm x 0.50 mm id x 1.3 mm od sample tubing	N0775341	8003-0489

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Nebulizer, OpalMist PFA, concentric, 8003-0500



Nebulizer, PFA-ST PTFE ultra clean, 8003-0505



Nebulizer, MicroMist, micro-uptake, 8003-0589



Capillary, PTFE, for ST nebulizer, 8003-0509

## Nebulizers and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
ELAN 9000/6xX00/DRC/NexION	Nebulizer, U-series, SeaSpray, concentric, uptake 2.0 mL/min, with EzyFit connector with 700 mm x 0.50 mm id x 1.3 mm od sample tubing	N0775340	8003-0490
ELAN 9000/6xX00/DRC/NexION	Nebulizer, U-series, SeaSpray, concentric, uptake 0.4 mL/min, with EzyFit connector with 700 mm x 0.50 mm id x 1.3 mm od sample tubing	N0777484	8003-0492
ELAN 9000/6xX00/DRC/NexION	Nebulizer, OpalMist PFA, concentric, uptake 0.4 mL/min, for high-precision analyses requiring high chemical resistance to HF, alkalis, and organics. Also ideal for trace analyses.	N0777485	8003-0500
ELAN 9000/6xX00/DRC/NexION	Nebulizer, PFA-ST3, PTFE, microflow, high performance, clog resistant and chemically inert nebulizer for ICP-MS	N8145101	8003-0507
ELAN 9000/6xX00/DRC/NexION	Nebulizer, PFA-ST PTFE ultra clean, with exchangeable capillaries to provide flow rates from 100-400 µL/min	N8122192	8003-0505
ELAN 9000/6xX00/DRC/NexION	Nebulizer, MicroMist, micro-uptake, glass, concentric, uptake 0.2 mL/min, high performance for small sample volumes, with EzyFit connector with 0.50 mm id x 700 mm x 1.3 mm od sample tubing	N0775342	8003-0589
ELAN 9000/6xX00/DRC/NexION	Nebulizer, concentric, U-series, SeaSpray, 1.0 mL/min uptake with EzyFit connector with 700 mm x 0.50 mm id x 1.3 mm od sample tubing	N0774069	8003-0964
	Obstruction removal kit, for PFA nebulizers	N8145236	8003-0508
	Capillary, PTFE, for ST nebulizer, 1.0 mm id, uptake 1 mL/min	N8145138	8003-0509
	Capillary, PTFE, for ST nebulizer, 0.5 mm id, uptake 0.4 mL/min	N8122384	8003-0510
	Sample inlet (UniFit) fitting for U-series concentric glass nebulizer, 0.75 mm id x 700 mm x 1.3 mm od	N0774077	G8010-80035

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## AGILENT SUPPLIES FOR PerkinElmer ICP-MS



Fitting, male barb, CTFE, 8003-0502



Fitting, female barb, CTFE, 8003-0503



Sample capillary, PTFE, 8003-0504



Union, CTFE, for PFA-ST nebulizer, 8003-0506

### Nebulizers and Supplies

Description	Similar to OEM Part No.	Agilent Part No.
EzyLok kit for nebulizer gas side arm Includes EzyLok connector for 4 mm tubing, EzyLok 6 mm hose adaptor and nebulizer hose clip.	N0777413	9910127800
Cross-Flow II replacement GemTips, constructed of PEEK for maximum corrosion resistance, orifice sizes color-coded, argon, 0.23 mm (0.009 inch) ruby red, sample, 0.34 mm (0.013 inch) clear sapphire	N8120515	8003-0484
Ferrule kit, for Cross-Flow II nebulizer Includes sample and argon ferrules, suits all GemClean Cross-Flow II nebulizers after September 1998.	N0680612	8003-0486
Ferrule, argon, for Cross-Flow II nebulizer	09920515	8003-0485
Ferrule, sample, for Cross-Flow II nebulizer, suits all GemClean Cross-Flow II nebulizers after September 1998	09920518	8003-0488
Sample inlet (UniFit) fitting for U-series concentric glass nebulizer, 0.75 mm id x 700 mm x 1/16 inch od	N0774080	8003-0493
Clip, for nebulizer pressure hose, 10/pk	N0773197	8003-0495
Fitting, male barb, chlorotrifluoroethylene (CTFE), for sample inlet fitting used with type A/C/K nebulizers	N8145017	8003-0502
Fitting, female barb, chlorotrifluoroethylene (CTFE), for sample inlet fitting used with type A/C/K nebulizers	N8145018	8003-0503
Sample capillary, PTFE, 0.062 inch od, 0.020 inch id, for sample inlet fitting used with type A/C/K nebulizers	CT-0022T-10	8003-0504
Union, CTFE, for PFA-ST nebulizer, connects to UltraClean sampler probe	N8122355	8003-0506



## Spray Chambers and Supplies



Spray chamber drain fitting, 8003-0501



Spray chamber, baffled, glass, 8003-0515



O-ring, for baffled quartz cyclonic spray chamber, 8003-0516



Spray chamber, baffled, glass, 8003-0514

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
ELAN 9000/6xX00/DRC/NexION	Spray chamber drain fitting, 24 inch x 0.030 inch id, 0.062 inch od	N8145015	8003-0501
ELAN DRC/DRC Plus/DRC II	Spray chamber, baffled, glass, cyclonic, with ball-joint, for ball-joint injectors	N0773196	8003-0515
ELAN 9000/6xX00/DRC/NexION	O-ring, for baffled quartz cyclonic spray chamber (PTFE O-ring type) with ball-joint	09210011	8003-0516
ELAN 9000/6xX00/DRC/NexION	End cap, for Cross-Flow II nebulizer, suits all GemClean Cross-Flow II nebulizers after September 1998	N8122239	8003-0487
ELAN	Spray chamber with auxiliary gas port, 7 mm baffle, quartz, cyclonic, drain line included, connects directly to ESI injectors	N0777034	8003-0519
ELAN 9000/6x00/5x00/DRC-e	Spray chamber, glass, cyclonic, O-ring-free	N0775350	8003-0520
ELAN 9000/6x00/5x00/DRC-e	Spray chamber, water-cooled, glass, cyclonic, O-ring-free	N0775354	8003-0521
ELAN 9000/6x00/5x00/DRC-e	Connector, EzyLok, for jacketed spray chamber	N0774101	8003-0496
NexION/ELAN 9000/6x00/5x00/DRC-e	Scott spray chamber, HF-resistant	N8120124	8003-0522
NexION/ELAN 9000/6x00/5x00/DRC-e	O-ring, large, for Scott spray chamber	WE013060	8003-0523
NexION/ELAN 9000/6x00/5x00/DRC-e	Retaining ring, for Scott spray chamber	WE014081	8003-0524
ELAN 9000/6x00/DRC	Mounting for cyclonic spray chamber	WE014034	8003-0588
NexION	Drain tubing, 1/16 inch od, 0.038 inch id PTFE tubing	02506495	8003-0605
NexION	Spray chamber, baffled, glass, cyclonic, with ball-joint, for ball-joint injectors	N8145014	8003-0514
NexION	Spray chamber, high purity, quartz, cyclonic, O-ring-free, provides excellent sensitivity and stability with low background	N8145120	8003-0517

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## AGILENT SUPPLIES FOR PerkinElmer ICP-MS

### Spray Chambers and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION	Spray chamber, borosilicate glass, cyclonic, O-ring-free	N8145119	8003-0518
NexION	Spray chamber, baffled quartz, cyclonic (PTFE O-ring type) with ball-joint	N8145013	8003-0614
NexION	Spray chamber, UltraClean, low volume Scott-style PFA spray chamber, for concentric nebulizers with PFA end cap	N8142000	8003-0946
NexION	Spray chamber, UltraClean, low volume Scott-style PFA spray chamber, for concentric nebulizers. Requires PFA injector assembly and PFA end cap	N8122356	8003-0947
NexION	End cap, for low volume Scott-style PFA spray chamber, for concentric nebulizer	N8122357	8003-0948
NexION	IsoMist temperature controlled spray chamber. Provides the benefits of a temperature-controlled ICP sample introduction system in a compact, convenient package. Temperature range is between -10 °C and +60 °C in 1 °C increments. Includes software, polymer coated PFA double-pass spray chamber, torch interface, and mounting kit.	N8141426	8003-0963
	Helix seal for O-ring-free spray chamber, suits any ICP spray chamber that uses the Helix fitting to secure the nebulizer in the side arm	N0777439	G8010-80042
	Helix locking screw for O-ring-free spray chamber, suits any ICP spray chamber that uses the Helix fitting to secure the nebulizer in the side arm	N0777438	G8010-80043



IsoMist temperature controlled spray chamber,  
8003-0963

## Torch Injectors



Injector, alumina, 8003-0530



Injector, alumina, 8003-0532



Injector, quartz, 2.0 mm id, 8003-0590



Injector, quartz ball-joint, 8003-0535



Injector, ball-joint twist-type, 8003-0536



Injector, ball-joint cassette-type, 8003-0537

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION/ELAN DRC-e/9000/6x00/5000/500	Injector, alumina, 2.0 mm id	N8126041	8003-0530
NexION/ELAN DRC-e/9000/6x00/5000/500	Injector, alumina, 1.5 mm id	N8126040	8003-0531
NexION/ELAN DRC-e/9000/6x00/5000/500	Injector, alumina, 0.85 mm id	N8126039	8003-0532
NexION/ELAN DRC/DRCplus/DRC II	Injector, quartz ball-joint, 2.0 mm id, general purpose, for pass-through ball-joint injector support adapter	WE023948	8003-0533
NexION/ELAN DRC-e/9000/6x00/5000	Injector, quartz, 2.0 mm id	N8125029	8003-0590
NexION/ELAN DRC/DRCplus/DRC II	Injector, quartz ball-joint, 1.5 mm id, for organics, for pass-through ball-joint injector support adapter	WE027005	8003-0534
NexION/ELAN DRC/DRCplus/DRC II	Injector, quartz ball-joint, 0.85 mm id, for volatile organics, for pass-through ball-joint injector support adapter	WE027030	8003-0535
ELAN DRC/DRCplus/DRC II	Support adaptor, for twist-type ball-joint injector	WE023951	8003-0536
ELAN DRC II/NexION	Support adaptor, for cassette-type ball-joint injector	W1012406	8003-0537

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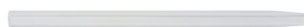
## TIPS & TOOLS

Alumina injectors are compatible with twist-type and cassette torch mounts. They are corrosion-resistant to all mineral acids, including HF and aqua regia, but can also be used with less volatile organic solvents, e.g., xylene. The 2.0 mm id alumina injector is the standard injector, but a range of other sizes are available.

## TIPS & TOOLS

Quartz injectors are compatible with twist-type and cassette torch mounts. They are recommended for organic solvents and non-HF matrices. Use narrow-bore injectors for more volatile organic solvents such as gasoline.

## AGILENT SUPPLIES FOR PerkinElmer ICP-MS



Injector tube, sapphire, 8003-0538



Injector assembly, PFA-Quartz, 8003-0539



Injector assembly, PFA-Quartz, 8003-0540



Injector assembly, PFA-Sapphire twist-type, 8003-0541



Injector assembly, PFA-Sapphire cassette-type,  
8003-0542



Injector assembly, PFA-Platinum twist-type,  
8003-0543



Injector assembly, PFA-Platinum cassette-type,  
8003-0544

### Torch Injectors

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION/ELAN DRC-e/ 9000/6x00/5000	Injector tube, sapphire, 2.0 mm id, demountable injector, for HF-resistant sample introduction system	N0695495	8003-0538
NexION/ELAN DRC-e/ 9000/6x00/5000/500	Injector assembly, PFA-Quartz twist-type, 1.5 mm id	N8122394	8003-0539
NexION/ELAN DRC-e/ 9000/6x00/5000/500	Injector assembly, PFA-Quartz, cassette-type, 1.5 mm id	N8122413	8003-0540
NexION/ELAN DRC-e/ 9000/6x00/5000/500	Injector assembly, PFA-Sapphire twist-type, 1.8 mm id, for high matrix geochemistry and HF applications where low ppt Al is not required	N8122358	8003-0541
NexION/ELAN DRC-e/ 9000/6x00/5000/500	Injector assembly, PFA-Sapphire cassette-type, 1.8 mm id, for environmental, geochemistry and HF applications	N8122411	8003-0542
NexION/ELAN DRC-e/ 9000/6x00/5000/500	Injector assembly, PFA-Platinum twist-type, 2.0 mm id	N8122359	8003-0543
NexION/ELAN DRC-e/ 9000/6x00/5000/500	Injector assembly, PFA-Platinum cassette-type, 2.0 mm id	N8122412	8003-0544

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Injector support adapter, twist-type, 8003-0545



Injector support adapter, twist-type, 8003-0546



O-ring kit, for injector support adapter, 8003-0547



Injector support adapter, 8003-0548



O-ring, for injector support adapter, external twist/cassette-type, 8003-0549



O-ring, for injector support adapter, internal twist/cassette-type, 8003-0551

## Torch Injectors

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
ELAN DRC-e/ 9000/6x00/5000	Injector support adapter, twist-type, for corrosion-resistant torch and Rytan Scott spray chamber and twist-type torch mounts before April 2005	N8122007	8003-0545
ELAN DRC-e/ 9000/6x00/5000	Injector support adapter, twist-type, assembled with O-rings, for corrosion-resistant torch and Rytan Scott spray chamber and twist-type torch mounts before April 2005	N8120116	8003-0546
NexION/ELAN DRC-e/ 9000/6x00/5000/500	O-ring kit, for injector support adapter	N8120100	8003-0547
NexION/ELAN DRC-e/ 9000/6x00/5000/500	Injector support adapter, for cassette-type non-ball-joint injectors	W1013266	8003-0548
NexION/ELAN DRC-e/ 9000/6x00/5000/500	O-ring, for injector support adapter, internal, twist/cassette-type, 4/pk	09210011	8003-0549
NexION/ELAN DRC-e/ 9000/6x00/5000/500	O-ring, for injector support adapter, external (large) cassette-type	W1013545	8003-0550
NexION/ELAN DRC-e/ 9000/6x00/5000/500	O-ring, for injector support adapter, external, twist/cassette-type	09210012	8003-0551
ELAN 9000/6x00/DRC	Fitting, Swagelok, stainless steel nut, 1/4 inch	09903464	8003-0593
ELAN 9000/6x00/DRC	Tube fitting	09903465	8003-0594



## AGILENT SUPPLIES FOR PerkinElmer ICP-MS



Torch, demountable, quartz, 8003-0552

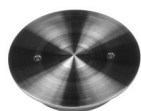


Torch, demountable, quartz, high-efficiency, 8003-0553

### Torches and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION/ELAN	Torch, quartz, demountable, used with a fully replaceable sample injector made of fused alumina, quartz, or sapphire (supplied separately)	N8122006	8003-0552
ELAN 9000/6x00/DRCs/NexION	Torch, demountable, quartz, high-efficiency, for reduced argon gas flow, requires the high-efficiency torch kit for first-time installation	W1008384	8003-0553
ELAN 9000 and 6x00	Torch kit, high-efficiency Includes high-efficiency torch and flow restrictors to enable operation with reduced argon gas flow.	W1007468	8003-0554
NexION/ELAN 9000/6x00/DRCs	Torch alignment tool, to align the torch in the load coil	WE015554	8003-0555
NexION	Mount, for cassette torch, excludes demountable torch and injector	W1037485	8003-0556
ELAN 9000/6x00/DRC	O-ring kit, for type II torch	09903094	8003-0591





Sampler cone, nickel, large-orifice, 8003-0571



Skimmer cone, nickel, 8003-0572



Skimmer cone, nickel, 1.1 mm orifice, 8003-0573



Skimmer cone, nickel, 0.9 mm orifice, 8003-0574



Hyper skimmer cone, 8003-0579



Screw, for hyper skimmer cone, 8003-0581



O-ring, for sampler cone, 8003-0582



O-ring, for skimmer cone, 8003-0583



Tool, for cone removal, 8003-0586

## Interface Cones and Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION	Sampler cone, nickel, large-orifice, for high and low sample-uptake conditions	W1033612	8003-0571
NexION	Skimmer cone, nickel	W1026356	8003-0572
NexION	Sampler cone, platinum	W1033614	8003-0575
NexION	Skimmer cone, platinum	W1026907	8003-0576
NexION	Hyper skimmer cone	W1033995	8003-0579
NexION	O-ring, for hyper skimmer cone	09902123	8003-0580
NexION	Screw, for hyper skimmer cone	09919737	8003-0581
NexION	Sampler gasket for hyper skimmer cone	W1040148	8003-0584
NexION	Tool, for cone removal	W1034694	8003-0585
ELAN 9000/6x00/DRC	Sampler cone, nickel, 1.1 mm orifice, not compatible with NexION	WE021140	8003-0573
ELAN 9000/6x00/DRC	Skimmer cone, nickel, 0.9 mm orifice, not compatible with NexION	WE021137	8003-0574
ELAN 9000/6x00/DRC	Sampler cone, platinum, not compatible with NexION	WE027802	8003-0577
ELAN 9000/6x00/DRC	Skimmer cone, platinum, not compatible with NexION	WE027803	8003-0578
ELAN 9000/6x00/DRC	O-ring, for sampler cone, 5/pk	N8120511	8003-0582
ELAN 9000/6x00/DRC	O-ring, for skimmer cone, 5/pk	N8120512	8003-0583
ELAN 9000/6x00/DRC	Tool, for cone removal	WE017142	8003-0586

## TIPS & TOOLS

Nickel interface cones provide the most economical operation as it is a rugged and long-lasting material. They are recommended for the majority of sample types.

Platinum interface cones provide better resistance to chemical attack and are required for analysis of aggressive acids (e.g. hydrofluoric acid) and other more corrosive sample types.

## AGILENT SUPPLIES FOR PerkinElmer ICP-MS



Ion lens, Series II, 8003-0564

### Ion Lenses

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
ELAN 9000/6x00/DRCs manufactured after January 1998	Ion lens, Series II	WE018034	8003-0564
ELAN 9000/DRCs manufactured after April 2005	Cassette lens shadow stop	W1013361	8003-0566

### Detectors

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION	SimulScan dual-stage detector	N8145000	8003-0561
ELAN 9000/6x00/DRCs* manufactured prior to April 2005	SimulScan dual-stage detector, original	N8125001	8003-0562
ELAN 9000/6x00/DRCs manufactured after April 2005	SimulScan dual-stage detector, improved	N8125050	8003-0563

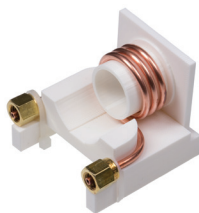
### Sample Introduction Kits

Description	Similar to OEM Part No.	Agilent Part No.
Sample introduction kit (PFA-Platinum), for NexION, HF-resistant. Recommended for analysis of semiconductor-grade chemicals and Si wafer samples. Includes 2 PFA MicroFlow nebulizers, PFA endcap with additional gas port, PFA spray chamber, Pt injector, Pt Shield, and quartz torch.	N8142001	8003-0511
Sample introduction kit (PFA-Sapphire), for NexION, HF-resistant. Provides a chemically inert and clean introduction system. Includes a PFA-ST nebulizer, PFA endcap with additional gas port, PFA spray chamber, Sapphire injector, Pt Shield, and quartz torch.	N8142002	8003-0512
Sample introduction kit (HF-resistant), for NexION. Includes Scott spray chamber with a Cross-Flow II nebulizer, 2 mm alumina injector, injector support adapter, O-rings, tubing, and connectors.	N8140507	8003-0513

### TIPS & TOOLS

For a listing of supplies for AS-90/90A/90plus/91/93plus/S10 Autosamplers, please see the *Agilent supplies for PerkinElmer AA spectrometers catalog*, publication number 5991-6431EN

## AGILENT SUPPLIES FOR PerkinElmer ICP-MS



RF load coil assembly, 8003-0559

### RF Load Coil

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION/ELAN 9000/6x00/DRCs	RF load coil assembly	WE021816	8003-0559

### Peristaltic Pump Tubing

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
NexION 3000/X/D	Peristaltic pump tubing, Santoprene, 1.30 mm, gray/gray, 12/pk	N0777444	3710044300
ELAN 9000/6x00/DRC	Peristaltic pump tubing, 0.44 mm id, PVC, green/yellow, flared end, 6/pk	N0773113	8003-0595



### Miscellaneous Supplies

Instrument	Description	Similar to OEM Part No.	Agilent Part No.
ELAN 9000/6xX00/DRC/NexION	ICP-MS chiller coolant mix, 1L bottle	WE016558	8003-0474
NexION/ELAN 9000/6x00/DRCs and ELAN 5000As manufactured after September, 1992	Power amplifier tube, ceramic	N0695477	8003-0560
ELAN 9000/6xX00/DRC	Vacuum pump fluid for Leybold roughing pump	N8122004	8003-0567
ELAN 9000/6xX00/DRC	Vacuum pump fluid, for Varian roughing pump	N8122308	8003-0568
NexION	Fomblin, perfluoropolyether (PFPE), GV80 vacuum pump fluid	N8145003	8003-0569
	Silicone grease, high vacuum, for vacuum system O-rings	09905147	8003-0570

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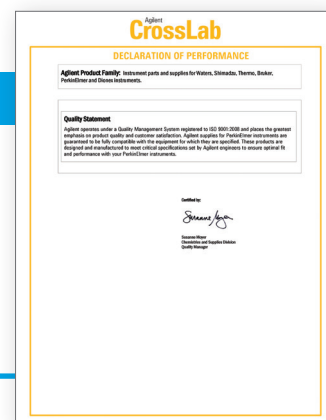
### WHY DO YOU NEED AGILENT CRMS?

- Manufactured in an ISO 9001, ISO Guide 34 facility, and certified to ISO/IEC 17025
- Made using only high-purity raw materials, acids, and 18 MOhm de-ionized water
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Visit **Declaration of Performance**



## Certified Performance

All Agilent spectroscopy CRMs include a Certificate of Analysis that confirms ISO conformity and traceability, actual concentration, measurement uncertainty, and other quality control measures.

 **Agilent Technologies**

**CERTIFICATE OF ANALYSIS**

**Agilent Product Name:** Copper Standard: 1000 µg/mL Cu in 5% HNO<sub>3</sub>  
**Agilent Part No:** 5190-8348  
**Lot No:** Sample

**Product Specifications**

Analyte	Starting Material	CAS #	Matrix	Certified Concentration
Cu	Cu	7440-50-8	5% HNO <sub>3</sub>	994 ± 2 µg/mL (w/v)
				984 ± 2 µg/g (w/w)

**Intended Use:** This solution is intended for use as a certified reference material or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), atomic absorption spectroscopy (flame AAS or GFAAS), microwave plasma atomic emission spectroscopy (MP-AES), x-ray fluorescence spectroscopy (XRF), and other techniques for elemental analysis.

**Certification & Traceability:** This CRM was manufactured under a quality management system that is accredited to ISO Guide 34, ISO/IEC 17025, and registered to ISO 9001. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure copper (Cu) metal dissolved in high purity nitric acid (HNO<sub>3</sub>) and diluted with ASTM Type I Water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST and both the certified concentration and uncertainty values are traceable to NIST SRM 3114, lot #011017. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

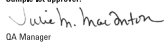
**Uncertified Values:** Agilent ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)									
Ag	<0.5	Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1
Al	<2	Co	<1	Ge	0.989	Mg	<5	Pd	<0.5
As	<2	Cr	<0.5	Hf	<0.2	Mn	<1	Pr	<0.2
Au	<0.5	Fe	<0.5	Hg	<0.5	Mo	<0.5	Si	<100
B	<5	Ca	<0.5	Ho	<0.2	Na	<25	Sm	<0.2
Be	<1	Cu	Major	In	<0.2	Nb	<0.5	Sr	<1
Bi	<0.5	Dy	<0.2	Ir	<0.2	Re	<0.2	Ta	<0.5
Br	<0.2	Er	<0.2	K	<25	Rh	<5	Tb	<0.5
Cd	<0.5	Ea	<0.2	La	<0.5	Ru	<0.5	Te	<1
Ce	<0.5	Eu	<0.2	Pb	<1	Sb	<0.5	Th	<0.5
Cl	<0.5	Ga	<0.5	Pd	<0.5	Se	<5	Ti	<2
Cu	Major	Ge	0.989	Pt	<0.5	Sn	<0.5	U	<0.5
Dy	<0.2	Hf	<0.2	Si	<100	V	<1	W	<0.5
Er	<0.2	Hg	<0.5	U	<0.5	X	<0.5	Y	<0.5
Fe	<0.5	In	<0.2	Yb	<0.2	Zn	<2	Zr	<0.5
Gd	<0.2	Ir	<0.2	Zr	<0.5				

**Instructions for Use:** Agilent Technologies recommends that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy the analyst should: (1) use only pre-cleaned containers and transferware, (2) avoid pipetting directly from the CRM's original container, (3) use a minimum sub-sample size of 500 µL, (4) make dilutions using calibrated balances or certified volumetric class A flasks and pipettes, (5) dilute to volume using the same matrix as the original CRM, and (6) never pour used product back into the original container. The solution should be kept tightly capped. Store at controlled room temperature per USP 35 (10.30.60). Do not freeze, heat, or expose to direct sunlight. Minimize exposure to moisture or high humidity.

**Period of Validity:** Agilent Technologies ensures the accuracy of this solution until the expiration date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

**Date of release:** 9 February 2015  
**Date of expiration:** 31 August 2016

**Sample lot approval:**  
  
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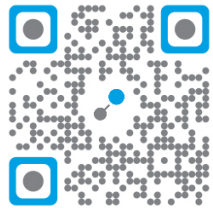
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