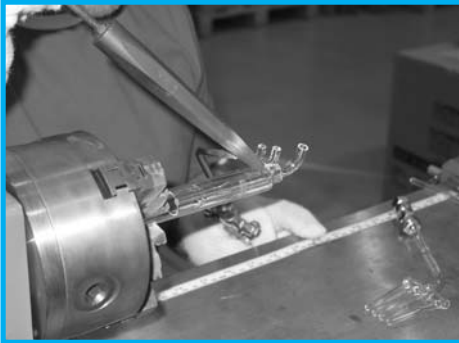


ICP-AES / MS products include a variety of nebulizers for different applications; replacement torches, spray chambers, and other glass / quartzware; pump tubing; ICP-MS cones; and a complete range of ICP-AES / MS Calibration Standards. Replacement products are unconditionally guaranteed to meet or exceed the original manufacturer's specifications. Many new and innovative products are included, which may enhance signal, lower background, or improve detection limits.

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ICP Glassware

From the older instruments still in use, to the latest innovations in ICP-AES and ICP-MS spectroscopy design, a full range of glassware and quartzware is maintained to keep your instrument running. Ask about our **FREE** 125 ml, **PlasmaCAL** ICP-AES and ICP-MS calibration standard promotion.



- Offering **New** and innovative products
 - Enhance signal, lower background noise, and improve detection limits
- Unconditionally guaranteed to meet or exceed original manufacturer's specifications
 - Ensure accuracy and peace of mind
- Offering a complete product line of nebulizers, torches, and spray chambers
 - Ask us about our new additions

SCP SCIENCE Innovation--Demountable PEEK Injector Support

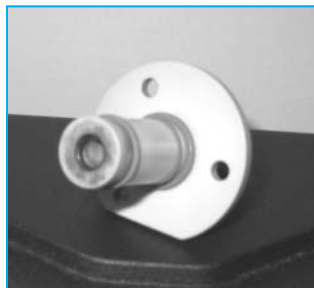
SCP SCIENCE's glassblowing department offers new and innovative products for ICP-AES and ICP-MS spectroscopists. For example, a PEEK adaptor is being used with the Perkin Elmer® 3300 XL ICP spectrometer. This adapter (OEM part no. N0695400) is used to connect the torch body, injector and spray chamber together. This part is degraded by the UV light from the torch and as a result needs to be replaced. At present, the entire torch and spray chamber assembly is demounted and the entire part is disposed of. In addition, if there is a change in the spray chamber type, the entire assembly is replaced.

In the **SCP SCIENCE** configuration, the injector support is demountable. **SCP SCIENCE** offers two parts (020-050-425 torch support and 020-050-435 spray chamber support) that will directly replace the OEM part no. N0695400. However, in this new design, when the torch support requires replacing, the spray chamber support can be retained, as it is not damaged by the UV light.

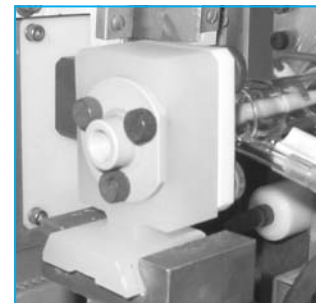
OEM Part no. N0695400



UV degradation of PEEK



SCP SCIENCE Torch Support



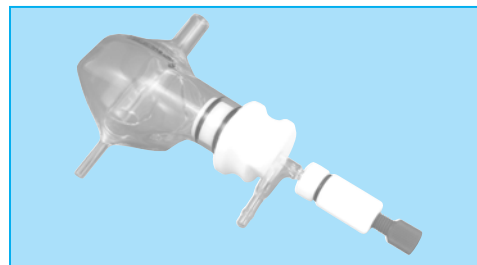
SCP SCIENCE PEEK torch support with 12/5 ball joint connected and a quartz baffle spray chamber with 12/5 socket

The new **SCP SCIENCE** configuration also allows you to change the style of spray chamber without having to remove and replace the entire injector support. With the **SCP SCIENCE** design the 11 mm spray chamber support (catalog no. 020-050-450) or the 12/5 socket member spray chamber support (catalog no. 020-050-445) can now be used. Interchanging the spray chamber adapter end, without having to change the entire adaptor, saves demount-mount time while lowering the cost of the adaptors. The user is provided with maximum flexibility, simplicity and time saving.

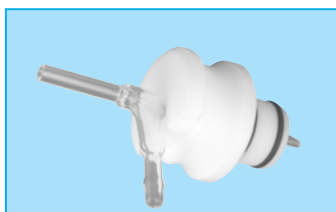
SCP SCIENCE Innovation--Teflon® Insert for Cyclonic Spray Chamber

The primary function of the spray chamber is to ensure that only the droplets that are smaller than 2µm reaches the torch. Depending on the nebulizer/spray chamber, this may represent less than 2% of the sample. The rest of the sample has to go somewhere. It has been demonstrated 90% of it goes down the drain. However, that leaves approximately 8% that stays in the spray chamber. Eventually, this residual material needs to be removed. Unfortunately, in traditional, all-glass (borosilicate or quartz) designs, the best cleaning technique is an acid spray inside the chamber. In a classical spray chamber design, it is very difficult to remove the o-rings that support the nebulizer should the user wish to immerse the spray chamber in an acid bath. In addition, when o-rings are removed, the glass nebulizer support is often broken. Hence, the analyst makes due with the ever increasing background noise resulting from the deposits in the spray chamber.

However, **SCP SCIENCE** has designed a unique Teflon® Insert. This Teflon® Insert can be easily removed and the interior of the spray chamber easily cleaned. Now, because the spray chamber has no o-rings, it can be immersed in an aqua regia bath without fear of destroying the o-rings.



The Teflon Insert has other features that have been suggested by analysts.



1-A special groove is cut at the bottom to allow for easy removal of the nebulizer from the Teflon® Insert.



2-A specially designed second groove to facilitate the removal of the Teflon® insert from the spray chamber.



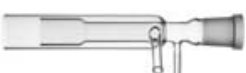


3-A notch on the inside prevents liquid build-up during analysis thereby reducing signal spikes upon nebulization.




SCP SCIENCE is constantly looking for new products to improve sample introduction and lower detection limits. Other innovative products include: a cross-flow nebulizer made from Ultem; a fully adjustable Varian® stand to facilitate and support sample introduction setup for Varian Vista and Liberty ICP Instruments; and much more. Contact your sales representative or local distributor to inquire what new ICP glassware is available.

Agilent® 4500, 7500 & 9500 (Hewlett Packard®)


Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 020-050-139	One Piece Torch, 2.5 mm Injector & 12/5 Ball Joint (HP 4500) Standard torch with 4500; Not suitable for samples containing Hydrofluoric acid.	G182065028 020-050-139
 020-050-161	One Piece Torch, 1.5 mm Injector & 12/5 Ball Joint (Agilent® 7500) Not suitable for samples containing hydrofluoric acid.	G183365424 020-056-002
 020-050-135	One Piece Torch, 2.5 mm Injector & 12/5 Ball Joint (Agilent® 7500) Not suitable for samples containing hydrofluoric acid.	G183365423 020-050-161
	Demountable Torch, Inert (HP 4500) Quartz torch for inert sample introduction; Resistant to Hydrofluoric acid.	G182065035 020-050-135
	Demountable Torch, Inert (Agilent® 7500)	G183365422 020-050-270
	Quartz Injector (HP 4500 & 7500)	--- 020-056-051
	Alumina Injector (HP 4500 & 7500) Resistant to Hydrofluoric acid.	--- 020-050-003
	Injector Holder, Teflon® (HP 4500 & 7500) Used with inert torch and alumina injector.	G182065015 020-050-136
	Quartz Bonnet (HP 4500 & 7500) (pk/2)	G183365421 020-056-052

Spray Chambers and Accessories


Description / Features	Cross Reference	Catalog Number
 020-056-101	Scott Chamber, Inner/Outer Tube Flush, Drain & Exit 90°, (HP 4500 & 7500)	G182065336 020-056-123
 020-050-132	Quartz Scott Chamber, Inner/Outer Tube Flush, Drain & Exit 90°, (HP 4500 & 7500) Used for Babbington, Concentric, and Micro-Concentric Nebulizers.	G182065337 020-056-101
	Quartz Scott Chamber, Inner Tube Extended, Drain & Exit 90°, (HP 4500 & 7500) Used with Cross Flow Nebulizer.	G182065339 020-056-102
	Scott Chamber, Inner/Outer Tube Flush, Drain & Exit 180°, (HP 4500 & 7500)	--- 020-050-131
	Quartz Scott Chamber, Inner/Outer Tube Flush, Drain & Exit 180°, (HP 4500 & 7500)	--- 020-050-132
	Cyclonic Spray Chamber, Pyrex with Baffle (HP 4500 & 7500)	--- 020-056-104
	Cyclonic Spray Chamber, Quartz with Baffle	--- 020-056-124
	Cyclonic Spray Chamber, MLN For use with Modified Lichte Nebulizer	--- 020-050-301
 020-050-301	Ball and Socket Adapter Pyrex, 56 mm long (HP 4500) Connects the Quartz Spray Chamber to the Torch	G182080327 020-056-201
	Ball and Socket Adapter (HP 7500)	G183365426 020-050-272
	Quartz Ball Adapter (HP 4500 & 7500)	--- 020-050-138
	Quartz Socket Adapter (HP 4500 & 7500)	--- 020-050-134
	Stainless Steel Clamps	--- 020-049-620
	End cap for Babbington (020-060-005)	G183365476 020-050-151

Nebulizers

Description / Features	Cross Reference	Catalog Number
 020-060-002	Concentric (A-Type, 3.0 ml/min @ 35 psi)	G182065030 020-060-002
	Concentric, Quartz (A-Type, 1.0 ml/min @ 35 psi)	G182061138 020-060-011
	Concentric (C-Type, 1.0 ml/min @ 35 psi)	--- 020-060-003
	Concentric (C-Type, 3.0 ml/min @ 23 psi)	--- 020-060-007
	Modified Lichte Nebulizer Requires specific spray chamber	--- 020-060-132

**Agilent® 4500, 7500 & 9500
(Hewlett Packard®)**

Nebulizers


Description / Features	Cross Reference	Catalog Number
 Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	G3161A#001	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	G3161A#002	020-060-308
Ari Mist® HP, PEEK (0.005 - 1.0 ml/min @ 35 - 80 psi)	---	020-060-307
Mira Mist® CE, PEEK (0.005 - 2.5 ml/min @ 80 - 90 psi)	---	020-060-312
Cross-Flow Nebulizer, 35 mm Inner Diameter, Ultem	G182065033	020-060-603
Babbington V-Groove	---	020-060-605

020-060-306

020-060-603

Horiba® Jobin Yvon® (JY) / Instruments SA®

Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 Torch, One Piece with Ball Joint	49.010.100	020-053-001
Demountable Torch Assembly, Complete	21.356.110	020-053-002
Demountable Torch, Body Only	---	020-053-301
Inner Quartz Tube	31.023.723	020-050-038
Outer Quartz Tube, 71 mm, Radial	31.023.722	020-050-037
Outer Quartz Tube, 82.5 mm, Radial	---	020-053-302
Outer Quartz Tube, Axial	31.031.099	020-053-303
O-ring Kit for Torch Body	---	020-053-201
Torch Bonnet (pk/2)	49.010.101	020-060-379
Torch Extension	---	020-060-378
Quartz Injector	---	020-050-175
Quartz Injector, 3.0 mm	---	020-050-510
Alumina Injector		
Resistant to Hydrofluoric acid.	31.021.589	020-050-041
Alumina Injector and Teflon® Insert	21.356.130	020-050-084
Insert, Teflon®	31.021.730	020-050-040
Centering Ring, Teflon®	31.023.724	020-050-039
Sheath Gas, Glass with Quick Disconnect	31.356.040	020-050-176
Sheath Gas, PEEK, with Quick Disconnect	20.925.160	020-053-376
Sheath Gas, 12/5 Socket with Quick Disconnect	---	020-053-377


020-053-001

020-050-037

020-053-376

ICP Supplies

Spray Chambers and Accessories



Description / Features	Cross Reference	Catalog Number
 Cyclonic Spray Chamber, Borosilicate, with Baffle, 4 mm Drain	31.030.809	020-060-124
Cyclonic Spray Chamber, Borosilicate, no Baffle, 4 mm Drain	31.031.279	020-060-129
Cyclonic Spray Chamber, Axial	---	020-053-100
Cyclonic Spray Chamber, 12 mm Drain	---	020-050-177
Quartz Scott Spray Chamber, 12 mm Drain	---	020-053-102
Cyclonic Spray Chamber, Ground Joint Drain	---	020-053-107
Quartz Scott Spray Chamber, Ground Joint Drain	---	020-053-104
Scott Spray Chamber, 12 mm Drain	---	020-053-101
Scott Spray Chamber, 12 mm Drain, For Concentric Nebulizer	---	020-053-105
Scott Spray Chamber, Ground Joint Design	31.026.996	020-050-036
Teflon® Endcap for Open end Scott Spray Chamber	31.023.549	020-060-601
U-Drain Trap	31.026.997	020-053-108

020-050-177

020-053-108




Horiba® Jobin Yvon® (JY) / Instruments SA®

Nebulizers



Description / Features	Cross Reference	Catalog Number
 020-060-003	Concentric (C1-50, 1 L/min Ar @ 50 psi)	47.929.001 020-060-005
	Concentric (C-Type, 2.0 ml/min, Ar @ 35 psi)	47.929.002 020-060-006
	Concentric (C-Type, 3.0 ml/min, Ar @ 35 psi)	47.929.003 020-060-007
	Concentric (C-Type, 0.5 ml/min, Ar @ 50 psi)	47.929.004 020-060-004
	Concentric (C-Type, 1.0 ml/min, Ar @ 35 psi)	47.929.006 020-060-003
 020-060-603	Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	--- 020-060-306
	Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	47.929.024 020-060-308
	Cross-Flow Nebulizer, 35 mm Inner Diameter, Ultem	47.929.008 020-060-603

ARL® 3500 Maxi (Thermo® Electron)

Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 020-050-031	Maxi Torch	1390090003 020-050-157
	Maxi Torch, 20 mm, Outer Shield	--- 020-050-016
	Maxi Torch, Wear Metals, Outer Shield	--- 020-057-002
	Torch, ICPQ	1370000000 020-057-003
	Torch, HF/CR Resistant Body	1731310000 020-050-028
	Torch, Nitrogen, 3" Port, 28/15 Ball Joint	1731270000 020-050-031
 020-050-020	Alumina Injector	
	Resistant to Hydrofluoric acid.	1200079 020-050-029
	PTFE Insert for HF Torch	
	Resistant to Hydrofluoric acid.	--- 020-057-040
	PTFE Insert, Adjustable, for HF Torch	
	Resistant to Hydrofluoric acid.	--- 020-057-041
	O-Ring for Torch, PTFE Coated Viton	--- 020-050-042
	Torch Extension	--- 020-057-070
	Torch Extension with Optical Port	--- 020-050-019
	Torch Bonnet (pk/2)	--- 020-057-071
 020-057-072	Torch Bonnet, Induction Coil M/S (pk/2)	1732510000 020-050-020
	Argon Snout Tube	1706310000 020-057-072


Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 020-057-100	Cyclonic Spray Chamber, 10 mm Drain	--- 020-057-120
	Cyclonic Spray Chamber, 10 mm Drain, Water-Cooled	--- 020-057-121
	Conical Spray Chamber, Open End, with Impact Bead	1390080000 020-057-100
	Conical Spray Chamber, Open End, with Drain	--- 020-057-101
	Conical Spray Chamber, for Concentric Nebulizer	1731420000 020-050-017
	Conical Spray Chamber, for MDSN*	1731420001 020-050-018
 020-050-017	PTFE Insert to allow 020-050-018 to use a Concentric Nebulizer	--- 020-050-030
	O-Ring for Spray Chamber, PTFE Coated Viton	--- 020-050-043

*MDSN - Maximum Dissolved Solids Nebulizer

ARL 3500 Maxi (Thermo® Electron)

Nebulizers

Description / Features	Cross Reference	Catalog Number
 Concentric (A-Type, 3.0 ml/min @ 35 psi)	914319	020-060-002
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	13638800	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-308
Noordermeer V-Groove MDSN* Glass Nebulizer	915817	020-060-602


**MDSN - Maximum Dissolved Solids Nebulizer*

020-060-306

020-060-602

ARL 3400/3500 Accuris Mini (Thermo® Electron)

Torches and Accessories


Description / Features	Cross Reference	Catalog Number
 Mini Torch, 1.0 mm Injector	---	020-057-004
Mini Torch, 1.5 mm Injector	1734630000	020-050-021
Mini High-Solids Torch	---	020-050-164
Mini Nitrogen Torch	1706920000	020-050-163
Mini HF/CR Torch Body	1734730000	020-050-022
Alumina Injector for Mini Torch Assembly		
Resistant to Hydrofluoric acid.	144857	020-050-156
O-Ring for Torch, PTFE Coated Viton	---	020-050-042
Argon Snout, Nitrogen	1706930000	020-050-205
Torch Mount	144860	020-049-622
Torch Bonnet (pk/2)	1732520000	020-050-025

020-050-021

020-050-022

020-050-025

Spray Chambers and Accessories


Description / Features	Cross Reference	Catalog Number
 Conical Spray Chamber, Mini, for Concentric Nebulizer	1731420002	020-050-023
Conical Spray Chamber, for Babington MDSN*	1731420003	020-050-024
Conical Spray Chamber, Water-Cooled, for Concentric Nebulizer	1731420004	020-050-026
Cyclonic Spray Chamber, 10 mm Drain	---	020-057-120
Cyclonic Spray Chamber, 10 mm Drain, Water-Cooled	---	020-057-121
Quartz Conical Spray Chamber, Mini, for Concentric Nebulizer	---	020-050-274
Quartz Cyclonic Spray Chamber, Water-Cooled, 10 mm Drain	---	020-057-123
O-Ring for Spray Chamber, PTFE Coated Viton	---	020-050-043

**MDSN - Maximum Dissolved Solids Nebulizer*

020-050-023

020-050-026

Nebulizers



Description / Features	Cross Reference	Catalog Number
 Concentric (Type K, 2 ml/min @ 35 psi)	915375000M	020-060-008
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	13638800	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-308
Noordermeer V-Groove MDSN* Glass Nebulizer	9158170000	020-060-602
Babington MDSN*		
Resistant to Hydrofluoric acid.	1732590000	020-060-605

**MDSN - Maximum Dissolved Solids Nebulizer*

020-060-605


020-060-306

ARL® Maxim 1 & 3
(Thermo® Electron)
Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 Maxim Torch	S111403	020-050-027
 Maxim CR Torch	S213787	020-050-159
O-Ring for Torch, PTFE Coated Viton	---	020-050-042


020-050-027

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 Spray Chamber, for Concentric Nebulizer	S702171	020-050-160
Spray Chamber, for Concentric Nebulizer, Water-Cooled,	S702174	020-050-162
Quartz Spray Chamber, for Concentric Nebulizer	---	020-057-101
O-Ring for Spray Chamber, PTFE Coated Viton	---	020-050-043
Drain Trap	S702232	020-050-158

020-050-160


Nebulizers

Description / Features	Cross Reference	Catalog Number
 Concentric (Type K, 3 ml/min @ 42 psi)	915375	020-060-009
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	13638800	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-308
Noordermeer V-Groove MDSN* Glass Nebulizer	915817	020-060-602
Babbington MSDN, Resistant to Hydrofluoric acid, (0.7 L/min @ 35 psi)	173259	020-060-605

020-060-602

*MDSN - Maximum Dissolved Solids Nebulizer

Baird®
(Thermo® Electron)
Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 Torch, Plasma Standard	25515	020-050-004
Torch, Low-Flow	75542	020-050-152
Plasma Low-Flow Torch (Old PSX)	666011	020-050-155
PSX Labtest Low-Flow Torch	75128	020-050-006
Demountable Torch Body	69987	020-050-009
PSX Low-Flow HF/CR Torch	75129	020-058-052
Demountable Torch Body	69987	020-050-009
Demountable Torch, Low-Flow	75145	020-058-053
AFS/ICP Torch and Tip	676458	020-058-054
AFS/ICP Tip Replacements	676459	020-058-355
Alumina Injector, Length of 4.8"		
Resistant to Hydrofluoroic acid	75132	020-058-356
Alumina Injector, Length of 5.6", Resistant to Hydrofluoroic acid		
Resistant to Hydrofluoroic acid	75144	020-058-357
Alumina Injector, Length of 7.7", Resistant to Hydrofluoroic acid		
Resistant to Hydrofluoroic acid	75145	020-050-154
Torch Bonnet (pk/2)	25492	020-050-014
PTFE Insert, Fixed	---	020-050-011
PTFE Insert, Adjustable	---	020-050-012
Torch Extension	---	020-050-013
Extension, Ball and Socket	62607	020-050-015
Quartz Extension, Ball and Socket, PSQ and PSX	---	020-058-360
Entrance Tube, Plasma Labtest, PSQ and PSX	---	020-058-361
PST Purge Window	77200	020-058-358
Window Tube	77611	020-058-359


020-050-004

020-050-015

020-058-054

020-058-359

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 020-050-007	25492	020-050-007
Scott Spray Chamber, for Concentric Nebulizer	---	020-050-008
Scott Spray Chamber, Water-Cooled	---	020-058-109




Nebulizers

Description / Features	Cross Reference	Catalog Number
 020-060-306	025493	020-060-001
Concentric (Type C, 1 ml/min @ 35 psi)	---	020-060-003
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	13638800	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-308
Noordermeer V-Groove MDSN* Glass Nebulizer	915817	020-060-602
Cross-Flow Nebulizer, 35 mm Inner Diameter, Ultem	---	020-060-603

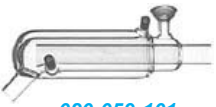

*MDSN - Maximum Dissolved Solids Nebulizer

Finnigan Element and TS/Sola
(Thermo® Electron)

Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 020-059-010	---	020-059-010
Torch & Injector, TS Sola	---	020-059-013
Demountable Torch, TS Sola	---	020-059-016
Quartz Injector, TS Sola, with Ball Joint	---	020-059-312
Alumina Injector, TS Sola	---	020-059-310
 020-059-016	---	020-059-011
Torch, Element, CD Option	---	020-059-012
Demountable Torch, Element	1091250	020-059-014
Quartz Injector, Element, with Ball Joint	---	020-059-311
Quartz Bonnet for Demountable Torch, Element (pk/2)	---	020-059-105
 020-059-312	199710	020-059-061

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 020-059-101	---	020-059-101
Scott Spray Chamber, Quartz, Water-Cooled, TS Sola	---	020-059-102
Scott Spray Chamber, Pyrex, Water-Cooled, Element	---	020-059-103
Scott Spray Chamber, Quartz, Water-Cooled, Element	---	020-059-104
Ball and Socket Elbow, Pyrex	---	020-059-106
Ball and Socket Elbow, Quartz	---	020-059-107
 020-059-107	1127121	020-059-108

Finnigan Element and TS/Sola (Thermo® Electron)

Nebulizers

Description / Features	Cross Reference	Catalog Number
Concentric (Type C, 1 ml/min @ 35 psi)	---	020-060-003
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	13638800	020-060-306
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-308



020-060-003

VG® PlasmaQuad 1-3 & Genesis

Torches & Accessories

Description / Features	Cross Reference	Catalog Number
Torch, 1.5 mm	3201192	020-050-216
Torch, 2.0 mm	3201732	020-050-165
Torch Body, Demountable	1200080	020-050-046
Torch Body, Demountable with Quartz Injector	---	020-050-049
Torch Body, Corrosion Resistant	3203095	020-048-301
Quartz Injector with Ball Joint	---	020-050-047
Alumina Injector		
Resistant to Hydrofluoric acid	1200079	020-050-048
Torch Bonnet (pk/2)	---	020-048-302
Torch Bonnet, 72 mm in Length (pk/2)	3204703	020-048-305
Torch Bonnet Cap	1200274	020-048-303
Torch Shield	3203789	020-048-306
Torch Extension	---	020-048-307
RF Insulator Shield	3203025	020-048-304



020-050-046



020-048-301



020-048-303

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
Scott Spray Chamber, Water-Cooled, Pyrex	---	020-050-032
Scott Spray Chamber, Water-Cooled, Quartz	3200841	020-050-033
Conical Spray Chamber, Pyrex, Water-Cooled	3204313	020-048-101
Conical Spray Chamber, Quartz, Water-Cooled	---	020-049-624
Conical Spray Chamber, Pyrex, Water-Cooled, Ball Joint Drain	3203739	020-048-100
Conical Spray Chamber, with Impact Bead, Quartz	3600170	020-048-309
Quartz Elbow, for use with 020-048-309	3600169	020-050-221
Conical Spray Chamber, with Impact Bead, for Concentric Nebulizer	---	020-050-079
Ball and Socket Elbow, Pyrex	---	020-050-034
Ball and Socket Elbow, Quartz	3200727	020-050-035



020-048-100



020-050-034


Nebulizers

Description / Features	Cross Reference	Catalog Number
Concentric (Type C, 1 ml/min @ 35 psi)	1040894	020-060-003
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-308



020-060-003

Accessories

Description / Features	Cross Reference	Catalog Number
 Clamp, Stainless Steel, No. 12	1201261	020-048-201
Clamp, Stainless Steel, No. 18	1202081	020-048-202
UV Laser Sample Cell	3007383	020-048-203
Micro Probe UV Laser Sample Cell	---	020-048-204
Probe UV Laser Sample Cell	3201104	020-050-166
Quartz Sleeve	3202287	020-050-167
Quartz Sleeve, No. 2	3200176	020-050-168
Quartz Sleeve, Silica	3201070	020-050-169
Quartz Tube	3201759	020-050-170
Quartz Socket Tube Adapter	3200004	020-050-172
Glass Probe	1041167	020-050-173

020-048-203


020-050-172

**VG® X Series
(Thermo® Electron)**

Torches and Accessories

Description / Features	Cross Reference	Catalog Number
Torch Collision Cell Double Ball Joint, 0.8 mm	---	020-056-310
Torch Collision Cell Double Ball Joint, 1.5 mm	---	020-056-312
Torch Collision Cell Double Ball Joint, 2.0 mm	---	020-056-314
Torch for Plastic Holder, 1.5 mm	3601145	020-056-316
Torch for Plastic Holder, 2.0 mm	3601147	020-056-318
Torch Stainless Steel Clip, 1.5 mm	3600969	020-056-320
Torch Stainless Steel Clip, 2.0 mm	3201732	020-056-322
Demountable Torch	3600146	020-056-324
Demountable Torch Body	3601146	020-056-330
Demountable Torch Adapter	---	020-056-332
Quartz Injector, 1.5 mm	---	020-056-326
Quartz Injector, 2.0 mm	---	020-056-328

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 Scott Spray Chamber, Water-Cooled, Pyrex	---	020-050-032
Scott Spray Chamber, Water-Cooled, Quartz	3200841	020-050-033
Conical Spray Chamber, Pyrex, Water-Cooled	3204313	020-048-101
Conical Spray Chamber, Quartz, Water-Cooled	---	020-049-624
Conical Spray Chamber, Pyrex, Water-Cooled, Ball Joint Drain	3203739	020-048-100
Conical Spray Chamber, with Impact Bead, Quartz	3600170	020-048-309
Quartz Elbow, for use with 020-048-309	3600169	020-050-221
Conical Spray Chamber, with Impact Bead, for Concentric Nebulizer	---	020-050-079
Ball and Socket Elbow, Pyrex	---	020-050-034
Ball and Socket Elbow, Quartz	3200727	020-050-035

020-048-100

020-050-034


Nebulizers

Description / Features	Cross Reference	Catalog Number
 Concentric (Type C, 1 ml/min @ 35 psi)	1040894	020-060-003
Ari Mist® HP, PEEK (0.005 - 1.0 ml/min @ 30 - 80 psi)	4600495	020-060-307
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	4600356	020-060-308

020-060-003


TJA 2000-2400 Series (Thermo® Electron)

Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 Torch	---	020-050-112
Torch Bonnet (pk/2)	19040075	020-049-300


020-050-112

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 Scott Spray Chamber, Standard	12794700	020-050-114
Aerosol Baffle for catalog no. 020-050-114	00395200	020-050-069
Cyclonic Spray Chamber, 50 ml, 12/5 Socket Top, 4 mm Drain	---	020-050-174
O-Ring for Spray Chamber, PTFE Coated Viton	---	020-050-043
For cyclonic chambers or Scott end caps with 6 mm nebulizer inlet	---	---

020-050-114


Nebulizers

Description / Features	Cross Reference	Catalog Number
 Cross-Flow Nebulizer, 35 mm Inner Diameter, Ultem	12698900	020-060-603
O-Ring Kit for 020-060-603, Viton	13320250	020-050-147
Argon Inlet Fittings for 020-060-603	---	020-050-149

020-060-603

TJA 975, 9000, 61 and 1100 (Thermo® Electron)


Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 Standard Low Flow Torch, TJA	---	020-050-121
Demountable Torch with Removable 1.0 mm Tip	19040054	020-050-110
Demountable Torch with 2 Removable 1.0 mm Tips	---	020-050-111
Demountable Torch with Removable 1.25 mm Tip	---	020-050-195
Demountable Torch with Removable 1.5 mm Tip	---	020-050-196
Demountable Torch with Removable 1.7 mm Tip	---	020-049-196
Demountable Torch with Removable Tip, High Solids	---	020-050-120
HF/CR Torch Body for Alumina/Sapphire Injector	---	020-050-193
Torch Bonnet (pk/2)	19040075	020-049-300
Torch Extension	---	020-050-117
Torch Extension with Optical Port	---	020-049-301

020-050-111


020-050-117

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 Spray Chamber, Standard	12794700	020-050-114
Aerosol Baffle for 020-050-114	00395200	020-050-069
Scott Spray Chamber	19040065	020-050-113
Scott Spray Chamber, Curved Drain	---	020-050-115
Scott Spray Chamber, Open Ends, Water-Cooled	---	020-050-190

020-050-113





Nebulizers

Description / Features	Cross Reference	Catalog Number
 Cross-Flow Nebulizer, 35 mm Inner Diameter, Ultem	12698900	020-060-603
O-Ring Kit for 020-060-603, Viton	13320250	020-050-147
Argon Inlet Fittings for 020-060-603	---	020-050-149

020-060-603



TJA 61E Polyscan, Atomscan 16 & 25, Advantage Radial, IRIS and POEMS

Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 020-049-000	Ceramic Base Torch, High Flow with 1.0 mm Injector (Organics) Torch body has a double red line and the injector has a double red line	12512401 020-050-125
 020-050-119	Ceramic Base Torch, High Flow with 1.5 mm Injector Torch body has a double red line and the injector has a single red line	12643201 020-050-124
 020-050-344	Ceramic Base Torch, High Flow with 1.5 mm Alumina Injector Torch body has a double red line and the injector is HF resistant	12717901 020-049-000
 020-049-303	Ceramic Base Torch, High Flow without Injector Torch body has a double red line	12644001 020-050-137
	Ceramic Base Torch, High/Low Flow with 1.5 mm Injector Torch body has a single red line and the injector has a single red line	12643202 020-050-123
	Quartz Injector, 1.0 mm, 87 mm length, double red line Used for Volatile Organic Samples	12540701 020-050-118
	Quartz Injector, Standard, 1.5 mm 87 mm length, single red line	12540700 020-050-119
	Quartz Injector, 2.0 mm, 87 mm length, single blue line Designed for samples with high dissolved solids up to 10%	13650201 020-051-340
	Quartz Injector, 2.4 mm, 87 mm length, double blue line Designed for samples with high dissolved solids 10% and higher	13650202 020-051-344
	Alumina Injector, 1.0 mm, 87 mm length Resistant to Hydrofluoric acid	--- 020-049-302
	Alumina Injector, 1.5 mm, 87 mm length Resistant to Hydrofluoric acid	13643601 020-051-300
	O-Ring for Injector Tube	--- 020-051-346
	Argon Fittings for Ceramic Base Torches	--- 020-051-200
	PTFE Adapter, Torch	13420400 020-050-201
	Anti-arc Cap	08520700 020-049-303
	Anti-arc Cap, Flat Edge	08520701 020-050-127

ICP Supplies

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 020-050-116	Spray Chamber, Open End	13008900 020-050-116
 020-051-123	Cyclonic Spray Chamber, non baffled, Radial 4 mm O.D. Pump Drain Tubing Connector. Has an 30 mm neck.	14054200 020-051-100
	Cyclonic Spray Chamber, non baffled, Radial, Long neck 4 mm O.D. Pump Drain Tubing Connector. Has an 80 mm neck.	13966300 020-051-123
	Cyclonic Spray Chamber, non baffled, Radial, 12 mm gravity drain Has an 80 mm neck. Includes a pump tubing drain connection kit.	13610500 020-051-108
	Water Cooled Cyclonic Spray Chamber, non baffled, Radial, 12 mm gravity drain Can be water cooled to 4°C to improve analysis on volatile organic samples. Has an 80 mm neck. Includes a pump drain tubing connection kit.	--- 020-051-109

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TJA 61E Polyscan, Atomscan 16 & 25, Advantage Radial, IRIS and POEMS



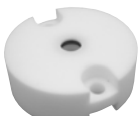
Nebulizers and Accessories

Description / Features	Cross Reference	Catalog Number
 020-060-602	Internal Standard Mixing Kit	---
Concentric (K-Type, 3.0 ml/min @ 35 psi)	---	020-060-009
Mira Mist [®] , Teflon [®] (0.2 - 2.5 ml/min @ 40 psi)	13638800	020-060-306
Mira Mist [®] , PEEK (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-308
Noordermeer V-Groove MDSN* Glass Nebulizer	---	020-060-602
 020-060-603	Kynar Endcap for use with Open-End Spray Chambers	---
For use with 6 mm nebulizers (Concentric, Burgener, V-groove)	---	020-060-601
Cross-Flow Nebulizer, 35 mm Inner Diameter, Ultem	12698900	020-060-603
O-Ring Kit for 020-060-603, 35 mm Diameter (pk/2)	13320250	020-050-147
Argon Inlet Fittings, Cross-Flow nebulizer (pk/4)	---	020-050-149


*MDSN - Maximum Dissolved Solids Nebulizer

TJA - Trace Advantage Axial, Trace Scan, IRIS AP and POEMS (Thermo[®] Electron)


Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 020-051-192	Ceramic Base Torch, DV, with 1.5 mm Injector	13856200
Ceramic Base Torch, Trace, with 1.5 mm Injector		
Torch body has a double red line. Injector as a single red line	12643203	020-050-192
Ceramic Base Torch, Trace, without Injector	12644003	020-051-193
 020-050-119	Quartz Injector, 1.0 mm, 87 mm length, double red line	
Used for Volatile Organic Samples	12540701	020-050-118
Quartz Injector, Standard, 1.5 mm 87 mm length, single red line	12540700	020-050-119
Quartz Injector, 2.0 mm, 87 mm length, single blue line		
Designed for samples with high dissolved solids up to 10%	13650201	020-051-340
Quartz Injector, 2.4 mm, 87 mm length, double blue line		
Designed for samples with high dissolved solids 10% and higher	13650202	020-051-344
 020-050-201	Alumina Injector, 1.0 mm	
Resistant to Hydrofluoric acid	---	020-049-302
Alumina Injector, 1.5 mm		
Resistant to Hydrofluoric acid	13643601	020-051-300
PTFE Adapter, Torch	13420400	020-050-201
Optic Sleeve for DV Torch	13856300	020-049-304

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 020-050-191	Cyclonic Spray Chamber, non baffled, Axial Neck	
4 mm O.D. Pump Drain Tubing Connector	13966200	020-051-195
Cyclonic Spray Chamber, non-baffled, Short Axial Neck 5 mm	13612000	020-051-112
Cyclonic Spray Chamber, non-baffled, Long Axial Neck 30 mm		
10 mm O.D Gravity Drain. Includes a pump drain tubing connection kit	13462000	020-050-191
Cyclonic Spray Chamber, Water-Cooled, 12 mm Drain, Trace	---	020-049-101

TJA - Trace Advantage Axial, Trace Scan IRIS AP and POEMS (Thermo® Electron) Nebulizers and Accessories

Description / Features	Cross Reference	Catalog Number
 Concentric (K-Type, 3.0 ml/min @ 35 psi)	---	020-060-009
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	13638800	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-308
Noordermeer V-Groove MDSN* Glass Nebulizer	---	020-060-602
Kynar Endcap for use with Open-End Spray Chambers		
For use with 6 mm nebulizers (Concentric, Burgener, V-groove)	---	020-060-601
Cross-Flow Nebulizer, 35 mm Inner Diameter, Ultem	12698900	020-060-603
Argon Inlet Fittings, Cross-Flow nebulizer (pk/4), replacement	---	020-050-149

*MDSN - Maximum Dissolved Solids Nebulizer




020-050-149



020-060-308

Perkin Elmer® Plasma 1000, 2000, II, 40 and 400

Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 Torch Tube, Type I Slotted (Plasma 40)	N0580376	020-050-065
Torch Tube, Type II	N0580528	020-050-063
Torch Tube, Type II, Demountable, with Side Inlets	N8122006	020-050-072
Torch Tube, Type II, Wear Metals		
Designed for Wear Metals Analysis. More resistant to organic based samples	N0681690	020-050-068
Torch Extension	O0473052	020-051-303
Quartz Injector, 1.2 mm, Type I	---	020-051-301
Quartz Injector, 1.6 mm, Type I	N0580449	020-050-067
Quartz Injector, 1.2 mm	N0681631	020-050-182
Quartz Injector, 1.6 mm		
Designed for samples with high Total Dissolved Solids (TDS) between 2% and 5%	O0473292	020-050-183
Quartz Bonnet pk/2	N0582235	020-050-066
PEEK Injector Support adapter provided with O-Rings	N0582248	020-051-313
O-Ring Kit for Injector Support Adapter	N0580539	020-051-315
Purge Extension	N0681234	020-050-214
Purge Extension Window	N0581497	020-050-213



020-050-063




020-051-313



020-050-214

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 Scott Spray Chamber	---	020-051-115
Scott Spray Chamber, Type II	---	020-050-211
Quartz Cyclonic Spray Chamber, 50 ml		
Ideal for Boron analysis	---	020-051-118
Cyclonic Spray Chamber, 50 ml, Optima	---	020-051-116
Cyclonic Spray Chamber, 50 ml, Water-Cooled		
Can be water cooled to produce a more uniform droplet size	---	020-051-117
Cyclonic Spray Chamber, 50 ml, 12/5 Socket, 4 mm Drain, Jacketed		
Can be water cooled to produce a more uniform droplet size	---	020-051-125



020-051-116

Nebulizers



Description / Features	Cross Reference	Catalog Number
 Concentric (C-Type, 3.0 ml/min @ 30 psi)	N8102011	020-060-007
Concentric (K-Type, 3.0 ml/min @ 30 psi)	N0681574	020-060-009
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	N0775330	020-060-308



020-060-009


Perkin Elmer® ICP 5000, 5500, 5500B, 6000 and 6500 (non SCIEX ICP-MS)

Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 Torch, One Piece with Ball Joint	O0472048	020-051-003
 Torch Tube, Type I	N0580233	020-050-064
Torch Tube, Type II	N0580528	020-050-063
Quartz Injector, 1.2 mm	N0681631	020-050-182
Quartz Injector, 1.6 mm	O0473292	020-050-183
Quartz Injector, 1.2 mm, Type I	---	020-051-301
Quartz Injector, 1.6 mm, Type I	N0580449	020-050-067
Quartz Injector, 2.0 mm, Type I	---	020-050-010
Torch Bonnet (pk/2)	O0472033	020-051-309
Torch Extension	O0473052	020-051-303
Torch Extension, Slotted	O0473560	020-050-061
Torch Extension with Optical Port	---	020-051-305
Purge Tube	O0473187	020-050-218
Purge Tube for Slotted Extension	O0473561	020-050-217


020-051-309

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 Scott Spray Chamber	O0472047	020-050-007
Cyclonic Spray Chamber, 50 ml	N8120150	020-051-119
Cyclonic Spray Chamber, 50 ml, Quartz	---	020-051-120
Ideal for Boron Analysis	---	020-051-120
Cyclonic Spray Chamber, 50 ml, Water-Cooled	---	020-051-121
Water cooled to produce a more uniform droplet size	---	020-051-121
Cyclonic Spray Chamber, 50 ml, MLN	---	020-051-122
Ideal for use with Modified Lichte Nebulizer (020-060-132)	---	020-051-122
Cyclonic Spray Chamber, 50 ml, 12/5 Socket, 4 mm Drain	---	020-051-125
Cyclonic Spray Chamber, 50 ml, Water Cooled, 12/5 Socket, 4 mm Drain	---	020-060-124
Water cooled to produce a more uniform droplet size	---	020-060-124

020-051-125

Nebulizers

Description / Features	Cross Reference	Catalog Number
 Concentric (C-Type, 3.0 ml/min @ 30 psi)	N8102011	020-060-007
Concentric (K-Type, 3.0 ml/min @ 30 psi)	N0681574	020-060-009
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Ari Mist® HP, PEEK (0.005 - 1.0 ml/min @ 30 - 80 psi)	---	020-060-307
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	N0775330	020-060-308
Mira Mist® CE, Peek (0.005 - 2.5 ml/min @ 80 - 90 psi)	---	020-060-312
Modified Lichte Nebulizer	---	020-060-132
Requires specific spray chamber (020-051-122)	---	020-060-132

020-060-603

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High purity acids used for sample and standards preparation.

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Perkin Elmer® Optima
3000 Series Radial


Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 020-050-181 Torch Body, Optima, Radial, Single Slot	N0690568	020-050-181
Torch Body, Radial, Wear Metals	---	020-050-186
Quartz Injector, 1.2 mm	N0691631	020-050-182
Quartz Injector, 1.6 mm	N0695448	020-050-238
Quartz Injector, 2.0 mm	N0695441	020-050-234
Alumina Injector, 0.85 mm		
Resistant to Hydrofluoric acid	N8126039/N0582186	020-051-316
Alumina Injector, 1.5 mm		
Resistant to Hydrofluoric acid	N0582185/N8126040	020-051-314
Alumina Injector, 2.0 mm		
Resistant to Hydrofluoric acid. Specifically designed for samples with high Total Dissolved Solids (TDS) (~10%)	N8126041/N0582184	020-050-256
Torch Bonnet, Flat Edge (Optima Instruments before Sept 1994), pk/2	N0695295	020-050-185
Torch Bonnet, Flat Edge (Optima Instruments after Sept 1994), pk/2	N0695456	020-050-204
PEEK Injector Support Adapter with O-Rings	N0582248	020-051-313
Purge Extension Window	N0581497	020-050-213

Spray Chambers and Accessories


Description / Features	Cross Reference	Catalog Number
 020-050-211 Scott Spray Chamber, Type II	---	020-050-211
Scott Spray Chamber, Optima	---	020-051-116
Cyclonic Spray Chamber, 50 ml, Optima, PE 3000, Baffled	---	020-060-128
Cyclonic Spray Chamber, 50 ml, PE Radial, MLN	---	020-060-132
For use with Modified Lichte Nebulizer (020-060-120)		

Nebulizers

Description / Features	Cross Reference	Catalog Number
 020-060-007 Concentric (C-Type, 3.0 ml/min @ 30 psi)	N8102011	020-060-007
Concentric (K-Type, 3.0 ml/min @ 30 psi)	N0681574	020-060-009
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	N0775330	020-060-308
Modified Lichte Nebulizer		
Requires specific spray chamber (020-060-132)	---	020-060-120



Perkin Elmer® Optima
3000 Series XL and SC (X)

Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 020-050-202 Torch Body, Optima XL, No Slots	N0695379	020-050-202
Quartz Injector, 1.2 mm	N0695460	020-050-242
Quartz Injector, 1.6 mm	N0695449	020-050-240
Quartz Injector, 2.0 mm	N0695442	020-050-203
Quartz Injector, 2.0 mm x 109 mm	---	020-050-241
Alumina Injector, 2.0 mm		
Resistant to Hydrofluoric acid. Specifically designed for samples with high Total Dissolved Solids (TDS) (~10%)	N0695362	020-050-252
Torch Bonnet (pk/2)	N0691664	020-050-207


Perkin Elmer® Optima 3000 Series XL and SC (X)

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 Cyclonic Spray Chamber, 50 ml, 11.3 mm exit	N8122188	020-051-140
 Cyclonic Spray Chamber, 50 ml, for MLN Ideal for use with Modified Lichte Nebulizer (MLN)	---	020-050-250

020-051-140






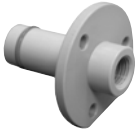
Nebulizers

Description / Features	Cross Reference	Catalog Number
 Concentric (C-Type, 3.0 ml/min @ 30 psi)	N8102011	020-060-007
Concentric (K-Type, 3.0 ml/min @ 30 psi)	N0681574	020-060-009
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	N0775330	020-060-308
Modified Lichte Nebulizer (MLN) Requires specific spray chamber (020-060-128)	---	020-060-120

020-060-007

Perkin Elmer® Optima 3000 Series DV

Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 Torch Body, Optima DV, 1 Slot	N0691662	020-050-246
 Torch Body, Optima DV, 1 Slot, Wear Metals Designed for Wear Metals Analysis and is more resistant to organic based samples	---	020-050-247
 Torch Body, Optima DV, 2 Slot Can replace the single slotted torch. The additional slot improves the sheath gas flow.	---	020-050-200
 Torch Body, Optima DV, 3 Slot Can replace the single slot torch. Additional slots improve the sheath gas flow	---	020-050-249
Quartz Injector, 1.2 mm	N0695460	020-050-242
Quartz Injector, 1.6 mm	N0695449	020-050-240
Quartz Injector, 2.0 mm Designed for samples with high Total Dissolved Solids (TDS) (~10%)	N0695442	020-050-203
 Alumina Injector, 2.0 mm Resistant to Hydrofluoric acid and is designed for samples with high Total Dissolved Solids (TDS) (~10%)	N0695362	020-050-252
Torch Bonnet (pk/2)	N0691664	020-050-207
Purge Tube Window, Radial, Short	N0691646/N0690672	020-050-254
Purge Tube Window, Radial, Long Version	N0691689	020-050-206
Axial Purge Window	B0066549/N0771116	020-051-351
Purge Tube Window, Axial	N0691678	020-050-208
 Torch Support, PEEK®, Includes O-Rings Requires a spray chamber support adapter (Spray Chamber Section)	N0695400	020-050-425

020-050-249

020-050-206

020-050-425


Nebulizers

Description / Features	Cross Reference	Catalog Number
 Concentric (C-Type, 3.0 ml/min @ 30 psi)	N8102011	020-060-007
Concentric (K-Type, 3.0 ml/min @ 30 psi)	N0681574	020-060-009
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	N0775330	020-060-308

020-060-007


Perkin Elmer® Optima
3000 Series DV

Spray Chambers and Accessories


Description / Features	Cross Reference	Catalog Number
 020-050-248		
Cyclonic Spray Chamber, 50 ml, Baffled		
Improves sensitivity for samples with low (<1%) TDS.	---	020-050-248
Cyclonic Spray Chamber, 50 ml, Baffled, Quartz	---	020-051-133
Cyclonic Spray Chamber, 50 ml, Baffled, Water-Cooled		
Water cooled to produce a more uniform droplet size	---	020-051-134
Cyclonic Spray Chamber, 50 ml, Non Baffled	N8122188	020-050-109
Cyclonic Spray Chamber, 50 ml, Non Baffled, Quartz	---	020-051-140
O-Ring Kit for Perkin Elmer®(PE) Optima DV	N0690769	020-051-311
11.3 mm Spray Chamber Support, PEEK®, Includes O-Rings		
Designed for spray chambers with 11.3 mm ID neck	---	020-050-450
12 mm Spray Chamber Support, PEEK®, Includes O-Rings		
Designed for spray chambers with 12 mm ID neck	---	020-050-435
Ball/Socket Style Spray Chamber Support, PEEK®, Includes O-Rings		
Designed for spray chambers with 12/5 socket member	---	020-050-445

Perkin Elmer® Optima
2000/4000/5000 Series

Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 020-051-002		
Torch Body, Optima 2000/4000/5000 DV	N0770338	020-051-002
Torch Body, Radial, 4300V	N0771500	020-051-005
Torch Body, Short Version	N0770344	020-051-098
Quartz Injector, 0.8 mm	N0775225	020-051-310
Quartz Injector, 1.2 mm	N0775226	020-051-308
Quartz Injector, 1.6 mm	N0775223	020-051-306
Quartz Injector, 2.0 mm		
Designed for samples with high Total Dissolved Solids (TDS) (~10%)	N0775014	020-051-302
Quartz Injector, 3.0 mm		
Designed for samples with high Total Dissolved Solids (TDS) (~10%)	N0775224	020-051-304
Alumina Injector, 0.8 mm		
Resistant to Hydrofluoric acid	N0775227	020-051-317
Alumina Injector, 1.2 mm		
Resistant to Hydrofluoric acid	N0775228	020-051-318
Alumina Injector, 1.2 mm, 4300V	N0771531	020-050-258
Alumina Injector, 2.0 mm		
Resistant to Hydrofluoric acid and designed for samples with high		
Total Dissolved Solids (TDS) (~10%)	N0775177	020-051-319
Torch Bonnet, pk/2	N0775289	020-051-350
Purge Tube Window, Radial, Short	N0690672	020-050-254
Radial Purge Window, 4000/5000	N0770322	020-051-256
Axial Purge Window	N0771116/B0066549	020-051-351
Axial Window, Optima 2000	09992731	020-050-221
Copper Foil for Torch Body Optima 2000/4000/5000 (pk/10)	N0775297	020-051-001
O-Ring kit for Torch	N0770437	020-050-513


Nebulizers

Description / Features	Cross Reference	Catalog Number
 020-060-007		
Concentric (C-Type, 2.0 ml/min @ 30 psi)	N8102011	020-060-006
Concentric (K-Type, 3.0 ml/min @ 30 psi)	N0681574	020-060-009
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	N0775330	020-060-308

ICP Supplies

Perkin Elmer® Optima 2000/4000/5000 Series


Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 Mini Cyclonic Spray Chamber for Optima 2000, 20 ml	---	020-051-107
Cyclonic Spray Chamber, 50 ml, Baffled	N0776053	020-051-113
Cyclonic Spray Chamber, 50 ml, No Baffle	N0776052	020-051-114
Cyclonic Spray Chamber, 50 ml, 4 mm Baffle	N0776090	020-051-138
Quartz Cyclonic Spray Chamber, 50 ml, No Baffle	N0776052Q	020-051-154
Nebulizer Adapter for Cyclonic Spray Chamber, PEEK	---	020-060-134

020-051-113

Perkin Elmer®/SCIEX ELAN 250 and 500


Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 Short Form Torch (135 mm overall length)	N8102001	020-050-070
Long Form Torch (151 mm overall length)	N8102006	020-051-099
Quartz Injector, 1.2 mm	N0681631	020-050-182
Quartz Injector, 1.6 mm	O0473292	020-050-183
Quartz Injector, 2.0 mm		
Designed for samples with high Total Dissolved Solids (TDS) (~10%)	N8120529	020-050-184
Alumina Injector Tip, 0.85 mm		
Resistant to Hydrofluoric acid and designed for volatile organic samples	N8126039	020-051-316
Alumina Injector Tip, 1.5 mm		
Resistant to Hydrofluoric acid	N8126040	020-051-314
Alumina Injector Tip, 2.0 mm		
Resistant to Hydrofluoric acid and designed for samples with high Total Dissolved Solids (TDS) (~10%)	N8126041	020-050-256
Torch Bonnet (pk/2)	---	020-051-352

020-050-070

020-051-352

Spray Chambers, Nebulizers and Accessories


Description / Features	Cross Reference	Catalog Number
 Scott Spray Chamber	N8102031	020-050-073
Quartz Scott Spray Chamber	---	020-050-074
Scott Spray Chamber, Water Cooled		
Water cooled to produce a more uniform droplet size	---	020-050-075
Scott Spray Chamber, Vacuum Jacketed		
Vacuum cooled to produce a more uniform droplet size	---	020-050-076
Concentric (A-Type, 2.0 ml/min @ 30 psi)	---	020-060-001
Concentric (K-Type, 2.0 ml/min @ 30 psi)	---	020-060-006
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	N0775330	020-060-308

020-050-074

020-060-306

Perkin Elmer®/SCIEX ELAN 5000, 6000 Series, 9000 Series & DRC II

Torches & Accessories

Description / Features	Cross Reference	Catalog Number
 Torch Body, Elan	N8122006	020-050-072
Quartz Injector, 1.2 mm	N0681631	020-050-182
Quartz Injector, 1.6 mm	O0473292	020-050-183
Quartz Injector, 2.0 mm	N8120529	020-050-184
Quartz Injector, 6100DRC and DRC II, 1.5 mm, with Ball Joint	WE027005	020-051-357
Quartz Injector, 6100DRC and DRC II, 2.0 mm, with Ball Joint	WE023948	020-051-355

020-050-072

Perkin Elmer®/SCIEX ELAN
5000, 6000 Series, 9000 Series & DRC II

Torches & Accessories (continued)

Description / Features	Cross Reference	Catalog Number
Alumina Injector, 0.85 mm		
Resistant to Hydrofluoric acid	N8126039/N0582186	020-051-316
Alumina Injector, 1.5 mm		
Resistant to Hydrofluoric acid	N8126040/N0582185	020-051-314
Alumina Injector, 2.0 mm		
Resistant to Hydrofluoric acid	N0582184/N8126041	020-050-256
Injector Support/Torch Base	N8120116	020-051-353



020-051-355

Spray Chamber & Accessories

Description / Features	Cross Reference	Catalog Number
Scott Spray Chamber	---	020-050-073
Quartz Scott Spray Chamber	---	020-050-074
Scott Spray Chamber, Water Cooled		
Water cooled to produce a more uniform droplet size	---	020-050-075
Cyclonic Spray Chamber, 50 ml	N8120150	020-051-119
Quartz Cyclonic Spray Chamber, 50 ml		
Ideal for Boron analysis	---	020-051-120
Cyclonic Spray Chamber, Water Cooled, 50 ml		
Water cooled to produce a more uniform droplet size	---	020-051-121
Quartz Cyclonic Spray Chamber, 6100DRC, 50 ml, Baffled		
Ideal for Boron analysis	WE025221	020-051-136



020-050-075



020-051-121

Nebulizers

Description / Features	Cross Reference	Catalog Number
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	N0775330	020-060-308
Mira Mist® CE, PEEK (0.005 - 2.5 ml/min @ 80 - 90 psi)	---	020-060-312
Ari Mist® HP, PEEK (0.005 - 1.0 ml/min @ 30 - 80 psi)	---	020-060-307



020-060-308

Spectro Analytical

Torches and Accessories

Description / Features	Cross Reference	Catalog Number
Torch, Spectroflame, 1.0 mm	48205001	020-055-010
Torch, Spectroflame, 1.8 mm, Standard	75060596	020-050-090
Torch, Spectroflame, 2.5 mm	---	020-050-092
Demountable Torch, Spectroflame	48206002	020-050-091
Nitrogen Torch	---	020-055-011
Demountable Torch, Nitrogen	---	020-055-012
EOP Flared End Torch, 1.8 mm	---	020-055-013
EOP Flared End Torch, 1.8 mm, with fittings	75160592	020-055-019
EOP Flared End Torch, 2.5 mm	48105052	020-050-230
EOP Flared End Torch, 2.5 mm, with fittings	75160526	020-055-021
EOP Fixed Sheath Gas System Torch	75160537	020-050-229
Demountable EOP Torch	48206007	020-050-232
Demountable EOP Flared End Torch	---	020-050-231
Housing for Demountable Torch, PTFE	75160538	020-050-233
Quartz Injector, 1.5 mm, with Ball Joint	48105008	020-050-096
Quartz Injector, 1.8 mm, with Ball Joint	48105010	020-050-188
Quartz Injector, 2.5 mm, with Ball Joint, short taper, 175 mm overall length	48105009	020-050-189
Quartz Injector, 2.5 mm, with Ball Joint, long taper, 140 mm overall length	48105058	020-050-260
Gas Adapter	---	020-055-051



020-050-090



020-050-232



020-055-051

Spectro Analytical

Spray Chambers and Accessories



020-060-130

Description / Features	Cross Reference	Catalog Number
Scott Spray Chamber, Double Pass, Large	48105006	020-050-095
Scott Spray Chamber, Double Pass, 90° Exit	48105051	020-055-120
Conical Spray Chamber, Slurry, Open End	---	020-050-187
Conical Spray Chamber, Vertical Exit, Open End	48105003	020-050-094
Cyclonic Spray Chamber, 50 ml, 13 mm Drain	---	020-055-100
Cyclonic Spray Chamber, 50 ml, MLN, 13 mm Drain		
For use with Modified Lichte Nebulizer (MLN), with Gravity Drain	---	020-060-130
Elbow Adapter, EOP Torch to Spray Chamber, Sharp 90° Angle	48105062	020-060-150
Elbow Adapter, EOP Torch to Slurry Spray Chamber		
Gradual 90° angle to handle slurry samples	48105002	020-055-311

Nebulizers and Accessories



020-060-606

Description / Features	Cross Reference	Catalog Number
Concentric (C-Type, 1.0 ml/min @ 25 psi)	76060510	020-060-003
Modified Lichte Nebulizer (MLN)	76060529	020-060-118
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-308
T2002	76060534	020-060-301
Fixed Cross-Flow, Ultem	75060502	020-060-606
O-Ring for 020-060-606 Cross-Flow	---	020-055-321

Leeman®

Torches and Accessories



020-050-050



020-054-055



020-054-302

Description / Features	Cross Reference	Catalog Number
1 Piece Torch with Ball Joint, Aqueous	120003361/1203748	020-050-053
1 Piece Torch with Ball Joint, Organics	120003362/1203749	020-050-054
1 Piece Torch with Ball Joint, Organics, with Fittings	120003362	020-050-262
1 Piece Torch, Beveled End, 1.0 mm Injector	3180016	020-050-050
Aqueous Torch, Axial, with Ball Joint	120002001	020-054-055
Aqueous Torch, Axial, with Ball Joint, 190 mm long	31800062	020-054-057
Aqueous Torch, Axial, Dual View, with Ball Joint	31800065	020-054-002
Demountable Torch	1203017/3180001	020-050-059
Demountable Torch, Axial, Aqueous	31800069	020-054-056
Demountable Torch, Dual View	31800070	020-054-003
Quartz Injector	3180004	020-050-060
Argon Hose with Fittings for Torch Side Arms (pk/2)	3093311	020-054-065
Purge Tube for Radial	31800068	020-054-301
Quartz Purge Window, radial	1210034	020-050-178
Purge Tube, V2, DV	31800067	020-054-302

Spray Chambers and Accessories



020-060-126



020-051-111

Description / Features	Cross Reference	Catalog Number
Scott Spray Chamber, Radial	1203751/3180017	020-050-055
Scott Spray Chamber, Axial	120002011	020-054-157
Cyclonic Spray Chamber, 50 ml, 12/5 Socket Top, 4 mm Pump Drain	---	020-050-174
Cyclonic Spray Chamber, 50 ml, 12/5 Socket, 4 mm Drain, Jacketed		
Can be water cooled to produce a more uniform droplet size	---	020-051-125
Cyclonic Spray Chamber, for Modified Lichte Nebulizer	---	020-060-126
Mini Cyclonic Spray Chamber	---	020-051-105
PTFE Cyclonic Spray Chamber, no baffle	---	020-051-110
Ultem Cyclonic Spray Chamber, no baffle	---	020-051-111
Modified Lichte Nebulizer		
Requires specific spray chamber (020-060-118)	---	020-060-132

Nebulizers and Accessories

Description / Features	Cross Reference	Catalog Number
Modified Lichte Nebulizer (MLN)		
Requires specific spray chamber (020-060-132)	---	020-060-118
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-308
Concentric (C-Type, 2.0 ml/min @ 30 psi)	---	020-060-006
Concentric (K-Type, 3.0 ml/min @ 30 psi)	---	020-060-009



020-060-308

Varian® / Seiko® ICP-AES

Torches and Accessories (Radial)

Description / Features	Cross Reference	Catalog Number
Low Flow Torch, One Piece, Radial	2010069690	020-050-140
Low Flow Torch, One Piece, with Ball Joint	2010069690B	020-050-002
Demountable Torch, Complete Kit for Radial (Includes 020-050-142, 020-050-145, 020-050-199)	9910056800	020-050-130
Torch, Demountable, Body Only, Radial	2010072900	020-050-142
Outer Shield Extension with Slot		
Eliminate atmospheric interferences	2010076400	020-052-001
Quartz Injector, 0.8 mm	2010077500	020-052-301
Quartz injector, 1.8 mm	2010073000	020-050-144
Alumina Injector, 1.8 mm		
Resistant to Hydrofluoric acid	2410067500	020-050-145
Alumina Injector, 2.5 mm		
Resistant to Hydrofluoric acid	---	020-052-346
PTFE Injector Holder	9910057300	020-050-199
Torch Bonnet (pk/2)	2010070700	020-050-143



020-050-002



020-050-143

Torches and Accessories (Axial)

Description / Features	Cross Reference	Catalog Number
Low Flow Torch, One Piece, Axial, Bend, 2.3 mm Injector	2010081200	020-052-002
Low Flow Torch, One Piece, Axial, 90° Bend, 2.4 mm Injector	2010090400	020-054-125
Low Flow Torch, One Piece, High Solids	2010094800	020-054-080
Long Life Low Flow Torch, One Piece, Axial, 90° Stem Bend	---	020-054-128
Organic Axial Torch, 90 degree stem bend, 0.8 mm Injector	2010104700	020-054-082
Demountable Torch, Complete Kit for Axial (020-052-300, 020-050-145, 020-050-199)	9910084700	020-052-003
Torch, Demountable, Body Only, Axial	2010083400	020-052-300
Quartz Injector, 0.8 mm	2010077500	020-052-301
Quartz Injector, 1.8 mm	2010073000	020-050-144
Alumina Injector, 1.8 mm		
Resistant to Hydrofluoric acid	2410067500	020-050-145
Alumina Injector, 2.5 mm		
Resistant to Hydrofluoric acid	---	020-052-346
Torch Bonnet (pk/2)	2010070700	020-050-143
PTFE Injector Holder	9910057300	020-050-199



020-050-199



020-054-125



Nebulizers

Description / Features	Cross Reference	Catalog Number
Concentric (C-Type, 1.0 ml/min @ 25 psi)	2010076500	020-060-003
Concentric (K-Type, 2.0 ml/min @ 30 psi)	2010069500	020-060-008
Concentric (K-Type, 3.0 ml/min @ 30 psi)	2010081600	020-060-009
High Solids V-Groove Nebulizer	9910057400	020-060-607
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-308
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306



020-060-003

Varian® / Seiko®
ICP-AES
Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 Cyclonic Spray Chamber, 50 ml 12/5 Socket Top, 4 mm Drain	7910043700	020-050-174
Cyclonic Spray Chamber, 50 ml Pyrex, Non-Baffle	208090600 / 2010081700	020-054-160
Cyclonic Spray Chamber, with Teflon Insert, 50 ml, Pyrex, Non-Baffle		
Same as 020-054-160, with additional Teflon® nebulizer insert which can be removed so that the spray chamber can be immersed in an acid bath for cleaning. (see page 53)	208090600 / 2010081700	020-054-162
Cyclonic Spray Chamber with Teflon Insert, 50 ml, Pyrex, w/Baffle		
Same as 020-054-160, with additional Teflon® nebulizer insert which can be removed so that the spray chamber can be immersed in an acid bath for cleaning. Furthermore, its baffle improves sensitivity for samples with a low (>1%) TDS. (see page 53)	---	020-054-314
 Jacketed Cyclonic Spray with Teflon Insert, 50 ml, Pyrex, Non-Baffle		
Same as 020-054-160, with additional Teflon® nebulizer insert which can be removed so that the spray chamber can be immersed in an acid bath for cleaning. Furthermore, it can be water cooled to produce a more uniform droplet size. (see page 53)	208090129	020-054-164
Cyclonic Spray Chamber, 20 ml, Pyrex, Non-Baffle		
The smaller volume reduces the rinse out time. Ideal for use with micro-sample introduction.	208090183	020-054-166
Cyclonic Spray Chamber with Teflon Insert, 20 ml, Pyrex, Non-Baffle		
Same as 020-054-166, with additional Teflon® nebulizer insert which can be removed so that the spray chamber can be immersed in an acid bath for cleaning. (see page 53)	208090183	020-054-168
Jacketed Cyclonic Spray Chamber with Teflon Insert, 20 ml, Pyrex, Non-Baffle		
Same as 020-054-166, with additional Teflon® nebulizer insert which can be removed so that the spray chamber can be immersed in an acid bath for cleaning. Furthermore, it can be water cooled to produce a more uniform droplet size. (see page 53)	208090129	020-054-170
Variable Height Spray Chamber Support		
For Varian Vista and Liberty models	---	020-054-172

020-054-160

020-054-162

020-054-172

ICP Supplies


Varian® / Seiko®
Torches and Accessories

Description / Features	Cross Reference	Catalog Number
Quartz Torch	0422200163	020-058-001
Quartz Demountable Torch	---	020-058-002
Quartz Bonnet pk/2	---	020-058-004
Alumina Injector, Resistant to Hydrofluoric acid	---	020-058-005
Teflon® Holder	---	020-058-006
Centering Ring	---	020-058-007

Spray Chambers and Accessories


Description / Features	Cross Reference	Catalog Number
Spray Chamber	---	020-058-003
Varian Support Stand	---	020-054-172

Nebulizers

Description / Features	Cross Reference	Catalog Number
 Concentric (C-Type, 1.0 ml/min @ 25 psi)	2010076500	020-060-003
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-308
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306

020-060-003


Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 Torch, One Piece, Low Flow	2010078300	020-050-141
Demountable Torch, Complete	9910071700	020-052-004
Torch, Demountable, Body Only	2010079300	020-050-198
Quartz Injector, 0.8 mm	2010077500	020-052-301
Quartz Injector, 1.8 mm	2010073000	020-050-144
Alumina Injector, 1.8 mm		
Resistant to Hydrofluoric acid	2410067500	020-050-145
Alumina Injector, 2.5 mm		
Resistant to Hydrofluoric acid	---	020-052-346
PTFE Injector Holder	9910057300	020-050-199

020-050-198

020-050-141

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 Cyclonic Spray Chamber, 50 ml, 12/5 Socket Top, 4 mm Pump Drain	7910043700	020-050-174
Cyclonic Spray Chamber, 50 ml, 8 mm Top, 4 mm Pump Drain	2010081700	020-054-160


020-050-174

Nebulizers

Description / Features	Cross Reference	Catalog Number
 Concentric (C-Type, 1.0 ml/min @ 30 psi)	2010076500	020-060-003
Concentric (K-Type, 3.0 ml/min @ 30 psi)	2010081600	020-060-009
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-308
Babbington Glass V-Groove, 1.0 L/min @ 35 psi	---	020-060-605


020-060-003

Torches and Accessories

Description / Features	Cross Reference	Catalog Number
 Torch 1.2 mm Injector	---	020-054-404
Torch 1.5 mm Injector	---	020-054-402


020-054-402

Spray Chambers and Accessories

Description / Features	Cross Reference	Catalog Number
 Cyclonic Spray Chamber 50 ml, Non Baffle, with 12/5 ball joint connector and ground glass drain	---	020-054-406
Cyclonic Spray Chamber, 20 ml, Non Baffle, with 4 mm pump drain	---	020-054-408

020-054-406

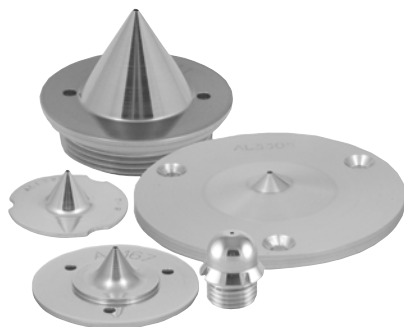
Nebulizers

Description / Features	Cross Reference	Catalog Number
 Concentric (A-Type, 2.0 ml/min @ 30 psi)	AR301FC1	020-060-006
Concentric (C-Type, 2.0 ml/min @ 30 psi)	AR301FS6	020-060-001
Mira Mist®, Teflon® (0.2 - 2.5 ml/min @ 40 psi)	---	020-060-306
Mira Mist®, PEEK (0.2 - 2.5 ml/min @ 40 psi))	---	020-060-308

020-060-306

PlasmaFORM Cones

PlasmaFORM Cones are an attractive alternative to the traditional method of manufacturing ICP-MS cones. Rather than being manufactured on CNC equipment, **PlasmaFORM** Cones are manufactured by the electroforming process. Electroformed cones are supplied with many ICP-MS instruments as standard equipment. Ask about our **FREE** 125 ml, **PlasmaCAL** ICP-MS calibration standard promotion.



- Offer superior edges and internal geometry to CNC cones
 - Minimize gas disturbances for a better performance
- Enhanced thermal characteristics
 - Ensure equal or extended lifetime compared to conventionally manufactured cones
- **FREE PlasmaCAL** Single Element calibration standard with each sampler or skimmer cone order

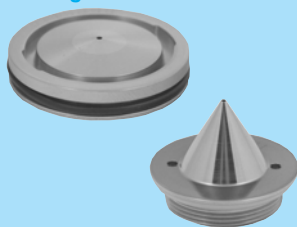
Perkin Elmer® - SCIEX

Description / Features	Cross Reference	Catalog Number
Nickel Sampler - 250 / 500	N8122101	020-101-060
Nickel Skimmer - 250 / 500	N8102111	020-101-061
Nickel Sampler - 5000	WE013087	020-101-062
Nickel Skimmer - 5000	N8122000	020-101-063
Nickel Sampler - 6000 / 6100 / 9000	WE021140	020-101-064
Nickel Skimmer - 6000 / 6100 / 9000	WE021137	020-101-065
Platinum Sampler - 250 / 500	N8102131	020-101-160
Platinum Skimmer - 250 / 500	N8102141	020-101-161
Platinum Sampler - 5000	N8122035 / WE103088	020-101-162
Platinum Skimmer - 5000	N8122035	020-101-163
Platinum Sampler - 6000 / 6100 / 9000	WE014815 / WE027802	020-101-164
Platinum Sampler - 6000 / 6100 / 9000	WE014816 / WE027803	020-101-165
Extraction tool for 6000 Sampler	N8122040 / WE017142	020-101-100
Skimmer Cone O-Rings (pk/5)	N8120512	020-101-102
Sampler Cone O-Rings (pk/5)	N8120511	020-101-104

Thermo Elemental® - VG®

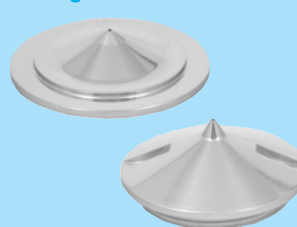
Description / Features	Cross Reference	Catalog Number
Nickel Sampler	3004661 / 4001690 (3+)	020-106-070
Nickel Sampler Cu Core (w/o Fixing Holes)	3004661	020-106-078
Nickel Mini-Skimmer	3004866 / 4001689 (3+)	020-106-071
Nickel Plasmatrace 2 Micro-Skimmer	3200860 / 4200846 (3+)	020-106-072
Nickel Plasmatrace 1 Skimmer	3201457 / 3200456	020-106-074
Nickel Skimmer (0.4 mm Insert)	3201585	020-106-075
Platinum Sampler (10 mm Insert)	3200262	020-106-170
Platinum Mini-Skimmer	---	020-106-171
Platinum Micro-Skimmer	3201101	020-106-172
Platinum Plasmatrace 1 Skimmer	3202005	020-106-173
Platinum Plasmatrace 2 Micro-Skimmer	3201941	020-106-174
Nickel Slide Screen	3204004	020-106-190
Nickel Slide Screen	3204269	020-106-192
Nickel Earth Transfer Cone	3204486	020-106-194

Catalog No. 020-101-064



Catalog No. 020-101-065

Catalog No. 020-106-070



Catalog No. 020-106-072

**PlasmaFORM
Cones**

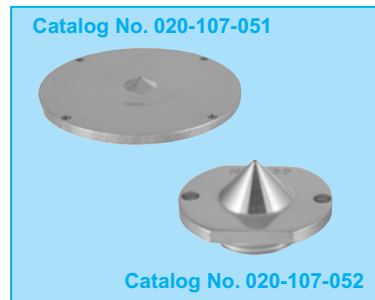
Varian®

Description / Features	Cross Reference	Catalog Number
Nickel Sampler F-Series Type	9910094000	020-107-070
Nickel Skimmer F-Series Type	9910094100	020-107-072



Agilent® / Hewlett Packard® (HP) / Yokagawa®

Description / Features	Cross Reference	Catalog Number
7500C Nickel Skimmer (Collision Cell)	G183365497	020-102-054
7500Ce Nickel Skimmer	G327065024	020-102-056
7500 a/i/s Nickel Skimmer	G182065050	020-102-057
7500 a/i/s Platinum Skimmer	G182065207	020-102-059
7500C Platinum Skimmer (Collision Cell)	G183365092	020-102-154
4500/7500 Nickel Sampler (25 mm Insert)	G182065238	020-107-051
4500 Nickel Skimmer	G182065265	020-107-052
4500/7500 Platinum Sampler (10 mm Insert)	G182065239	020-107-151
4500 Platinum Skimmer (7.2 mm Insert)	G182065237	020-107-152



Finnigan®

Description / Features	Cross Reference	Catalog Number
Nickel Sampler	1044530	020-102-050
Nickel Skimmer	1044540	020-102-051
Nickel Sampler, High Performance	1067600	020-105-052
Nickel Accelerator	067019A	020-102-055
Platinum Skimmer	1067510	020-102-061
Aluminum Sampler	---	020-102-063
Aluminum Skimmer	---	020-102-065
Platinum Sampler	1067500	020-102-150
Platinum Skimmer	1047460	020-102-151
Graphite Sampler Gasket / O-Ring (pk/3)	1042620	020-102-161



Micromass-Isoprobe®

Description / Features	Cross Reference	Catalog Number
Nickel Sampler, Cu Base	M695080B	020-103-010
Nickel Skimmer	M695011B	020-103-011
Nickel Collimator	M695064B	020-103-015
Platinum Sampler	M695162C	020-103-110
Platinum Skimmer	M695163C	020-103-111
Platinum Collimator	M695421C	020-103-115
Collimator Stainless Steel Mounting Flange	M695064B/2	020-103-127



Bonus Custom Standards Offer!!

- With the purchase of every 500 ml bottle of custom ICP-MS standard, receive an additional 500 ml of the same multi-element standard at 1/2 price!
- Large volume discounts also available



ICP Supplies

PlasmaFORM Cones



Micromass - Platform

Description / Features	Cross Reference	Catalog Number
Nickel Sampler	M695439B	020-103-020
Nickel Skimmer	M695440B	020-103-021
Nickel Collimator	M695475B	020-103-025
Sampler cone Gasket (pk/10)	M695461AD1	020-103-090
Platinum Sampler	M695508B	020-103-120
Platinum Skimmer	M695509B	020-103-121
Nickel Collimator Domed Shape 3 mm Hole	M695579B	020-103-123
Nickel Collimator Domed Shape 2 mm Hole	M695474B	020-103-125
Aluminum Sampler	M695439BD2	020-103-220
Aluminum Skimmer	M695461AD1	020-103-221



Nu®

Description / Features	Cross Reference	Catalog Number
Nickel Sampler	319285	020-105-023
Nickel Skimmer	319284 WA6	020-105-025
Nickel Skimmer	319497 WA6	020-105-027

PlasmaPURE Plus Acids & Reagents

PlasmaPURE Plus acids are manufactured with trace metal levels less than 10 ppt (0.01 ppb). Complete with a Certificate of Analysis with lot number, expiry date, and maximum concentration specification for over 60 elements. Commonly used in semiconductor, nuclear, clinical, pharmaceutical, and geochemical analysis. Used for sample and standards preparation for ICP-AES, ICP-MS, Flame AA and Graphite Furnace AA spectroscopy.

- 2 expiry dates (up to 3 years unopened and 15 months opened)
- Long shelf life for unopened bottles



Always in Stock

Description	Assay	Molecular Weight	CAS Number	Merck Index	Code	250 ml	Catalog Number			
							500 ml	1 L	2 L	
Acetic Acid	>99% CH ₃ COOH	60.05	64-19-7	13.56	✓ Ⓢ	250-036-101	250-036-103	250-036-105	---	
Ammonia Solution	20-22% NH ₃	17.03	7664-41-7	---	✓ Ⓢ Ⓣ	250-036-107	250-036-109	250-036-111	---	
Hydrochloric Acid	32-35% HCl	36.46	7647-01-0	13.4801	✓ Ⓢ	250-036-113	250-036-115	250-036-117	250-036-119	
Hydrofluoric Acid	47-51% HF	20.01	7664-39-3	---	✓ Ⓢ	250-036-121	250-036-123	250-036-125	250-036-127	
Hydrogen Peroxide	30%	---	---	---	✓ Ⓢ Ⓣ	---	250-036-145	---	---	
Nitric Acid	67-70% HNO ₃	63.01	7697-37-2	13.6608	✓ Ⓢ Ⓣ	250-036-129	250-036-131	250-036-133	250-036-135	
Sulphuric Acid	93-98% H ₂ SO ₄	98.08	7664-93-9	13.9064	✓ Ⓢ Ⓣ	250-036-137	250-036-139	250-036-141	250-036-143	

PlasmaPURE Plus Accessories

Description	Catalog Number
PlasmaPURE Plus Top Dispenser, Replacement Base	250-036-500
PlasmaPURE Plus Top Dispenser*, Complete Unit	250-036-501

* Dispenser only for 500 ml, 1 L and 2 L sizes.

⊗ Glass Container
✓ Dangerous Goods*

Ⓢ Poison
Ⓣ Corrosive

Ⓣ Flammable
Ⓣ Oxidant

* as defined by :

• Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
• Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
• International Air Transport Association - Dangerous Goods Regulation, 40th Edition

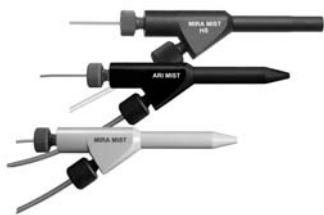
In addition to traditional glass concentric nebulizers, other nebulizer designs and material compositions are available to meet specific analytical requirements. The following table offers valuable information to choose the optimal nebulizer for your application.

Nebulizers

Nebulizer Type	Material / Chemical Resistance	Application	Sensitivity
 <p>Babbington V-Groove</p>	PEEK. Good chemical resistance for most acids and organic solvents.	For use with Scott style and cyclonic spray chambers. Great High solids capability.	Moderate sensitivity. Original V-Groove design.
 <p>Cross-Flow</p>	Ultem. Good chemical resistance for most acids and organic solvents.	For use with Scott style spray chambers. Great high-solids capability.	Moderate sensitivity due to wide range of droplet size.
 <p>Glass Concentric, Meinhard®</p>	Quartz or borosilicate. Good for most acids and organic solvents. Not recommended for Hydrofluoric (HF) acid.	For use with Scott style and cyclonic spray chambers. Not recommended for high solids applications.	Excellent mist and sensitivity.
 <p>Modified Lichte</p>	Quartz or borosilicate. Good for most acids and organic solvents. Not recommended for Hydrofluoric (HF) acid.	For use with Modified Lichte spray chamber. Unique patented design. Great high solids capability.	Great sensitivity. Patented design with impingement bead to further atomize aerosol resulting in uniform droplet size.
 <p>Noordermeer V-Groove</p>	Quartz or borosilicate. Good for most acids and organic solvents. Not recommended for HF.	For use with Scott style and cyclonic spray chambers. Great high solids capability. Same principal as Babbington nebulizer.	Moderate to high sensitivity for a high-solids nebulizer. Better efficiency than a Babbington V-Groove nebulizer.
 <p>Mira Mist®, PEEK</p>	PEEK body with Teflon® inner capillaries. Good chemical resistance for most acids and organic solvents. Not recommended for Hydrofluoric (HF) acid.	For use with Scott style and cyclonic spray chambers. Recommended for high-solids applications.	Excellent sensitivities and stability. Patented enhanced parallel path method to run high Total Dissolved Solids (TDS).
 <p>Mira Mist®, Teflon®</p>	All Teflon®. Good with all acids and organic solvents.	For use with Scott style and cyclonic spray chambers. Recommended for high-solids applications.	Excellent sensitivities and stability. Patented enhanced parallel path method to run high Total Dissolved Solids (TDS).

Burgener Nebulizers

Burgener Nebulizers are made with the patented enhanced parallel path method enabling them to run high total dissolved solids (TDS) while providing the best sensitivity and stability of any pneumatic nebulizer. Direct replacement for concentric nebulizers and fit cyclonic spray chambers.



- Provide excellent sensitivity with high transport rates
- Eliminate plugs due to salt or undissolved particles
- Deliver long term stability

Burgener Nebulizers

P_C = Argon Pressure (psi)

R_a = Sample Uptake (ml/min)

Name	Description	P_C Range	R_a Range	Body	Catalog Number
T2002 [®]	Unpluggable - Ideal for high solids, slurries	35 - 45	0.5 - 3.0	Teflon [®]	020-060-301
Teflon [®] Mira Mist [®]	Excellent Mist, good with all acids, solvents	35 - 45	0.2 - 2.5	Teflon [®]	020-060-306
Ari Mist [®] HP	Micro flow for ICP-MS 5 to 1000 ul/min or for LC-ICP-MS interface	80	0.005 - 1.0	PEEK	020-060-307
PEEK Mira Mist [®]	Excellent Mist at a reasonable cost (no HF)	35 - 45	0.2 - 2.5	PEEK	020-060-308
Graphite Mira Mist [®] HS	Flat nose and 25% graphite body				
	For Agilent [®] instruments with drip problems	35 - 45	0.2 - 2.5	Teflon [®]	020-060-310
Mira Mist [®] CE	Maximum signal for CE or HPLC-ICP-MS interface	80 - 90	0.005 - 2.5	PEEK	020-060-312
PEEK Ari Mist [®] LP	Low flow, low particulate free samples	40 - 50	0.05 - 1.0	PEEK	020-060-314
Teflon [®] Ari Mist [®] LP	Low flow, low particulate free samples	40 - 50	0.05 - 1.0	Teflon [®]	020-060-316

Burgener Gas Fittings

Description	Catalog Number
1/4" Adapter for 1/4" gas line	020-060-348
1/8" Adapter for 1/8" gas line	020-060-349
Thermo Elemental [®] - TJA [®] ICP (Luer Lock Fitting)	020-060-351
Thermo Elemental [®] - VG [®] Elemental ICP-MS past 2002, JY	020-060-352
PE/SCIEX [®] Elan ICP-MS (1/4" Swagelok gas line), PE [®] Optima 3000 Series	020-060-353
Thermo Elemental [®] - VG [®] for instruments pre 2002	020-060-355
Perkin Elmer [®] (PE) Optima 2000, 4000 and 5000 series	020-060-356
Spectro	020-060-358
Agilent [®] /Hewlett Packard [®] (HP)	020-060-359
GBC [®] , Finnigan [®] , Leeman [®] , Varian [®]	020-060-380

Burgener Adapters & Replacement Sample Lines

Name	Description	Catalog Number
Adapter	Mira Mist/Ari Mist adapter for Scott Double Pass Spray Chambers	020-060-045
Adapter	T2002 Adapter for Scott Double Pass Spray Chambers	020-060-043
PTFE [®] Capillary Tubing	0.044" O.D. x 0.020" I.D. - 3 m Length	020-060-060
Polyethylene Capillary Tubing	0.044" O.D. x 0.017" I.D. - 3 m Length	020-060-061
Polyethylene Capillary Tubing with Blue Fitting	0.044" O.D. x 0.017" I.D. - 0.5 m Length	020-060-062
Polyethylene Capillary Tubing	0.044" O.D. x 0.017" I.D. - 30 m Length	020-060-320
Red PTFE [®] Capillary Tubing for Ari Mist [®] HP	0.035" O.D. x 0.008" I.D. - 3 m Length	020-060-322
Red PTFE [®] Capillary Tubing with Red Adapter for Ari Mist [®] HP	0.035" O.D. x 0.008" I.D. - 0.5 m Length	020-060-382

Burgener Nebulizers Cross References

SCP SCIENCE	Thermo [®]	Agilent [®]	Perkin Elmer [®]	Spectro [®]	JY [®]
Mira Mist [®] , Teflon [®]	---	G3161A#001	---	---	---
Mira Mist [®] , PEEK	4600356	G3161A#002	N0775330	---	47.929.024
Ari Mist [®]	4600495	---	---	---	---
T2002	---	---	---	76060534	---

Inert ICP Spray Chambers & Accessories

Concerns over trace contamination from glass and use of hydrofluoric (HF) acid for sample digestion, have led to the development of spray chambers constructed of inert materials such as Teflon® and Ultem. SCP SCIENCE continues to source and develop new configurations of inert material spray chambers. For additional information, please contact an SCP SCIENCE sales representative or local distributor.

Ordering Information

Description	Nebulizer Type	Composition	Catalog Number
Cyclonic Spray Chamber (no baffle)	Any nebulizer with 6 mm diameter	Teflon®	020-051-110
Cyclonic Spray Chamber (no baffle)	Any nebulizer with 6 mm diameter	Ultem	020-051-111
Cyclonic Spray Chamber (with baffle)	Any nebulizer with 6 mm diameter	Teflon®	020-051-210
Cyclonic Spray Chamber (with baffle)	Any nebulizer with 6 mm diameter	Ultem	020-051-211
Micro Chamber (less than 20 µl/min)	For Burgener Ari Mist® HP or Mira Mist® CE	Teflon®	020-060-350

Meinhard® Nebulizers

Dr. James E. Meinhard has been fabricating concentric glass nebulizers for ICP Spectroscopy since the technique's infancy in 1973. The first model featured a lapped, coplanar **Type A** nozzle and remains popular for use in general ICP applications. In 1983, Meinhard® introduced the **Type C** nebulizer for the analysis of samples high in dissolved solids. The **Type K**, designed to conserve argon, was developed in conjunction with an instrument manufacturer the following year. As hybrid systems grew popular in the early 1990's, the **High-Efficiency Nebulizer (HEN)** was developed for micro-sample analysis utilizing FIA and HPLC-ICP techniques.

The Meinhard® Nebulizers' exacting standards in design and manufacturing make them the industry choice worldwide. Advantages include free aspiration without a peristaltic pump as well as a reproducible and self-aligning aerosol.

Nozzle Geometry



Type	Type A	Type C	Type K
End surfaces	Lapped	Fire-polished	Lapped
Capillary tip recess	None, Coplanar	0.5 mm	0.5 mm
Uptake suction, atm	+	+	+
Calibration reference, Ar in L/min.	1.0	1.0	0.7
Stability of aerosol delivery	+	+	+
Popular ICP applications	General	High-Solids	Ar Low-Flow

Specifications

Configurations	Concentric, monolithic
Materials	Borosilicate Glass or Quartz
Tubulation Outer Diameter (O.D.)	Shell, 6 mm; fluid inputs, 4 mm
Nozzles	A, C or K, see selection guide (above)
Internal Liquid Volume	0.1 ml
Annular Separation at Nozzle	10 - 30 µm
Calibration -	Provided with each unit
P _c	Calibration input pressure at rated argon flow
Nominal P _c	(20, 30 or 50 psi)
R _a	Water uptake at P _c
Nominal R _a	(0.5, 1,2 or 3 ml/min)



FREE Fit Kit 3 included with every Meinhard® Nebulizer!

Meinhard® Nebulizers

Meinhard® Nebulizers

Type	Application	P _C Range	R _a Range	Catalog Number
A2, Flush, Lapped Nozzle	General	25 - 40	1.5 - 2.4	020-060-001
A3, Flush, Lapped Nozzle	General	25 - 40	2.5 - 3.5	020-060-002
C1, Recessed Cappillary, Vitreous Nozzle	Hi-Solids	25 - 40	0.7 - 1.4	020-060-003
C0.5, Recessed Cappillary, Vitreous Nozzle	Hi-Solids	41 - 60	0.3 - 0.6	020-060-004
50-C1, Recessed Cappillary, Vitreous Nozzle	Hi-Solids	41 - 60	0.7 - 1.4	020-060-005
C2, Recessed Cappillary, Vitreous Nozzle	Hi-Solids	25 - 40	1.5 - 2.4	020-060-006
C3, Recessed Cappillary, Vitreous Nozzle	Hi-Solids	25 - 40	2.5 - 3.5	020-060-007
K2, Recessed Cappillary, Vitreous Nozzle	Low Flow	25 - 40	1.0 - 2.2	020-060-008
K3, Recessed Cappillary, Vitreous Nozzle	Low Flow	25 - 40	2.3 - 4.0	020-060-009
High Efficiency Nebulizer (HEN)	High Efficiency	150 - 180	0.03 - 0.1	020-060-010
A2, Quartz, Flush, Lapped Nozzle	General	25 - 40	1.5 - 2.4	020-060-011
TQ-30-A3, Quartz	General	25 - 40	2.5 - 3.5	020-060-012
50-C1, Quartz	Hi-Solids	41 - 60	0.7 - 1.4	020-060-013
AO-5, Flush, Lapped Nozzle	General	25 - 40	0.3 - 0.6	020-060-014
CIR, Helium nebulizer	For LC-MS	50	---	020-060-015
DIHEN, Type A	Direct Injection	---	0.001 - 0.1	020-060-020
DIHEN, Quartz, Type A	Direct Injection	---	0.001 - 0.1	020-060-021

P_C = Argon Pressure (psi)
R_a = Sample Uptake (ml/min)

Adapters

Description	Catalog Number
Adapter, DIHEN Perkin Elmer® Elan 6000 MS	020-060-022
Adapter, DIHEN Perkin Elmer® Optima 3000/3000 DV	020-060-030
Adapter, DIHEN Micromass®	020-060-031
Adapter, DIHEN VG® Elemental	020-060-032
Adapter, DIHEN Agilent® 4500	020-060-033
Adapter, DIHEN Finnigan-Element 2	020-060-034
Adapter, DIHEN Shimadzu	020-060-035

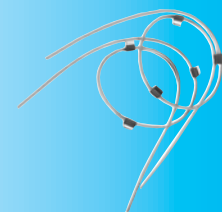
Meinhard® Nebulizer Cross Reference

SCP SCIENCE	ARL®/Fisons®/ VG®	Finnigan®	JY®	LECO®	Perkin Elmer®	Spectro®	TJA®	Varian®
020-060-002	914319000M/ 1040894	---	---	---	O0472020	---	---	---
020-060-003	---	---	---	---	---	76060510	---	---
020-060-004	---	---	47.929.004	---	N8102012	---	---	---
020-060-005	---	---	47.929.001	---	O0472022	---	---	---
020-060-006	---	---	47.929.002	---	---	---	---	2010076500
020-060-007	---	---	47.929.003 & 47.929.006	700612	N8102011	---	---	---
020-060-008	---	---	---	---	---	---	13960000 & 13918400	2010069500
020-060-009	915375000M	---	47.929.005	---	N0681574	---	---	2010081600
020-060-012	---	---	---	---	WE024371	---	---	---
020-060-015	---	7000598010	---	---	---	---	---	---

Peristaltic Pump Tubing

Affordable and reliable peristaltic pump tubing including: PVC, Solvent Flex, Silicone, Viton®, and Santoprene® compositions.

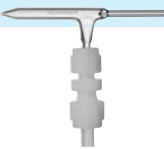


- Cross reference numbers for OEM products listed where available
- Custom sizes and compositions available
 - Designed for your specific application



Nebulizer Quick Connect Kit

Damaged nebulizers and bruised knuckles are a thing of the past with Quick Connect Kits for nebulizers. These kits make switching out nebulizers fast and easy. Quick Connect Kits are available for all styles of Meinhard® Nebulizers.

Ordering Information

Type	Description	Picture	Catalog Number
High Pressure Gas Connection	This Kit ties in the gas flow to the nebulizer. The union connects to the ¼" high pressure argon supply line. This fitting easily holds up to 190 psi.		020-060-052
4 mm Liquid Connection	This kit is designed to tie into all concentric glass nebulizers with a 4 mm input tube for the sample or pump.		020-060-053
DIHEN Liquid Connection	The DIHEN / Microbore fitting kit uses microbore 0.008" ID Teflon tubing to dramatically reduce dead volume in the sample uptake tubing to the nebulizer.		020-060-054

Nebulizers & Accessories

In addition to the traditional glass concentric nebulizer design, **SCP SCIENCE** provides a range of other nebulizer designs and compositions to meet your specific analytical requirements.

- Cross-Flow nebulizers are designed to work with open-ended Scott Spray Chambers
- Noordermeer and Babbington nebulizers are excellent designs to consider when working with high dissolved solids (HDS)



Catalog No. 020-060-603

Nebulizers

Description	Description	Catalog Number
Noordermeer	For high solids - fits standard 6 mm spray chamber inlet	020-060-602
Fixed Cross-Flow	For all instruments using 35 mm diameter spray chambers	020-060-603
Fixed Cross-Flow for Spectro Instruments	For all instruments using 34 mm diameter spray chambers	020-060-606
High Solids Cross-Flow	For high solids, same as above - also requires peristaltic pump	020-060-604
Babbington V-Groove	For high solids - ½" diameter - requires ½" adapter listed below	020-060-605
Babbington V-Groove	For high solids, 35 psi, for Varian® Liberty Series Vista	020-060-607



Catalog No. 020-060-603

Fixed Cross Flow Nebulizer, For all instruments using standard 35 mm diameter spray chambers. Ultem construction with sapphire (aluminum oxide crystal) argon jet and platinum-iridium sample port allows the use of most solutions including HF.



Catalog No. 020-060-602

Noordermeer Nebulizer, fits standard 6 mm spray chamber or 020-060-601 Teflon® Endcap. For samples containing high solids.



Catalog No. 020-060-605

Babbington V-Groove Nebulizer, ½" diameter, for use with Hydrofluoric (HF) acid and samples containing high solids. Use with 020-050-151 Endcap.

Nebulizers & Accessories

Accessories

Description	Description	Catalog Number
Swagelok Fitting	For Concentric Nebulizer Sample Inlet	020-050-146
Viton O-Ring (Cross-Flow)	For 020-060-603 or 020-060-604	020-050-147
Teflon® Sample Tube	For all Cross-Flow Nebulizers	020-050-148
Argon Fittings	For all Cross-Flow Nebulizers	020-050-149
Teflon® Sample Tube	For Babbington Nebulizers	020-050-150
Teflon® Endcap	For 35 mm Dia. Scott Open Spray Chamber - ½" Dia. Neb.	020-050-151
Teflon® Endcap	For 34 mm Dia. Scott Open Spray Chamber - 6 mm Dia. Neb.	020-050-210
Teflon® Endcap	For 34 mm Dia. Scott Open Spray Chamber - ½" Dia. Neb.	020-050-212
Teflon® Endcap	For 35 mm Dia. Scott Open Spray Chambers - 6 mm Dia. Neb.	020-060-601
Viton O-Ring (Nebulizer)	For 020-060-605	020-050-220
Viton O-Ring (Spray Chamber)	For 020-050-210 or 020-050-212	020-050-222
Viton O-Ring (Spectro Cross Flow)	For 020-060-606	020-050-224
Viton O-Ring (Nebulizer)	For 020-060-601 or 020-050-210	020-050-504
Viton O-Ring (Spray Chamber)	For 020-060-601 or 020-050-212	020-050-505

Modified Lichte Nebulizer / Cyclonic Spray

Catalog No. 020-060-122



Catalog No. 020-060-118



Studies performed on both a radial (Spectro Modula ICP) and an axial (Spectro EOP) inductively coupled plasma indicate that a 2 to 3 time improvement in sensitivity (and detection limits) can be obtained by changing from the conventional concentric nebulizer and Scott double-pass spray chamber arrangement to a Modified Lichte Nebulizer (MLN) and Cyclonic Spray Chamber.

The modified Lichte Nebulizer incorporates double bore glass tubing with an impact bead for fine aerosol dispersion. Operating principles are similar to that of the V-groove design where the face of the nebulizer encounters a high velocity stream of argon gas which converts the sample into a fine aerosol. This novel design allows improved detection limits over standard pneumatic nebulizers while allowing solutions containing higher dissolved solids to be run without clogging.

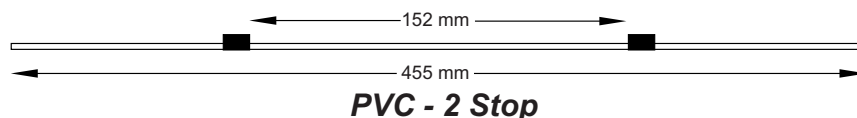
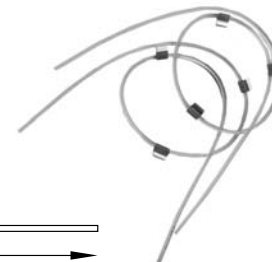
Ordering Information

Description	Application/Notes	Nebulizer Pressure	L/min Ar.	Catalog Number
Modified Lichte Nebulizer (MLN)	Specific version for Spectro	35	1.0	020-060-118
Modified Lichte Nebulizer (MLN)	---	35	0.7	020-060-120
Spray Chamber for MLN	Double Pass	---	---	020-060-122
Spray Chamber for MLN	No Baffle	---	---	020-060-125
Spray Chamber for MLN	Standard Cyclonic	---	---	020-060-126
Spray Chamber for MLN	For Perkin Elmer® 3000	---	---	020-060-128
Spray Chamber for MLN	For Spectro®	---	---	020-060-130
Spray Chamber for MLN	For Perkin Elmer® Radial Systems	---	---	020-060-132

Peristaltic Pump Tubing

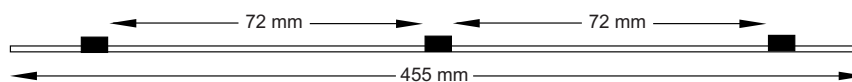
Affordable and reliable peristaltic pump tubing including: PVC (Tygon, clear tubing), Solvent Flex (yellow tinted tubing), Silicone (clear tubing), Viton® (solid black tubing), and Santoprene® (solid tan color) compositions. Cross reference numbers for OEM products listed where available. Choose the proper color, inner diameter (I.D.), and number of “stops” to confirm the right pump tubing. Additional pump tubing is available on request.

- Direct replacement for ICP-AES and ICP-MS instruments
 - Lower the cost of ordering ICP-AES and ICP-MS consumables
- Custom sizes and compositions available
 - Designed for your specific application



PVC - 2 Stop

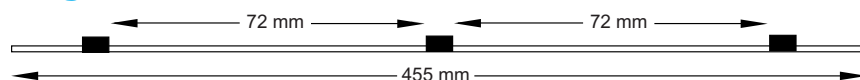
Color Code	Stops	Qty.	I.D.		Varian®	Agilent®	Perkin Elmer®	Leeman®	Catalog Number
			mm	in.					
Orange/Red	2	12	0.19	0.0075	---	G182065219	N0695476	---	020-030-002
Orange/Blue	2	12	0.25	0.010	---	---	---	---	020-030-003
Orange/Green	2	12	0.38	0.015	---	---	---	---	020-030-004
Orange/Yellow	2	12	0.51	0.020	---	---	---	---	020-030-005
Orange/White	2	12	0.64	0.025	---	---	---	---	020-030-006
Black/Black	2	12	0.76	0.030	3710027200	---	09908587	3093552	020-030-007
Orange/Orange	2	12	0.89	0.035	---	---	---	3093551	020-030-008
White/White	2	12	1.02	0.040	3710034400	G182065214	---	---	020-030-009
Red/Red	2	12	1.14	0.045	---	---	N0680375	3093538	020-030-010
Grey/Grey	2	12	1.30	0.050	3710034500	---	---	---	020-030-011
Yellow/Yellow	2	12	1.42	0.055	---	---	---	---	020-030-012
Blue/Blue	2	12	1.65	0.065	3710034600	---	---	---	020-030-013
Green/Green	2	12	1.85	0.075	---	---	---	---	020-030-014
Purple/Purple	2	12	2.06	0.080	---	---	---	---	020-030-015
Purple/Black	2	12	2.29	0.090	3710027300	---	---	---	020-030-016
Purple/Orange	2	12	2.54	0.100	---	---	---	---	020-030-017
Purple/White	2	12	2.79	0.100	---	---	---	---	020-030-018
Yellow/Blue	2	12	1.52	0.060	---	---	---	---	020-030-019
Black/White	2	12	3.18	0.125	---	---	N8122012	---	020-030-021
Blue/Green	2	12	1.75	0.070	---	---	---	---	020-030-022



PVC - 3 Stop

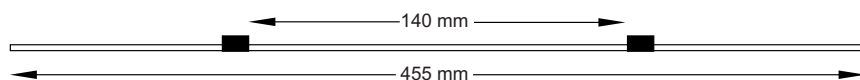
Color Code	Stops	Qty.	I.D.		TJA®	Perkin Elmer®	Catalog Number
			mm	in.			
Orange/Red	3	12	0.19	0.0075	---	---	020-033-002
Orange/Blue	3	12	0.25	0.010	---	---	020-033-003
Orange/Green	3	12	0.38	0.015	13017706	---	020-033-004
Orange/Yellow	3	12	0.51	0.020	---	---	020-033-005
Orange/White	3	12	0.64	0.025	---	---	020-033-006
Black/Black	3	12	0.76	0.030	---	B0506058	020-033-007
Orange/Orange	3	12	0.89	0.035	13017700	---	020-033-008
White/White	3	12	1.02	0.040	---	B0506742	020-033-009
Red/Red	3	12	1.14	0.045	13017701	B0193160	020-033-010
Grey/Grey	3	12	1.30	0.050	---	---	020-033-011
Yellow/Yellow	3	12	1.42	0.055	---	---	020-033-012
Blue/Blue	3	12	1.65	0.065	---	---	020-033-013

Peristaltic Pump Tubing



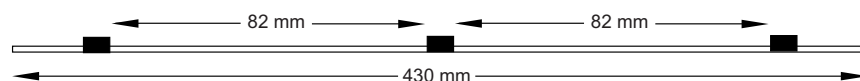
PVC - 3 Stop (Continued)

Color Code	Stops	Qty.	I.D.		TJA®	Perkin Elmer®	Catalog Number
			mm	in.			
Green/Green	3	12	1.85	0.075	---	---	020-033-014
Purple/Purple	3	12	2.06	0.080	---	B0199034	020-033-015
Yellow/Blue	3	12	1.52	0.060	---	B0193161	020-033-019
Black/White	3	12	3.18	0.125	---	B0508310	020-033-021
Purple/Orange	3	12	2.54	0.100	---	---	020-033-071
Purple/White	3	12	2.79	0.110	---	---	020-033-072



Solvent Flex - 2 Stop

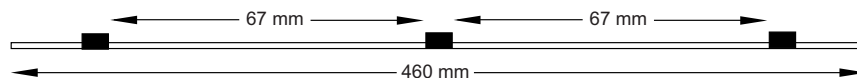
Color Code	Stops	Qty.	I.D.		Varian®	Perkin Elmer®	Catalog Number
			mm	in.			
Orange/Red	2	12	0.19	0.0075	---	---	020-030-102
Orange/Blue	2	12	0.25	0.010	---	---	020-030-103
Orange/Green	2	12	0.38	0.015	---	---	020-030-104
Orange/Yellow	2	12	0.51	0.020	---	---	020-030-105
Orange/White	2	12	0.64	0.025	---	---	020-030-106
Black/Black	2	12	0.76	0.030	3710034800	O0473550	020-030-107
Orange/Orange	2	12	0.89	0.035	---	---	020-030-108
White/White	2	12	1.02	0.040	---	---	020-030-109
Red/Red	2	12	1.14	0.045	---	N0680376	020-030-110
Grey/Grey	2	12	1.30	0.050	---	---	020-030-111
Yellow/Yellow	2	12	1.42	0.055	---	---	020-030-112
Blue/Blue	2	12	1.65	0.065	---	---	020-030-113
Green/Green	2	12	1.85	0.075	---	---	020-030-114
Purple/Purple	2	12	2.06	0.080	---	---	020-030-115
Purple/Black	2	12	2.29	0.090	---	---	020-030-116
Purple/Orange	2	12	2.54	0.100	---	---	020-030-117
Purple/White	2	12	2.79	0.110	---	---	020-030-118
Yellow/Blue	2	12	1.52	0.060	---	---	020-030-119
Blue/Green	2	12	1.75	0.070	---	---	020-030-122



Solvent Flex - 3 Stop

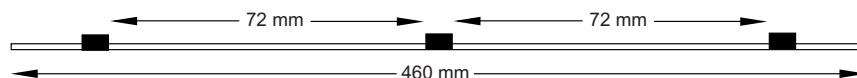
Color Code	Stops	Qty.	I.D.		Varian®	Perkin Elmer®	Catalog Number
			mm	in.			
Orange/Red	3	12	0.19	0.0075	---	---	020-033-102
Orange/Blue	3	12	0.25	0.010	---	---	020-033-103
Orange/Green	3	12	0.38	0.015	---	---	020-033-104
Black/Black	3	12	0.76	0.030	---	---	020-033-107
Orange/Orange	3	12	0.89	0.035	---	---	020-033-108
White/White	3	12	1.02	0.040	---	B0507692	020-033-109
Red/Red	3	12	1.14	0.045	---	---	020-033-110
Yellow/Yellow	3	12	1.42	0.055	---	---	020-033-112
Blue/Blue	3	12	1.65	0.065	---	---	020-033-113
Purple/Purple	3	12	2.06	0.080	---	---	020-033-115
Yellow/Blue	3	12	1.52	0.060	---	---	020-033-119

Peristaltic Pump Tubing



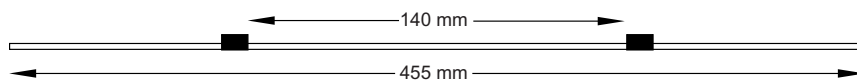
Solvent Flex - 3 Stop

Color Code	Stops	Qty.	I.D.		Catalog Number
			mm	in.	
Yellow/Yellow	3	12	1.42	0.055	020-035-112
Blue/Blue	3	12	1.65	0.065	020-035-113
Purple/Purple	3	12	2.06	0.080	020-035-115
Yellow/Blue	3	12	1.52	0.060	020-035-119



Solvent Flex - 3 Stop

Color Code	Stops	Qty.	I.D.		TJA®	Catalog Number
			mm	in.		
Orange/Orange	3	12	0.89	0.035	13173102	020-034-108
Red/Red	3	12	1.14	0.045	78532	020-034-110
Yellow/Yellow	3	12	1.42	0.055	78530	020-034-112
Blue/Blue	3	12	1.65	0.065	13173100	020-034-113
Purple/Purple	3	12	2.06	0.080	13173101	020-034-115



Silicone 2 - Stop

Color Code	Stops	Qty.	I.D.		Varian®	Agilent®	Perkin Elmer®	Catalog Number
			mm	in.				
Orange/Red	2	6	0.19	0.0075	---	---	---	020-030-202
Orange/Green	2	6	0.38	0.015	---	---	---	020-030-204
Orange/White	2	6	0.64	0.025	---	---	---	020-030-206
Black/Black	2	6	0.76	0.030	---	---	O0473552	020-030-207
Orange/Orange	2	6	0.89	0.035	---	---	---	020-030-208
White/White	2	6	1.02	0.040	9910060900	G182065217	---	020-030-209
Red/Red	2	6	1.14	0.045	---	---	N0691595	020-030-210
Grey/Grey	2	6	1.30	0.050	9910061000	---	---	020-030-211
Yellow/Yellow	2	6	1.42	0.055	---	---	---	020-030-212
Blue/Blue	2	6	1.65	0.065	---	---	---	020-030-213
Green/Green	2	6	1.85	0.075	---	---	---	020-030-214
Purple/Purple	2	6	2.06	0.080	---	---	---	020-030-215
Purple/Black	2	6	2.29	0.090	---	---	---	020-030-216
Purple/Orange	2	6	2.54	0.100	---	---	---	020-030-217
Purple/White	2	6	2.79	0.110	---	---	---	020-030-218
Yellow/Blue	2	6	1.52	0.060	---	---	---	020-030-219

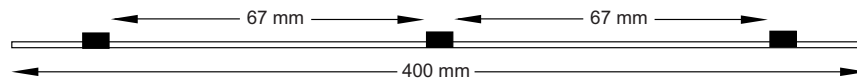
ICP Supplies

Instrument Control Kit - PlasmaTEST ICP-MS

- Perfect for instrument compliance auditing
- Monitor and document 14 different instrument parameters
- A single product providing instrument testing Quality Control for ICP-MS
- Detect operational and mechanical problems before analytical errors occur

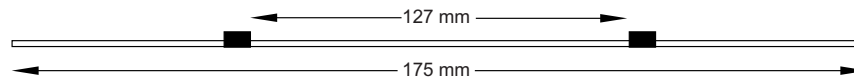


Peristaltic Pump Tubing



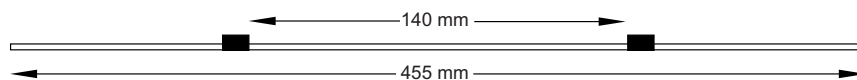
Silicone - 3 Stop

Color Code	Stops	Qty.	I.D.		Varian®	TJA®	Catalog Number
			mm	in.			
Orange/White	3	6	0.64	0.025	---	---	020-033-206
Black/Black	3	6	0.76	0.030	---	---	020-033-207
Orange/Orange	3	6	0.89	0.035	---	13017702	020-033-208
White/White	3	6	1.02	0.040	---	---	020-033-209
Red/Red	3	6	1.14	0.045	---	13017703	020-033-210
Yellow/Yellow	3	6	1.42	0.055	---	---	020-033-212
Blue/Blue	3	6	1.65	0.065	---	---	020-033-213
Green/Green	3	6	1.85	0.075	---	---	020-033-214
Purple/Purple	3	6	2.06	0.080	---	---	020-033-215
Purple/Black	3	6	2.29	0.090	---	---	020-033-216
Purple/Orange	3	6	2.54	0.100	---	---	020-033-217
Purple/White	3	6	2.79	0.110	---	---	020-033-218
Yellow/Blue	3	6	1.52	0.060	---	---	020-033-219



Viton® 2 - Stop

Color Code	Stops	Qty.	I.D.		Varian®	Perkin Elmer®	Leeman®	Catalog Number
			mm	in.				
Orange/Yellow	2	12	0.51	0.020	3710043500	---	---	020-030-305
Black/Black	2	12	0.76	0.030	3710043600	09908587	3093552	020-030-307
Orange/Orange	2	12	0.89	0.035	---	---	---	020-030-308
White/White	2	12	1.02	0.040	3710043700	---	---	020-030-309
Red/Red	2	12	1.14	0.045	---	---	---	020-030-310
Grey/Grey	2	12	1.30	0.050	3710043800	---	---	020-030-311
Yellow/Yellow	2	12	1.42	0.055	---	---	---	020-030-312
Blue/Blue	2	12	1.65	0.065	3710043900	---	---	020-030-313
Green/Green	2	12	1.85	0.075	---	---	---	020-030-314
Purple/Purple	2	12	2.06	0.080	---	---	---	020-030-315
Purple/Black	2	12	2.29	0.090	---	---	---	020-030-316
Purple/Orange	2	12	2.54	0.100	---	---	---	020-030-317
Purple/White	2	12	2.79	0.110	---	---	---	020-030-318
Yellow/Blue	2	12	1.52	0.060	---	---	---	020-030-319



Viton® 2 - Stop

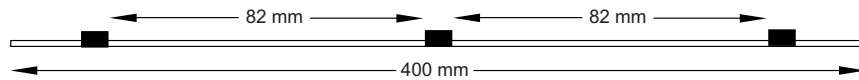
Color Code	Stops	Qty.	I.D.		Catalog Number
			mm	in.	
Black/Black	2	12	0.76	0.030	020-031-307
Red/Red	2	12	1.14	0.045	020-031-310

Peristaltic Pump Tubing



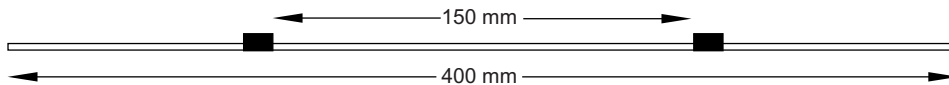
Viton® 3 - Stop

Color Code	Stops	Qty.	I.D.		TJA®	Catalog Number
			mm	in.		
Orange/Orange	3	12	1.14	0.045	13017705	020-033-320
Red/Red	3	12	1.42	0.055	---	020-033-322
Yellow/Yellow	2	12	0.89	0.035	13017704	020-033-328



Viton® 3 - Stop

Color Code	Stops	Qty.	I.D.		Catalog Number
			mm	in.	
Orange/Yellow	2	12	0.51	0.020	020-033-305
Black/Black	2	12	0.76	0.030	020-033-307
Orange/Orange	2	12	0.89	0.035	020-033-308
White/White	2	12	1.02	0.040	020-033-309
Red/Red	2	12	1.14	0.045	020-033-310
Yellow/Yellow	2	12	1.42	0.055	020-033-312
Blue/Blue	2	12	1.65	0.065	020-033-313
Green/Green	2	12	1.85	0.075	020-033-314
Purple/Purple	2	12	2.06	0.080	020-033-315
Purple/Black	2	12	2.29	0.090	020-033-316
Purple/Orange	2	12	2.54	0.100	020-033-317
Yellow/Blue	2	12	1.52	0.060	020-033-319

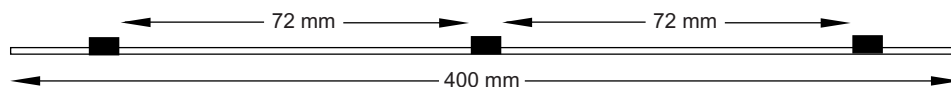


Santoprene® 2 - Stop

Color Code	Stops	Qty.	I.D.		Catalog Number
			mm	in.	
Orange/Green	2	12	0.38	0.15	020-030-404
Orange/White	2	12	0.64	0.025	020-030-406
Yellow/Blue	2	12	1.52	0.060	020-030-407
Orange/Orange	2	12	0.89	0.035	020-030-408
White/White	2	12	1.02	0.040	020-030-409
Red/Red	2	12	1.14	0.045	020-030-410
Grey/Grey	2	12	1.30	0.050	020-030-411
Blue/Blue	2	12	1.65	0.065	020-030-413
Green/Green	2	12	1.85	0.075	020-030-414
Purple/Purple	2	12	2.06	0.080	020-030-415
Black/Black	2	12	0.76	0.300	020-030-424
Yellow/Yellow	2	12	1.42	0.055	020-030-452

Note: Santoprene® is equivalent to Pharmed, Marprene & Duraprene

Peristaltic Pump Tubing



Santoprene® 3 - Stop

Color Code	Stops	Qty.	I.D.		Catalog Number
			mm	in.	
Red/Red	3	12	1.14	0.045	020-033-410
Grey/Grey	3	12	1.30	0.050	020-033-411
Blue/Blue	3	12	1.65	0.065	020-033-413
Purple/White	3	12	2.79	0.110	020-033-418
Yellow/Blue	3	12	1.52	0.060	020-033-419

Note: Santoprene® is equivalent to Pharmed, Marprene & Duraprene

Tubing for Leeman® Instruments

Color Code	Stops	Description	Leeman®	Catalog Number
Orange	1	PVC, 37.5" long, 19.5" to stop	309-3551	020-036-008
Red	1	PVC, 187 mm long, 25 mm to stop	309-00088-4	020-036-009
Red	1	PVC, 30" long, 12" to stop	309-3538	020-036-010
Blue	1	PVC, 137 mm long, 25 mm to stop	309-00088-2	020-036-011
Orange	1	Solvent Flex, 37" long	309-3550	020-036-108
Red	1	Solvent Flex, 30" long, 12" to stop	309-3536	020-036-110
Yellow/Orange	2	Solvent Flex, 16.5 cm between stops, 30.5 cm in total	309-0069-2	020-037-005
Black/Black	2	Solvent Flex, 16.5 cm between stops, 30.5 cm in total	309-00069-8	020-037-007
Red/Red	2	Solvent Flex, 16.5 cm between stops, 30.5 cm in total	309-0069-5	020-037-010

From Teflon® sample line tubing to Internal Standard Mixing Kits, **SCP SCIENCE** stocks additional tubing for ICP-AES and ICP-MS instruments. Contact **SCP SCIENCE** if you don't see your required product. We stock a wide range of additional products.

Miscellaneous Tubing

Item	Description	Qty	Catalog Number
Viton® Yellow/Yellow	For CETAC Hg Analyzer (SP5704), 150 mm between stops	pk/12	020-030-352
Santoprene® Yellow/Yellow	For CETAC Hg Analyzer (SP5705A), 150 mm between stops	pk/12	020-030-452
Santoprene® Black/Black	For CETAC Hg Analyzer (SP5705B), 150 mm between stops	pk/12	020-030-447
Transmission Tubing	PVC, 1.52 mm	15 m	020-039-001
Transmission Tubing	PVC, 2.29 mm	15 m	020-039-004
Transmission Tubing	PVC, 2.79 mm	15 m	020-039-007
Transmission Tubing	Solvent Flex, 0.06"	15 m	020-039-009
Thermo® - TJA® Internal Standard Mixing Kit	PVC, 3-stops, Orange/Orange:Orange/Green Cross Reference # 13670800	pk/4	020-049-601
Perkin Elmer® Internal Standard Mixing Kit	PVC, 2-stops, Black/Black:Orange/Red	pk/4	020-049-603
Teflon® Sample Tubing	0.56 mm ID	per meter	020-050-501
Drain Tubing	9.5 mm ID	per meter	020-050-503

Instrument Control Kit - PlasmaTEST ICP-AES

- Perfect for instrument compliance auditing
- Monitor and document 7 different instrument parameters
- A single product providing Quality Control testing for ICP-AES instruments
- Detect operational and mechanical problems before analytical errors occur



Peristaltic Pump Tubing Chemical Resistance

Chemical compatibility varies between different materials and solution. For example, Viton® tubing is resistant to many inorganic chemicals and even to some organic solvents. The chemical resistance table will help choose the correct pump tubing material for your application. Contact your Sales Representative or local distributor to inquire about the right pump tubing.

Chemical Classification	PVC	Solvent Flex	Silicone	Viton®	Santoprene®
Acetone	U	U	X	U	U
Alcohols	X	X	X	X	---
Aliphatic Hydrocarbons	X	U	U	U	---
Aqua Regia	U	X	---	O	U
Aromatic Hydrocarbons	U	U	O	X	---
Gasoline (non-aromatic)	U	U	U	X	U
Gasoline (high aromatic)	U	U	U	X	---
Hydrochloric Acid (diluted)	X	X	U	X	X
Kerosene	U	U	U	X	U
Ketones (MIBK)	U	U	U	U	X
Nitric Acid (diluted)	X	X	O	X	O
Oils, Animal	U	X	O	X	X
Oils, Mineral	U	U	O	X	X
Oils, Vegetable	O	X	X	X	X
Sulfuric Acid (diluted)	X	X	U	X	O
Water	X	X	X	X	X
Xylol	U	U	U	X	U

Legend: X - Satisfactory O - Use only after testing U - Unsatisfactory "----" - No data available

Autosampler Vials

Volume (ml)	Composition	Quantity	Cross Reference	Catalog Number
1.5 - 2.0, conical	Polystyrene	1000	B0119079	080-070-102
3.0 - 4.0, conical	Polystyrene	1000	B0129303	080-070-103
3.0 - 4.0	Polyethylene	1000	9910028400	080-070-105
6.0 (13 x 100 mm)	Polypropylene	1000	B0193235	130-012-001
15 ml Centrifuge Tube (17 x 120 mm)	Polypropylene	1000	N7301205	130-010-015
16 (16 x 100mm)	Polypropylene	1000	n/a	130-012-006
17.0	Polypropylene	1000	n/a	130-012-007
50 ml Centrifuge Tubes, w/caps	Polypropylene	500	n/a	130-010-051
Plug Stopper for 130-010-015	---	1000	n/a	130-010-115
Plug Stopper, 16 mm, for 130-012-016	---	1000	n/a	130-012-016
Plug Stopper, 17 mm, for 130-012-007	---	1000	n/a	130-012-017

Burgener Nebulizers

Made with the patented enhanced parallel path method enabling them to run high total dissolved solids (TDS).

- Provide excellent sensitivity with high transport rates
- Eliminate plugs due to salt or undissolved particles
- Deliver long term stability

